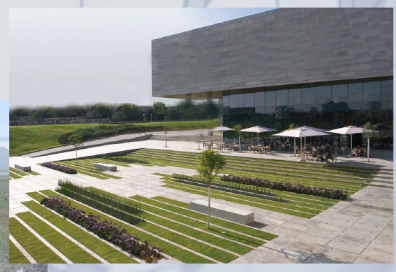
ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NO. 2012021045

FEBRUARY 2013

WORLD LOGISTICS CENTER PROJECT

CITY OF MORENO VALLEY
RIVERSIDE COUNTY, CALIFORNIA



LSA

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February 4, 2013

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WORLD LOGISTICS CENTER PROJECT

CITY OF MORENO VALLEY

RIVERSIDE COUNTY, CALIFORNIA

General Plan Amendment

Specific Plan

Zone Change

Tentative Parcel Map

Development Agreement

Annexation

Prepared for:

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February 4, 2013

The City of Moreno Valley has independently reviewed, analyzed, and exercised its judgment in the analysis contained in this Environmental Impact Report and supporting documentation pursuant to Section 21082 of the California Environmental Quality Act.

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TABLE OF CONTENTS

PAGE

APPENDICES (REFER TO ENCLOSED CD-ROM)

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FIGURES

TABLES

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1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The Draft Environmental Impact Report (EIR) (State of California Clearinghouse No. 2012021045) for the World Logistics Center Project (proposed project) has been prepared by LSA Associates, Inc. on behalf of the City of Moreno Valley (City) to: 1) identify the proposed project's impacts on the environment; 2) to discuss alternatives to the proposed project; and 3) to propose mitigation measures that will offset, minimize or otherwise avoid significant environmental impacts. This EIR has been prepared in accordance with the California Environmental Quality Act[1] (CEQA) and Sections 15120 through 15131 and 15161 of the *Guidelines for California Environmental Quality Act*,[2] both of which regulate the preparation of EIRs. Based on the potential impacts of the proposed project, including cumulative impacts, the City determined that an EIR should be prepared to analyze potential impacts of the proposed project with respect to the following environmental issues:

- Aesthetics;
- Agricultural and Forest Resources;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Geology and Soils;
- Greenhouse Gas Emissions and Global Climate Change;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Mineral Resources;
- Noise;
- Population, Housing, and Employment;
- Public Services including Recreation;
- Traffic and Circulation; and
- Utilities and Service Systems.

These environmental issues are individually addressed in Section 4.0, *Environmental Analysis*. It is important to note that, even though this project has a Specific Plan, it does not have a site plan showing actual building locations, so the EIR will be programmatic rather than project-level. In addition, this project is considered regionally significant according to criteria established by the Southern California Association of Governments (SCAG).

The proposed project site is located in the eastern portion of the City of Moreno Valley, in western Riverside County (Figure 1.1). It is generally located south of State Route 60 (SR-60), east of Redlands Boulevard, west of Gilman Springs Road, and north of the San Jacinto Wildlife Area.

1 *California Environmental Quality Act*, as of January 1, 2011, §§21000–21178, Public Resources Code, State of California.
2 *Guidelines for California Environmental Quality Act*, as amended January 1, 2008, §§15000–15387, California Code of Regulations, Title 14, Chapter 3, State of California.

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FIGURE 1.1

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SOURCE: USGS DEM; Thomas Bros, 2009

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World Logistics Center Project
Environmental Impact Report

Regional Location

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1.2 PROPOSED PROJECT

The proposed project covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use), Circulation, Parks, Recreation, and Open Space, Safety, Conservation, and the General Plan Goals and Objectives

A new Specific Plan will be adopted to govern development of the World Logistics Center (WLC) for the 2,710 acres that will be governed by the Specific Plan. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering a 1,539-acre site (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

1.3 PUBLIC INVOLVEMENT

The EIR process for the proposed project has involved input from the public and affected agencies at several steps. A Notice of Preparation (NOP) was issued on February 26, 2012, to notify state agencies and the public that an EIR was going to be prepared for the WLC project. The NOP was circulated for 30 days as required by CEQA. The distribution list, Notice of Public Scoping Meeting, and response letters are included in Appendix A of the Draft EIR. As of the close of the 30-day NOP public review period, ten responses to the NOP had been received from public agencies, four from conservation organizations, and 14 responses from members of the public.

On March 12, 2012, the City held a public scoping meeting to solicit input on concerns the public had about the project and issues that should be addressed in the EIR. There were 33 individual speakers including one agency (SCAQMD); 33 letters and comment cards were submitted during or subsequent to the scoping meeting.

The Draft EIR will be circulated for a minimum 60-day public review period, at which time agencies and the public can comment on the technical studies and analysis of environmental issues in the EIR. All written comments on the Draft EIR will receive written responses, and the City will carefully evaluate all available information on the project prior to taking action. A more thorough discussion of input from the public and affected agencies is presented in Section 2.0, *Introduction.* Table 2.A, in the next section, summarizes the comments received regarding the NOP.

1.4 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

The EIR discusses impacts that would occur to on-site and off-site uses as a result of implementation of the proposed project. This EIR also includes proposed mitigation measures that have been identified to reduce or avoid significant effects that would result from the construction and operation of the proposed on-site uses. *CEQA Guidelines* Section 15123(b)(2) requires that areas of controversy known to the Lead Agency (City of Moreno Valley) be stated in the EIR summary. The following discussion identifies issues raised by other agencies and the public during the 30-day public comment period of the NOP, as well as comments received during the public scoping meeting for the proposed project.

Local residents indicated they understood the desire of the City to add employment during these economic times, but also expressed concerns about the following potential impacts associated with the industrial warehouse uses proposed by the WLC project:

- Loss of views from SR-60 and Gilman Springs Road. This issue is discussed in Section 4.1, *Aesthetics,* of this EIR.
- Short-term and long-term air pollutant emissions including dust, diesel particulates, and health risks from truck exhaust that could negatively affect nearby residential uses. These issues are discussed in Section 4.3, *Air Quality,* of this EIR.
- Indirect impacts on wildlife utilizing the San Jacinto Wildlife Area south of the site. This issue is discussed in Section 4.4, Biological Resources, of this EIR.
- Potential loss of cultural (archaeological) resources by grading and development of the site, and suggestions to consult with local Native American tribes per SB 18. These issues are discussed in Section 4.4, *Biological Resources*, and 4.5, *Cultural Resources*, of this EIR.
- Concerns about several geologic faults that cross the project site. This issue is discussed in Section 4.6, Geology and Soils, in this EIR.
- In addition to air quality impacts, concerns were expressed about the project emitting large quantities of greenhouse gases and their influence on global climate change. These impacts are addressed in Section 4.7, Greenhouse Gases and Global Climate Change, in the EIR.
- Potential water-related impacts (drainage and water quality of runoff from the project) are addressed in Section 4.9, *Hydrology and Water Quality*, in the EIR.
- Loss of affordable housing once identified on the Moreno Highlands Specific Plan currently approved for the project site. This issue is discussed in Section 4.10, *Land Use and Planning*, and Section 4.13, *Population, Housing, and Employment*, of this EIR.
- Short-term and long-term noise impacts that could affect nearby residential uses. These issues are discussed in Section 4.12, *Noise,* of this EIR.
- Project truck traffic causing congestion on local roads, intersections, and freeway ramps, primarily on Redlands Boulevard, and impacts to vehicular, bicycle, and pedestrian safety. These issues are discussed in Section 4.15, *Traffic and Transportation,* of this EIR.

1.5 SIGNIFICANT IMPACTS

Sections 4.1 through 4.16 of the EIR identify the following significant impacts of the WLC project:

- Aesthetics: Loss of views, scenic highways, and visual character;
- Agriculture: Loss of unique and locally important farmland;

- Air Quality: Short-term emissions of NO_2, PM_{10}, and $PM_{2.5}$ in excess of SCAQMD daily limits during construction;
- Air Quality: Long-term emissions of CO, VOC, NO_X, PM_{10}, and $PM_{2.5}$ resulting from increased vehicular trips and operation of the proposed on-site uses;
- Air Quality: Inconsistent with AQMP due to change in land uses from existing General Plan;
- Air Quality: Health risks in excess of 10 in 1 million for both on-site uses and on a cumulative basis in the surrounding region;
- Climate Change: Project contributions to cumulatively considerable greenhouse gas emissions in excess of recommended SCAQMD standard;
- Land Use: Impacts to onsite residences from adjacent warehouse development that cannot be effectively mitigated;
- Noise: On-site and off-site levels of project-related traffic noise cannot be feasibly mitigated with existing level of road and residential development; and
- Transportation: Project contributions to cumulatively considerable impacts to local facilities (outside of the City of Moreno Valley) and state-controlled transportation facilities.

1.6 ALTERNATIVES TO THE PROPOSED PROJECT

In compliance with *CEQA Guidelines* (Section 15126.6), an EIR must describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the project objectives, and would avoid or substantially lessen significant effects of the project. The EIR need not consider every conceivable alternative; rather it must consider a reasonable range of potentially feasible alternatives. This EIR evaluates a "No Project/No Build" as well as a "No Project" alternative (i.e., development according to the General Plan and zoning) in order to allow decision-makers to compare the effect of approving the project to the effect of not approving the project. A more detailed description of each project alternative as well as an analysis of the potential environmental impacts associated with the construction and operation of each is provided in Section 6.0. It should be noted that, for all of the alternatives, the 1,085 acres owned by the California Department of Fish and Wildlife and San Diego Gas & Electric would be designated as Open Space in the City's General Plan, similar to the proposed project.

1.6.1 No Project/No Development

CEQA requires an analysis of the environmental effects of not developing the proposed project. This allows the reviewer to see what the results of not developing the project site would be and also outlines existing or baseline conditions on the site. With the No Development Alternative, no development would occur and the majority of the site would remain in dry farming, with a small amount in rural residential uses.

1.6.2 No Project/Existing General Plan Alternative

Pursuant to CEQA (§15126.6[e][2]), this No Project Alternative discusses what would reasonably be expected to occur on the site based on current plans and consistent with available infrastructure and community services in the foreseeable future. This alternative would result in development of the project with the land uses currently shown in the City's General Plan (i.e., the Moreno Highlands Specific Plan or MHSP). The approved 3,038-acre MHSP is a master planned, mixed-use community, consisting of up to 7,763 residential dwelling units on approximately 2,435 acres and approximately 603 acres of business, retail, institutional, and other uses. The 1,085 acres owned by the CDFW are currently designated as Residential, Public Facilities, and Open Space in the City's General Plan and

would be designated as permanent Open Space under this alternative, similar to the proposed project.

1.6.3 Alternative 1: Reduced Density

This alternative would develop approximately 29 million square feet of logistics warehousing (approximately 30% less than under the proposed project) on the 2,710 acres of land under the Specific Plan, including 75 acres for open space. The 1,085 acres owned by the CDFW would be designated as Open Space in the City's General Plan, similar to the proposed project.

1.6.4 Alternative 2: Mixed Use A Alternative

This alternative would result in development of the entire property with a mix of 1,410 acres of logistics warehousing (22 million square feet), 1,000 acres of light manufacturing, assembly, or business park uses (20 million square feet), 50 acres of retail commercial uses (500,000 square feet), 100 acres of professional or medical office uses (1 million square feet), and 150 acres of open space. The 1,085 acres owned by the CDFW would be designated as Open Space in the City's General Plan, similar to the proposed project.

1.6.5 Alternative 3: Mixed Use B Alternative

This alternative would develop the project site similar to the land use plan of the MHSP but with 10 million square feet of logistics warehousing on the 603 acres proposed for business, retail, institutional, and other uses under the MHSP.

1.6.6 Alternative Sites

This alternative would relocate development under the proposed project to another site in the surrounding region. This analysis included potential sites in nearby cities and several unincorporated sites in the general project area. Due to the size and nature of the project, no feasible alternative sites were found in any of the eleven (11) jurisdictions evaluated.

1.7 IMPACTS, MITIGATION, AND LEVEL OF IMPACTS SUMMARY TABLE

Table 1.A provides a summary of the proposed project impacts, proposed mitigation measures, and the level of significance of each impact following the application of identified mitigation measures. While Table 1.A provides a summary of the mitigation measures, Table 1.B includes the complete text for each mitigation measure recommended in Sections 4.1 through 4.16 of the EIR.

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
4.1 Aesthetics		
Less than Significant Impacts		
None	Not applicable	Not applicable
Significant Impacts		
Impact 4.1.6.1 Scenic Vistas		
The WLC project will significantly impact viewsheds in the area, including views of the Mt. Russell Range, the Badlands, and Mystic Lake.	**4.1.6.1A** Establish a minimum 250-foot setback along the western portion of the site adjacent to Redlands Boulevard, Bay Avenue, and Merwin Street. Setback will include a combination of berms, planted walls, and landscaping for visual screening. **4.1.6.1B** Future development will provide visual renderings to show how actual development will appear from Redlands Boulevard, Bay Avenue, and Merwin Street.	Significant and Unavoidable
Impact 4.1.6.2 Scenic Resources and Scenic Highways		
The WLC project will significantly impact existing viewsheds from SR-60 and Gilman Springs Road which are locally designated scenic routes.	Previously referenced Mitigation Measures 4.1.1.6A and 4.1.16B	Significant and Unavoidable
Impact 4.1.6.3 Existing Visual character and its Surroundings		
The WLC project will fundamentally change views of the area from agriculture to large warehouses.	**4.1.6.3A** Future development will provide a site plan, landscaping plan, and visual rendering(s) to demonstrate how development will appear relative to views of Mt. Russell, the Badlands, and/or Mystic Lake for travelers along SR-60 or Gilman Springs Road.	Significant and Unavoidable
Impact 4.1.6.4 Light and Glare		
The WLC project will significantly impact the area by substantially increasing lighting and glare in the area.	**4.1.6.4A** Future development will provide a photometric plot of its proposed exterior lighting consistent with the requirements of Section 9.08.100 of the City Municipal Code. **4.1.6.4B** Future development will prepare an analysis of potential glare from any roof-mounted solar panels.	Less than Significant with Mitigation

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
	4.1.6.4C	Low-pressure sodium (LPS) lighting will be installed on the south sides of any building adjacent to the San Jacinto Wildlife Area (SJWA) to minimize "white" light spillage into the SJWA.	
Cumulative Aesthetic Impacts			
The cumulative effect of development in the region will continue to modify existing viewsheds, especially along SR-60 and Gilman Springs Road. Cumulative impacts would remain significant and unavoidable.	Previously referenced Mitigation Measures 4.1.1.6A through 4.1.16C, 4.1.6.3A, and 4.1.6.4A through 4.1.6.4C		Significant and Unavoidable
4.2 Agriculture			
Less than Significant Impacts			
Forest Land Zoning			
There are no significant impacts because there are no areas designated as forest land or timberland on the project site,	No mitigation is required.		No Impact
Loss or Conversion of Forest Land			
There are no forest lands on the project site or in the surrounding area.	No mitigation is required.		No Impact
Existing Zoning and Williamson Act			
There are no Williamson Act Contracts on or adjacent to the project site.	No mitigation is required.		No Impact
Significant Impacts			
Impact 4.2.6.1 Farmland Conversion			
The project will convert 25 acres of land designated Unique Farmland by the state to urban uses.	**4.2.6.1A**	Highland Fairview will offer to dedicate five (5) acres of land to the City for "heritage farming" (e.g., community gardens, farm museum, pumpkin patch, etc.).	Significant and Unavoidable
Impact 4.2.6.2 Conversion of Farmland to Non-Agricultural Uses			
The project will convert 2,610 acres of Farmland of Local Importance to urban uses.	Previously referenced Mitigation Measures 4.2.6.1A and 4.2.6.1B		Significant and Unavoidable

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
Cumulative Agricultural Impacts		
As urban development continues in the City and surrounding areas, there will be a cumulative loss of agricultural land through conversion to urban uses. This conversion is a long-established historical process based on local and regional economic conditions, resulting in the eventual relocation of farming to more rural and outlying areas (e.g., Coachella Valley, kern County, etc.).	No feasible mitigation is available.	Significant and Unavoidable
4.3 Air Quality		
Less than Significant Impacts		
Odors		
The proposed project involves large warehouses and no uses that would generate substantial odors. The natural gas facilities on site sometimes generate temporary odors from natural gas blow-offs, but these are not considered significant impacts.	No mitigation is required.	Less than Significant.
Long-Term Microscale (CO Hot Spot) Emissions		
The project air quality study determined that project-related traffic would not create any CO hot spots on local roadways through project buildout.	No mitigation is required.	Less than Significant
Significant Impacts		
Impact 4.3.6.1 Air Quality Management Plan Consistency		
The land uses of the proposed project are not consistent with those used to prepare the most current AQMP. Although the project would substantially improve the jobs/housing balance of the City by introducing more employment-generating uses than new housing, it would exceed applicable thresholds for all criteria pollutants, with the exception of SO_X. Despite the implementation of mitigation measures for both construction and operation, emissions associated with the proposed project cannot be reduced below applicable SCAQMD thresholds.	Implementation of Mitigation Measures 4.3.6.2A through 4.3.6.2D, 4.3.6.3A and 4.3.6.2B, 4.3.6.4A, and 4.3.6.4B will help reduce air pollutant emissions of the project, but it will still be inconsistent with the AQMP.	Significant and Unavoidable
Impact 4.3.6.2 Construction Equipment Exhaust Emissions		
Future development within the WLCSP will exceed daily air pollutant significance criteria established by the SCAMQD for	**4.3.6.2A** Future development within the WLCSP will implement a variety of control measures on construction equipment	Significant and Unavoidable

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
construction-related activities.		and activities, consistent with SCAQMD requirements.	
	4.3.6.2B	Future development will require a Traffic Control Plan to address location of equipment staging areas, stockpiling/storage areas, construction parking areas, safe detours around the project construction site, as well as provide temporary traffic control (e.g., flag person) during construction-related truck hauling activities.	
	4.3.6.2C	Future development will implement a variety of measures to minimize emissions of volatile organic compounds (VOCs) such as from painting.	
	4.3.6.2D	Grading for future development will not occur on days with an Air Quality Index forecast greater than 150 for particulates or ozone (unhealthy for sensitive groups, unhealthy, very unhealthy, or hazardous conditions).	
Impact 4.3.6.3 Localized Construction and Operation Emissions			
Future development within the WLCSP will exceed local significance thresholds of the SCAMQD for trucks and other operational activities.	**4.3.6.3A**	Future development must access new buildings using paved roads and parking lots.	Significant and Unavoidable
	4.3.6.3B	Future development must implement a number of measures to help reduce emissions from on-site heavy duty trucks, including idling limits, truck maintenance, signage related to health effects of diesel emissions, and participation in the SmartWay Partner program.	
	4.3.6.3C	Provide alternative fueling facility to serve project during Phase 2 development.	
	4.3.6.3D	Provide food, fuel, and convenience uses onsite during Phase 2 development to reduce offsite truck travel for such uses.	
Impact 4.3.6.4 Long-Term Operational Emissions			
Future development within the WLCSP will exceed daily air pollutant significance criteria established by the SCAMQD for trucks and other operational activities.	**4.3.6.4A**	Future development in the WLCSP will implement a number of activities to help reduce long-term air pollutant emissions, including participation in the County's Rideshare Program, on-site bicycle lanes,	Significant and Unavoidable

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
	sidewalks and pedestrian paths, etc.	
Impact 4.3.6.5 Operational-Acute Health Risk Impacts		
Truck-related air pollutant emission of the project may cause short-term acute health risks to nearby residents and in the regional population.	The identified Mitigation Measures 4.3.6.2A through 4.3.6.2D, 4.3.6.3A and 4.3.6.2B, 4.3.6.4A, and 4.3.6.4B will help reduce potential acute health risks to less than significant levels.	Less than Significant
Impact 4.3.6.6 Operational-Chronic Health Risk Impacts		
Truck-related air pollutant emission of the project may cause long-term chronic health risks to nearby residents and in the regional population.	Even with implementation of the previously identified Mitigation Measures 4.3.6.2A through 4.3.6.2D, 4.3.6.3A and 4.3.6.2B, 4.3.6.4A, and 4.3.6.4B, chronic health risks from project emissions will remain at significant levels.	Significant and Unavoidable
Cumulative Air Quality Impacts		
The project will increase short-term local and long-term regional air pollutant emissions and chronic health risks.	Implementation of the previously identified Mitigation Measures 4.3.6.2A through 4.3.6.2D, 4.3.6.3A and 4.3.6.2B, 4.3.6.4A, 4.3.6.4B will help reduce short- and long-term project emissions and health risks, but not to less than significant levels.	Significant and Unavoidable
4.4 Biological Resources		
Less than Significant Impacts		
Jurisdictional Waters/Wetlands		
The project site does not contain any drainages subject to the jurisdiction of the USACE and/or RWQCB, and no jurisdictional wetlands or isolated wetlands were identified.	No mitigation required	Less than Significant
Adopted Policies and/or Ordinances		
There are no local policies or ordinances regarding the protection of biological resources.	No mitigation required	No Impact
Habitat Fragmentation/Wildlife Movement		
The project will not restrict the movement of wildlife to and from the Badlands and the SJWA/Mystic Lake area, and will protect Drainage 9 through the project area as a natural drainage channel.	No mitigation required	Less than Significant

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
Significant Impacts			
Impact 4.4.6.1 Endangered and Threatened Species			
There are 17 plant and animal species designated as endangered or threatened by state and/or federal authorizes that have the potential to occur within the general vicinity of the WLC project area. Development will remove agricultural land which provides minimal habitat value for most species present.	**4.4.6.1A**	Future development along the southern boundary of the site shall establish a 250-foot setback from the CDFW property – this zone shall be planted and contain only detention basins, with no warehouse development. There will be an additional 150-foot setback for buildings (total 400 feet). Fencing, walls, berms, etc. will be installed to separate human and wildlife activity.	Less than Significant
	4.4.6.1B	Future development must submit a biological assessment for any non-covered MSHCP listed or sensitive species of plant or animal.	
	4.4.6.1C	Future development projects adjacent to the CDFW property shall provide runoff management and water quality facilities adequate to minimize downstream erosion, maintain water quality standards, and retain pre-development flows.	
Impact 4.4.6.2 Adopted Habitat Conservation Plans			
The project site is subject to the provisions of SKR HCCP and the MSHCP.	**4.4.6.2A**	Future development must conduct a survey for sensitive plants and, if found, will pay an appropriate mitigation fee to RCA or relocate them to the setback area in Measure 4.4.6.1A.	Less than Significant
	4.4.6.2B	Future development must conduct a Joint Project Review (JPR) with the Resource Conservation Agency (RCA).	
Impact 4.4.6.3 Riparian Habitat or Other Sensitive Natural Communities			
Drainage Features 7 and 9 on the project area are considered riparian/riverine areas.	**4.4.6.3A**	Future development that is adjacent to any on-site drainage channels will prepare a jurisdictional delineation and submit it to the appropriate resource agencies for permitting if necessary. Drainage 9 will be maintained in its natural condition with minimum 25-foot setbacks from the banks.	Less than Significant

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
	4.4.6.3B	As an alternative to Measure 4.3.6.3A, future development may prepare a Determination of Biologically Equivalent or Superior Project (DBESP) for development along Drainage9.	
Impact 4.4.6.4 Candidate, Non-listed Sensitive, or Special-Status Species			
The project area contains suitable habitat for sensitive species, including a variety of nesting birds, including burrowing owl, and Los Angeles pocket mouse.	**4.4.6.4A**	Future development will conduct pre-construction surveys for migratory birds, and nesting areas will be protected until nests are no longer active.	Less than Significant
	4.4.6.4B	If nesting special status avian species are present, no grading or heavy equipment activity shall take place within the limits established in Measure 4.4.6.4A.	
	4.4.6.4C	Future development will conduct pre-construction surveys for burrowing owls and any owls found will be relocated either on site or off site per approved guidelines.	
	4.4.6.4D	If active burrowing owl burrows are detected outside the breeding season, passive and/or active relocation may be undertaken following consultation with and approval by CDFW and/or USFWS.	
	4.4.6.4E	Future development along Drainage 9 will prepare a protocol survey for the Los Angeles Pocket Mouse (LAPM). If found, individuals will be relocated off site or on site to the setback area identified in Measure 4.4.6.1A. If necessary, this measure will be coordinated with Mitigation Measure 4.4.6.2B regarding preparation and processing of a DBESP report.	
	4.4.6.4F	A Biological Resource Management Plan shall be prepared for the development and maintenance of the 250-foot setback area adjacent to CDFW property identified in Measure 4.4.6.1A.	
	4.4.6.4G	Landscaping plan must be prepared for the 250-foot buffer area along the SJWA property, and cottonwood trees planted along the boundaries of the detention	

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
		basins.	
	4.4.6.4H	Install a six-foot chain link fence along the boundary of the 250-foot buffer area and the SJWA property.	
Cumulative Biological Impacts			
With implementation of the stated project-specific mitigation and payment of required MSHCP fees, no significant cumulative effect on biological resources would result from development of the WLC project.	Previously referenced Mitigation Measures 4.4.6.1A through 4.4.6.1C, 4.4.6.2A and 4.4.6.2B, 4.4.6.3A and 4.4.6.3B, and 4.4.6.4A through 4.4.6.4F.		Less than Significant
4.5 Cultural Resources			
Less than Significant Impacts			
Human Remains			
There is no evidence that the site has been utilized for human burials, and there is state law dealing with human remains that are found during grading or excavation.	No mitigation required.		Less than Significant
Significant Impacts			
Impact 4.5.6.1 Archaeological Resources			
Most of the site has been previously surveyed, and previously identified resources have been surveyed and retrieved according to required protocols. Nine on-site rural residential properties (designated "Light Logistics") have not been previously surveyed and would need to be surveyed prior to development. The City has conducted SB 18 Consultation with local Native American tribes and the Pechanga and Soboba tribes have expressed a desire to consult.	**4.5.6.1A**	Prior to development, Phase 1 surveys of the "Light Logistics" parcels will be conducted to determine if any contain significant archaeological resources. Phase 2 testing and/or Phase 3 recovery shall be conducted as appropriate, and significant resources will be preserved, archived, catalogued, and/or otherwise protected as identified in the Phase 2 and Phase 3 reports.	Significant and Unavoidable
	4.5.6.1B	Phase 1 cultural resource assessments (CRAs) will be conducted on any off-site improvement areas as the project develops. Phase 2 testing and/or Phase 3 recovery shall be conducted as appropriate, and significant resources will be preserved, archived, catalogued, and/or otherwise protected as identified in	

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
		the Phase 2 and Phase 3 reports.	
	4.5.6.1C	Future development within 3,750 feet of the southwest corner of the site will require archaeological monitoring during grading.	
	4.5.6.1D	Future development within 3,750 feet of the southwest corner of the site will trigger further consultation with interested Tribal Group(s) representatives to help monitor grading if they so desire.	
	4.5.6.1E	If archaeological or historical resources are found during grading, work will halt in that area until qualified personnel can evaluate the find(s) and determine the most appropriate method of documenting or preserving any significant resources found during grading, in accordance with §15064.5 of the CEQA Guidelines.	
Impact 4.5.6.2 Historic Resources			
Seven on-site rural residential properties (designated "Light Logistics") have not been previously surveyed for historical resources, and would need to be surveyed prior to development. Juan Bautista de Anza crossed the southern portion of the site while exploring California in 1774.	**4.5.6.2A**	If any historical resources are found during implementation of Mitigation Measure 4.5.6.1A, the project Archaeologist or Historian (as appropriate) shall offer any artifacts or resources to the Moreno Valley Historical Society (MVHS) or the Eastern Information Center/County Museum or the Western Science Center in Hemet as appropriate for archival storage.	Significant and Unavoidable
	4.5.6.2B	As part of construction of the trail segment connecting Redlands Boulevard to the California Department of Fish and Wildlife property, the developer shall contribute $5,000 to the City for the installation of an historical marker acknowledging the passing of Juan Bautista de Anza through this area.	
Impact 4.5.6.3 Paleontological Resources			
The project area is considered moderately sensitive regarding paleontological resources, and fossiliferous materials have been found in the surrounding region in the past.	**4.5.6.3A**	Future development will require paleontological monitoring as needed for all grading related to development of the WLC project.	Less than Significant
	4.5.6.3B	Prior to grading any off-site improvement areas, a	

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
	paleontological resource assessment will be conducted and any significant resources will be recovered and archived as appropriate.	
Cumulative Cultural Impacts		
The project site and surrounding area, especially the uplands associated with Mt. Russell, have yielded cultural resources in the past. As this area develops, there is a potential for impacts to or loss of archaeological, historical, or paleontological resources.	Previously referenced Mitigation Measures 4.5.6.1A through 4.5.6.1E, 4.5.6.2A and 4.5.6.2B, and 4.5.6.3A and 4.4.6.3B.	Less than Significant
4.6 Geology and Soils		
Less than Significant Impacts		
Landslides or Rockfalls		
A large older landslide has been mapped primarily off site on the north easterly flanks of Mount Russell, near the southwest portion of the property. The Specific Plan designates 75 acres in the southwest corner of the site as open space.	No development will occur in the potential landslide zone, so no mitigation is needed.	Less than Significant
Soil Erosion or Loss of Topsoil		
On-site soils have a slight erosion hazard, and uncontrolled runoff could result in erosion or loss of topsoil.	The project would be required to adhere to the City's Grading Ordinance, obtain an NPDES Permit, prepare an SWPPP and a WQMP, construction and operational impacts associated with soil erosion hazards are considered to be less than significant, and no mitigation is required.	Less than Significant
Septic Tanks		
The project would not involve the installation of septic tanks or alternative wastewater disposal systems, no impacts would occur.	No mitigation is required.	No Impact
Seismic-Related Ground Failure		
The City's General Plan and project geotechnical report indicates the site has little or no potential for seismically-induced failure or liquefaction.	No mitigation is required.	Less than Significant

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
Significant Impacts			
Impact 4.6.6.1 Fault Rupture			
The eastern portion of the site contains one or more splays of the San Jacinto Fault, and the Casa Loma Fault may be in in the general vicinity of the western portion of the site.	**4.6.6.1A**	A detailed fault study shall be conducted as necessary for the Casa Loma Fault in the west-central portion of the project site.	Less than Significant
	4.4.6.1B	Development adjacent to the San Jacinto Alquist-Priolo Earthquake Fault Zone will require a detailed geotechnical fault study to confirm the alignment and size of any required building setbacks related to the fault zone, including the Claremont Segment in the central portion of the site. If necessary, this study shall identify a "special foundation or grading remediation zone" for the areas supporting structures intended for human occupancy where fracturing is observed.	
	4.6.6.1C	Construction on any of the off-site improvement areas will require a site-specific geotechnical constraints assessment prior to approval of grading permits.	
Impact 4.6.6.2 Ground-Shaking			
Southern California is located in a seismically active area and will continue to be subject to ground shaking resulting from seismic activity on regional and local faults.	**4.6.6.2A**	All development and improvements will comply with established seismic regulations and guidelines, such as the California Building Code and/or professional engineering standards appropriate for the seismic zone in which the construction occurs.	Less than Significant
Impact 4.6.6.3 Unstable Soils			
On-site soils have a moderate to low shrink-swell potential, and there are some moderately expansive soils on site as well.	**4.6.6.3A**	All future development will have to submit a geotechnical report evaluating specific "shrink-swell" soil conditions on each development site.	Less than Significant
	4.6.6.3B	Cut slopes in excess of five (5) feet in vertical height will be constructed as "replacement fill slopes" per the project geotechnical report.	
	4.6.6.3C	All future development will have to submit a geotechnical report evaluating specific soil conditions on site, including whether compressible and/or	

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
		expansive alluvium on or underlying individual pads is present, or if there is a potential for differential settlement.	
	4.6.6.3D	A geotechnical engineer will observe and/or supervise site preparation, removal of unsuitable soils, mapping of all earthwork excavations, approval of imported earth materials, fill placement, foundation installation, and other geotechnical operations.	
Cumulative Geology and Soils Impacts			
It is reasonable to conclude that all development within this seismically active area will be required to adhere to applicable State regulations, CBC standards, and the design and siting standards required by local agencies.	Previously referenced Mitigation Measures 4.6.6.1A through 4.6.6.1C, 4.6.6.2A, and 4.6.6.3A through 4.6.6.3D.		Less than Significant
4.7 Greenhouse Gases and Global Climate Change			
Less than Significant Impacts			
Greenhouse Gas Plan, Policy, Regulation Consistency			
The proposed project is consistent with federal and state GHG reduction strategies, the CARB Scoping Plan, the City's General Plan, and the City's Climate Action Strategy.	No mitigation is required.		Less than Significant
Significant Impacts			
Impact 4.7.6.1 Greenhouse Gas Emissions			
The proposed project will emit substantial quantities of greenhouse gases during construction and operation, mainly related to truck emissions, that will exceed recommended SCAQMD thresholds for greenhouse gases. These emissions, while generated by this project, are nonetheless considered cumulative impacts (see below).	**4.7.6.1A**	Future development will implement measures to reduce air pollutants associated with solid waste disposal, including submittal of a Recyclables Collection and Loading Area plan to the Riverside County Waste Management Department for review and approval, establishing Recyclables Collection and Loading Area for each new building, community composting, etc.	Significant and Unavoidable
Cumulative Greenhouse Gas Impacts			
The proposed project will emit substantial quantities of greenhouse gases during project operation, mainly related to truck	Project-specific energy conservation, air quality, and greenhouse gas measure 4.7.6.1A will help reduce project greenhouse gas emissions, but		Significant and Unavoidable

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
emissions, that will exceed recommended SCAQMD thresholds for greenhouse gases. These emissions are considered cumulative in terms of global climate change.	the project will still make a significant cumulative contribution to greenhouse gas emissions.	
4.8 Hazards and Hazardous Materials		
Less than Significant Impacts		
Within Two Miles of a Private Airport, Airport Land Use Plan, or Public Airport		
The nearest airport is 7 miles away so, the development of the WLC project area as proposed would not result in airport safety hazards for people working in the WLC project area.	No mitigation is required.	No Impact
Existing or Proposed School		
There are no existing planned schools on or within a quarter mile of the project site.	No mitigation is required.	Less than Significant
Routine Transport, Use, or Disposal of Hazardous Materials and Reasonable Foreseeable Upset and Accident Conditions		
The transport, use, handling, or disposal of hazardous materials is regulated by various local, state, and federal standards, ordinances, and regulations that would ensure that potential impacts associated with environmental and health hazards related to an accidental release of hazardous materials are less than significant, and no mitigation is required. Compliance with established safety laws and regulations regarding natural gas plants is expected to reduce this potential impact to a less than significant level, and no mitigation is required. Local soils would be extensively disturbed during grading, and would employ relatively stringent dust control measures including regular watering, and revegetation as soon as possible after grading. Under these conditions, it is unlikely that *Coccidioides immitis* spores ("Valley Fever") would survive in the soil. This potential impact appears minimal and no mitigation is recommended.	No mitigation is required.	Less than Significant
Located on a List of Hazardous Materials Sites		
The project site and surrounding areas are not on any list of the	No mitigation is required.	Less than

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
hazardous materials sites as defined by Government Code Section 65962.5. In addition, a number of Phase 1 Environmental Site Assessments (ESAs) prepared for various portions of the site indicate that the site does not contain pesticides or other hazardous materials.		Significant
Conflict with Emergency Response Plans		
Compliance with existing regulations for emergency access and evacuation would ensure that impacts related to this issue are less than significant, and no mitigation is required.	No mitigation is required.	Less than Significant
Wildlands Fire Risk		
The Badlands to the east, across Gilman Springs Road, is considered a Very High Fire Hazard Area. The project allows the construction of warehouse buildings which have a low fire potential, and the project will add a new roadway network to facilitate access for fire protection vehicles and services. Fire Station #58 is relatively close to the project site, but future development will generate a need for an additional fire station on the site. New structures will have to comply with current Fire and Building Code regulations.	The WLC Specific Plan identifies a new on-site fire station, and payment of DIF and increased property taxes will fund future fire services. No other mitigation is required.	Less than Significant
Significant Impacts		
On-site Conditions Involving Hazardous Materials		
A number of Phase 1 Environmental Site Assessments (ESAs) prepared for various portions of the site indicate that the site does not contain pesticides or other hazardous materials. However, the existing rural residences on site have not been surveyed as yet for hazardous materials.	**4.8.6.1A** On-site rural residences ("Light Logistics" zone) will need to be surveyed for asbestos-containing materials (ACMs) and/or lead-based paint (LBP), and remediated as appropriate prior to any demolition activities. **4.8.6.1B** Prior to construction of the fueling facility ("Logistics Support" zone), a risk assessment or safety study shall be prepared to identify and effectively minimize the potential public health and safety risks from accidents at the facility.	Less than Significant

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
Cumulative Hazards and Hazmat Impacts		
The risk to each future project is based on the location and interface between urbanized area and wildland areas. Potential risks associated with development in this area can be effectively reduced through conformance with Fire and Building Code regulations.	The WLC Specific Plan identifies a new on-site fire station, and increased property taxes will fund future police and fire services. No other mitigation is required.	Less than Significant
4.9 Hydrology and Water Quality		
Less than Significant Impacts		
Seismic Flooding-Related Impacts		
The WLC project area is not identified as being located within the City's mapped inundation area.	No mitigation required	Less than Significant
Seismic-Related Impacts		
The southwest corner of the site has slopes associated with Mt. Russell, but this area is designated as open space and the rest of the WLC area gently sloping and landslides or mudslides would not occur here.	No mitigation is required	Less than Significant
Groundwater		
The proposed WLC project would not interfere with groundwater recharge as the project site is not identified as a groundwater recharge area and it will utilize water supplies from EMWD.	No mitigation is required	Less than Significant
100-Year Flooding-Related Impacts		
The project site does not lie within a 100-year floodplain and does not include housing, so impacts related to this issue are less than significant.	No mitigation is required	Less than Significant
Significant Impacts		
Impact 4.9.6.1 Drainage Pattern and Capacity-Related Impacts		
The project will modify local drainage patterns, increase impervious surfaces (roofs, hardscape, etc.), and add landscaped areas with irrigation.	**4.9.6.1A** Each identified watershed within the project area will have an appropriate detention basin to retain storm water such that off-site flows downstream will not increase over existing levels. Runoff characteristics	Less than Significant

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
		south of the site will be maintained similar to current conditions.	
Impact 4.9.6.2 Construction-Related Water Quality			
The construction and grading phases of the WLC Specific Plan area would temporarily disturb surface soils and removal of vegetative cover, which could potentially result in erosion and sedimentation within the WLCSP area.	**4.9.6.2A**	Future development shall file a Notice of Intent (NOI) with the Santa Ana Regional Water Quality Control Board to be covered under the State National Pollutant Discharge Elimination System (NPDES) General Construction Permit for discharge of storm water associated with construction activities.	Less than Significant
	4.9.6.2B	Future development will obtain approval of a project-specific Storm Water Pollution Prevention Plan (SWPPP) from the State Water Quality Control Board (SWQCB), and implement Best Management Practices (BMPs) as appropriate based on the master Water Quality Management Plan (WQMP) for the project.	
Impact 4.9.6.3 Operational-Related Water Quality			
During the operational phase of the WLC the major source of pollution in storm water runoff would be contaminants such as, a variety of pollutants such as sediment, petroleum products, commonly utilized construction materials, landscaping chemicals, and (to a lesser extent) trace metals such as zinc, copper, lead, cadmium, and iron that have accumulated on the land surface over which runoff passes. These contaminants may lead to the degradation of storm water in downstream channels and require mitigation to reduce impacts to less than significant.	**4.9.6.3A**	Future development will obtain approval of a project-specific Water Quality Management Plan (WQMP) to identify site design, source control, and treatment control BMPs to reduce impacts to water quality to the maximum extent practicable.	Less than Significant
	4.9.6.3B	The Master Property Owners Association (MPOA) and all property owners will be responsible to maintain all on-site water quality basins according to requirements in the guidance WQMP and/or subsequent site-specific WQMPs, and established guidelines of the Regional Water Quality Control Board.	
	4.9.6.3C	The Master Property Owners Association (MPOA) will establish and annually fund a Water Quality Monitoring Plan to confirm that project runoff will not affect the San Jacinto Wildlife Area (SJWA). This program shall include at least quarterly sampling along the southern boundary of the site.	

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
Cumulative Hydrology and Water Quality		
The drainage system for the proposed WLC project would maintain post-development runoff at pre-development levels for off-site downstream properties. Therefore, the proposed WLC project will not make a significant contribution to any cumulatively considerable impacts related to drainage or water quality.	Previously referenced Mitigation Measures 4.9.6.1A, 4.9.6.2A and 4.9.6.2B, and 4.9.6.3A through 4.9.6.3C. No additional mitigation is required.	Less than Significant
4.10 Land Use and Planning		
Less than Significant Impacts		
Conflict with Applicable Land Use Plans, Policies, or Regulations		
The land uses per se of the project are not consistent with SCAG growth projections and some Compass Plan policies because they are not residential in nature. However, the project will substantially improve the City's job/housing balance which is consistent with these regional plans. The WLC project is consistent with the City General Plan upon approval of the requested General Plan Amendment. The project is consistent with the City's Housing Element.	No mitigation is required.	Less than Significant
Conflict with any Applicable Habitat or Natural Community Conservation Plan		
The project will be required to comply with the requirements of the County's MSHCP and pay its development impact fee.	Previously referenced Mitigation Measures 4.4.6.1A through 4.4.6.1C, 4.4.6.2A and 4.4.6.2B, 4.4.6.3A and 4.4.6.3B, and 4.4.6.4A through 4.4.6.4F related to Biological Resources will be implemented, and no additional mitigation is required.	Less than Significant
Cumulative Land Use and Planning Impacts		
The WLC project would not have significant project-related impacts related to dividing an established community, conflicting with applicable land use plans, policies, or regulations, or conflicting with an approved habitat conservation plan. While the WLC project would represent a shift in land use policy, this policy shift does not represent a significant CEQA impact.	No mitigation is required.	Less than Significant

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
Significant Impacts		
Physically Divide an Established Community		
The WLC is located in the eastern end of the City, so its development would not physically divide an established community. However, development could adversely affect seven existing rural residences onsite, and the land plan cannot accommodate residences within logistics warehousing areas.	No feasible mitigation is available.	Significant and Unavoidable
4.11 Mineral Resources		
Less than Significant Impacts		
Loss of Statewide, Regional, or Locally Important Mineral Resources		
The project site and surrounding area do not contain any identified regional or local mineral resources, nor are there any ongoing mineral resource extraction activities in the project area.	No mitigation is required.	No impact
Cumulative Mineral Resources		
The WLC project site does not contain significant forest resources, so it will not make a significant contribution to cumulatively considerable impacts relative to any forest resources.	No mitigation is required.	Less than Significant
Significant Impacts		
None	Not applicable	Less than Significant
4.12 Noise		
Less than Significant Impacts		
Groundborne Vibration		
Project-related earthwork will create groundborne vibration, but the project noise study determined it would not exceed significance criteria for adjacent residential uses.	No mitigation is required.	Less than Significant
Airport Noise		
There are no public airports or private airstrips within two miles of	No mitigation is required.	Less than

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
the project site, so there will be no significant airport-related noise.			Significant
Significant Impacts			
Impact 4.12.6.1 Short-Term Construction Noise			
Project construction will create significant noise levels for on-site uses and off site away from the project site due to construction vehicle travel.	**4.12.6.1A**	Future development will prepare and implement a Noise Reduction Compliance Plan to show the limits of nighttime construction relative to residential dwellings.	Significant and Unavoidable
	4.12.6.1B	During all project site grading, all construction equipment will have operating and maintained mufflers.	
	4.12.6.1C	Future development will be prohibited from using Redlands Boulevard south of Fir Avenue during on-site construction.	
	4.12.6.1D	Future development will be restricted so that no grading will occur within 2,800 feet of residences south of SR-60 between 8 p.m. and 6 a.m. on weekends and 8 p.m. and 7 a.m. on weekends or holidays.	
	4.12.6.1E	As an alternative to Mitigation Measure 4.12.6.1D, a temporary 12-foot construction sound barrier may be installed for residences within 1,580 feet of active construction areas.	
	4.12.6.1F	As an alternative to Mitigation Measure 4.12.6.1D, setbacks for construction from residences can be adjusted in the field based on actual sound measurements under the Noise Reduction Compliance Plan.	
	4.12.6.1G	For grading within 1,580 feet of occupied residences, all grading equipment must be equipped with residential grade mufflers or better.	
	4.12.6.1H	All material stockpiles in connection with any grading operations shall be located at least 1,200 feet from existing residences.	
	4.12.6.1I	All project-related off-site construction shall be limited to 6 a.m. and 8 p.m. on weekdays only. Construction	

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
		during City holidays shall not be permitted.	
	4.12.6.1J	Off-site construction areas adjacent to occupied residences will have a 12-foot temporary sound barrier installed.	
Long-Term Traffic Noise			
Project operations will create significant long-term noise impacts on site and along a number of off-site roadways. Not all off-site impacts can be mitigated to less than significant levels by installing sound-attenuation improvements.	**4.12.6.2A**	Street D at the southwest corner of the site will be designed such that exterior noise levels in the adjacent existing residential areas shall not exceed 65 CNEL, which may require installation of a sound wall or other noise attenuation improvements.	Significant and Unavoidable
	4.12.6.2B	The City will prepare an update to the Development Impact Fee (DIF) program to fund installation of soundwalls along various local roadways including Cactus Avenue, John F. Kennedy Drive, Moreno Beach Drive, etc.	
	4.12.6.2C	Future development within the WLCSP will be required to participate in a Development Impact Fee (DIF) specifically to fund soundwalls and other noise attenuation improvements along Cactus Avenue, John F. Kennedy Drive, Moreno Beach Drive, etc. as outlined in the project noise study, to maintain noise levels in residential areas within City noise standards.	
Impact 4.12.6.3 Long-Term Operational Noise			
	4.12.6.3A	Future development along Redlands Boulevard, Bay Avenue, and Merwin Street will have a 250-foot setback between residentially zoned property and logistics buildings within the WLCSP. The setback zone may include berms, walls, etc. to help reduce noise impacts on adjacent residences.	Less than Significant
Impact 4.12.6.4 Long-Term Utility Noise			
	4.12.6.4A	Noise attenuation devices shall be installed or used at the SCG and SDGE gas facilities to reduce blow-down noise by at least 40 dB for new buildings within 500 feet	Less than Significant

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
	of the gas facilities.	
Impact 4.12.6.5 Cumulative Noise Impacts		
	Previously referenced Mitigation Measures 4.12.6.1A through 4.12.6.1I, 4.4.6.2A through 4.12.6.2C, 4.12.6.3A, and 4.12.6.4A will be implemented, but cumulative noise impacts will still be significant.	Significant and Unavoidable
4.13 Population, Housing, and Employment		
Less than Significant Impacts		
Population Growth		
The project proposes to develop logistics warehouses which will result in minimal direct population increase in the City, although some workers may move to the City to work at this project, and some local residents will also work at this project. The project will not necessitate extension of major infrastructure and the project will not remove obstacles that will result in substantial population growth.	No mitigation is required.	Less than Significant
Displace Substantial Housing/People		
The existing seven rural residences on the site will eventually convert to "Light Logistics" uses. The project will eliminate the potential for the site to provide 388 units of affordable housing that were proposed under the Moreno Highlands Specific Plan. However, the City can meet its regional housing goals without these units, and the project is consistent with the City's current Housing Element.	No mitigation required.	Less than Significant
Significant Impacts		
None	Not applicable	Not applicable
Cumulative Population, Housing, and Employment Impacts		
Implementation of the proposed WLC project would improve the City's jobs/housing ratio by creating thousands of new construction and permanent jobs in the City. Therefore, it will not result in cumulatively considerable impacts to population or housing.	No mitigation is required.	Less than Significant

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
4.14 Public Services and Facilities		
Less than Significant Impacts		
Police Protection		
As development under the WLCSP, the need for police services will increase. Future projects will pay applicable development impact fees and contribute property taxes to fund needed police services.	No mitigation is required.	Less than Significant
Fire Protection		
As development under the WLCSP, the need for fire services will increase. Under the WLCSP, a new fire station site will be contributed to the City. Future projects will pay applicable development impact fees and contribute property taxes to fund needed police services.	No mitigation is required.	Less than Significant
Schools		
Future industrial development will contribute no new students to local schools. Payment of the school impact fees to the MVUSD and SJUSD will reduce potential impacts to school services and facilities to less than significant levels.	No mitigation is required.	Less than Significant
Parks, Recreation, Trails		
Development under the WLCSP is logistics warehousing which will not generate new City residents who require additional parks and trails. The WLCSP proposes trail connections to Redlands Boulevard, Cactus Avenue, and the State-owned land to the south, plus a loop trail through the WLCSP site.	No mitigation is required.	Less than Significant
New or Physically Altered Recreation and Park Facilities		
Development under the WLCSP is logistics warehousing which will not generate new City residents who require additional or altered parks.	No mitigation is required.	Less than Significant
Cumulative Public Services and Facilities Impacts		
As development occurs, the need for public services will	No mitigation is required.	Less than

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
incrementally increase. Anticipated property tax increases and payment of DIF fees to the City will effectively mitigation potential cumulative impacts to public services.		Significant
Significant Impacts		
None	Not applicable	Less than Significant
4.15 Traffic and Circulation		
Less than Significant Impacts		
Air Traffic Patterns		
The project site is not within two miles of a public airport or private airstrip, and there are no major air traffic patterns over or in the immediate vicinity of the project site.	No mitigation is required.	Less than Significant
Design Hazard Features		
The project site is currently vacant agricultural land with only two major roadways (Theodore Street and Alessandro Boulevard). Under the WLCSP, a complete arterial circulation network will eventually be constructed that will allow full truck access and minimize road-related hazards.	No mitigation is required.	Less than Significant
Emergency Access		
The project site is currently vacant agricultural land with only two major roadways and minimal need for emergency services. Development under the WLCSP will eventually result in the construction of a complete arterial circulation network which will allow full access for emergency vehicles and services.	No mitigation is required.	Less than Significant
Alternative Transportation Policies, Plans, or Programs		
The proposed project will create a complete roadway circulation network, install a loop trail system, have Class II bikeways and sidewalks on all internal arterial streets, and streets can accommodate bus turnouts when needed by the local transit agency.	Carpooling is required under Air Quality Mitigation Measure 4.3.6.4A. No additional mitigation is required.	Less than Significant

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
Significant Impacts			
Impact 4.15.6.1 Existing (2012) With Project Conditions Traffic and Level of Service Impacts			
When project traffic under buildout conditions is overlaid on existing roadway and freeway conditions, significant cumulative traffic impacts will occur. Local and regional roadway and intersection impacts can be effectively mitigated, as outlined in the project TIA and described in the mitigation measures to the right. At this time, there is no effective mitigation for anticipated project impacts on local freeways.	**4.15.7.4A**	When processing future individual development permits under the World Logistics Center Specific Plan, as part of the City's discretionary approval process, the City shall require each project to perform a project-specific traffic impact study to ensure that the assumptions set forth in the TIA prepared for the programmatic level entitlement remain valid. These traffic impact analyses shall conform to the traffic impact analysis guidelines prepared by the City of Moreno Valley and the California Department of Transportation and shall be used to impose project-specific mitigation on the individually-proposed projects. These traffic analyses shall be completed prior to the issuance of grading permits for the requested development. It should be noted that the City will require that the applicant to fully fund or to pay a fair share of some of the improvements identified in Tables 4.15.AX through 4.15.BC. These improvements will be required by the City as a Condition of Approval.	Significant and Unavoidable (see Cumulative Impacts)
	4.15.7.4B	As a condition of approval for individual development permits processed in the future under the World Logistics Center Specific Plan, the City shall require the dedication of appropriate right-of-way consistent with the Subdivision Map Act for frontage street improvements contained within the World Logistics Center Specific Plan Circulation Map, as shown in DEIR Figure 3-10.Required dedications shall be made prior to the issuance of occupancy permits for the requested development.	
	4.15.7.4C	As a condition of approval for individual development permits processed in the future under the World Logistics Center Specific Plan, the City shall require each project to pay the Development	

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
		Impact Fee (DIF) as set forth in Municipal Code Chapter 3.42. Required DIF payments shall be made prior to the issuance of occupancy permits for the requested development.	
	4.15.7.4D	As a condition of approval for individual development permits processed in the future under the World Logistics Center Specific Plan, the City shall require each project to pay the requisite Transportation Uniform Mitigation Fee (TUMF) as set forth in Municipal Code Sections 3.55.050 and 3.55.060. Required TUMF payments shall be made prior to the issuance of occupancy permits for the requested development.	
	4.15.7.4E	As a condition of approval for individual development permits processed in the future under the World Logistics Center Specific Plan, the City shall require each project to pay the requisite fair-share obligation for infrastructure improvements not covered by the City's DIF or TUMF and demonstrated to be required by the individual project-level traffic impact analysis to mitigate project-level impacts to less than significant levels. Required fair share payments shall be made prior to the issuance of occupancy permits for the requested development.	
	4.15.7.4F	City shall participate in a multi-jurisdictional effort with Caltrans and adjacent cities to develop a study to identify fair-share contribution funding sources to supplement other regional and State funding sources necessary to implement the State facility and extra-territorial improvements identified in Tables 4.15.AZ and 4.15.BC necessary to mitigate the identified programmatic impacts to less than significant levels. The study shall include fair-share contributions related to other private and public development and shall be based on the nexus requirements contained in the Mitigation	

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
		Fee Act (Govt. Code Section 66000, et seq.) and 14 Cal. Code of Regs. Section 15126.4(a)(4). The Study shall also be compliant with Government Code Section 66001(g) and other applicable provisions of law. The Study shall set forth a timeline and other agreed upon relevant criteria for implementation of the improvements recommended in this EIR. Once the study is approved, the City shall impose the fair-share fees on each project that is developed under the World Logistics Center as part of the individual review of each development project. Prior to the adoption of the Study, City shall impose a fair-share payment requirements on each development project processed under the World Logistics Center Specific Plan in accordance with the requirements of the Mitigation Fee Act. Required fair share payments shall be made prior to the issuance of occupancy permits for each requested development.	
	4.15.7.4G	City shall work directly with WRCOG to request that TUMF funding priorities be shifted to align with the improvements identified in this TIA.	
	4.15.7.4H	The City will work directly with WLCSP development and other jurisdictions to coordinate the funding and installation of intersection and roadway improvements outside of the City of Moreno Valley. This measure shall be implemented to the satisfaction of the City Engineer.	
	In summary, future development within and under the WLCSP will provide the following based on the results of a project-specific traffic study prepared at the time a specific development is proposed:		
	(1) Payment of City DIF fees as outlined in Section 4.15.7.2, Mitigation of Significant Impacts – City DIF Program, in the EIR, according to identified locations and at identified milestones as		

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
	development occurs. (2) Payment of County TUMF fees as outlined in Section 4.15.7.1, Mitigation of Significant Impacts – County TUMF Program, in the EIR, according to identified locations and at identified milestones as development occurs. (3) Installation of local roadway and intersection improvements at locations and at identified milestones as development occurs, as outlined in Section 4.15.7.3, Mitigation of Significant Impacts – Required Improvements, in the EIR. (4) Participate in a multi-jurisdictional study to identify fair share contributions to freeway, roadway, and intersection improvements outside of the City of Moreno Valley.	
Impact 4.15.6.2 Year 2017 with Project Conditions Traffic and Level of Service Impacts		
The project will contribute significant amounts of traffic onto roadways and at intersections in the City of Moreno Valley and other cities, and area freeways, during Phase 1 development (approx.. 2013 to 2017).	Implementation of previously identified Measures 4.15.7.4A through 4.15.7.4H as they apply to development that occurs from project opening until Year 2017 (considered to be Phase 1).	Significant and Unavoidable
Impact 4.15.6.3 Year 2022 Cumulative With Project Conditions Traffic and Level of Service Impacts		
The project will contribute significant amounts of traffic onto roadways and at intersections in the City of Moreno Valley and other cities, and area freeways, during Phase 2 development (approx.. 2017 to 2022).	Implementation of previously identified Measures 4.15.7.4A through 4.15.7.4H as they apply to development that occurs from 2017 to 2022 (considered to be Phase 2).	Significant and Unavoidable
Impact 4.15.6.4 Cumulative Impacts - General Plan Buildout (Year 2035) With Project Conditions Traffic and Level of Service Impacts		
The project will contribute significant amounts of traffic onto roadways and at intersections in the City of Moreno Valley and other cities, and area freeways, after completion of development under the WLCSP (i.e., after 2022).	Implementation of previously identified Measures 4.15.7.4A through 4.15.7.4H for development as it occurs during development under the WLCSP.	Significant and Unavoidable

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
4.16 Utilities and Service Systems		
Less than Significant Impacts		
Construction or Expansion of Water Treatment Facilities		
The project can connect to the existing water supply and will not require the construction of any new water storage or treatment facilities.	No mitigation is required.	Less than Significant
Cumulative Water Supply		
The EMWD has determined that it will be able to provide adequate water supply to meet the potable water demand for the project area, including existing and future users, when planned groundwater storage improvements are completed.	No mitigation is required.	Less than Significant
Wastewater Treatment Requirements		
Expected wastewater flows from the proposed WLC project will not exceed the capabilities of the serving treatment plant.	No mitigation is required.	Less than Significant
Wastewater Treatment Capacity and/or New or Expanded Wastewater Facilities		
The proposed WLC project would not require the construction of new wastewater treatment facilities or expansion of existing facilities, which could cause significant environmental effects.	No mitigation is required.	Less than Significant
Cumulative Wastewater Treatment		
The proposed project, in conjunction with planned and future development within the service area, will incrementally increase the need for wastewater treatment over the long-term. However, the project itself would not require the construction of new wastewater treatment facilities or expansion of existing facilities.	No mitigation is required.	Less than Significant
Solid Waste Facilities		
Adequate daily surplus capacity exists at the receiving landfill, so project development would not significantly impact current operations or the expected lifetime of the landfill serving the project area.	No mitigation is required.	Less than Significant

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures	Level of Significance
Solid Waste Reduction		
The project would be required to comply with applicable elements of AB 1327, Chapter 18 (California Solid Waste Reuse and Recycling Access Act of 1991) and other applicable local, state, and federal solid waste disposal standards, thereby ensuring that the solid waste stream to the Badlands Sanitary Landfill is reduced in accordance with existing regulations.	Implementation of previously identified Air Quality Mitigation Measure 4.3.6.4B will help reduce long-term production of solid waste from the site, and no additional mitigation is required.	Less than Significant
Cumulative Solid Waste		
The proposed project, in conjunction with planned development in the surrounding region, will contribute increased volumes of solid waste to local landfills. However, these volumes will not exceed the capabilities of the County's waste management system. Consequently, cumulative impacts associated with solid waste within the City would be considered less than significant.	Implementation of previously identified Air Quality Mitigation Measure 4.3.6.4B will help reduce long-term production of solid waste from the site.	Less than Significant
Cumulative Energy Facilities and Consumption		
The WLC project, in conjunction with planned development in the region, will increase energy consumption as development occurs. The project will adhere to Title 24 and the California Green Building Code, and will exceed Title 24 energy consumption guidelines by at least 10 percent. Therefore, the project will not make a significant contribution to energy facilities or consumption.	Implementation of project as designed (i.e., with sustainability outlined in WLCSP) and allowance for future "solar ready" buildings (PV installations), plus implementation of Mitigation Measures 4.16.4.6.1A and 4.16.4.6.1B will reduce project's contribution to cumulative energy consumption to less than significant levels.	Less than Significant
Significant Impacts		
Impact 4.16.1.6.1 Adequate Water Supply		
The Water Supply Assessment prepared for the project by Eastern Municipal Water District determined there were sufficient supplies of water to serve the proposed project. However, the supply of water imported from the State is not currently guaranteed, so there may be significant impacts related to long-term water supply.	**4.16.1.6.1A** Future development will submit landscape plans consistent with the WLCSP in terms of water conservation. The plans will include automated control systems to minimize irrigation water use. In addition, the project will collect rainwater from roofs and hardscape areas to channel it to planter areas. **4.16.1.6.1B** Future development will install water conserving appliances and improvements including low flow toilets,	Less than Significant

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
		urinals, and faucets, motion sensor water fixtures and drinking fountains, etc.	
	4.16.1.6.1C	Future development will provide separate irrigation lines for recycled water if it becomes available in the future.	
Impact 4.16.1.6.2 Storm Water Drainage Requirements			
The development of the proposed WLC project would introduce a substantial amount of impervious surfaces on the site, which could result in significant increases in off-site runoff.	**4.16.1.6.2A**	Future development will submit grading and drainage studies to demonstrate that future flows will not exceed existing flows, and the sheet flow pattern downstream of the site will be maintained similar to that at present.	Less than Significant
	4.16.1.6.2B	Future development will construct detention basins to maintain the existing flow conditions to the San Jacinto Wildlife Area property.	
	4.16.1.6.2C	Future development will construct detention basins to prevent downstream erosion.	
Cumulative Impacts to Water Supply Services			
The proposed WLC project would connect to existing conveyance infrastructure and adequate treatment capacity is available, so the proposed WLC project would not make a significant contribution to any cumulatively considerable impacts on water supply or infrastructure.	Mitigation not required		Less than Significant
Cumulative Impacts to Wastewater Facilities			
As the wastewater from all development within the service area of the MVRWRF would be similarly treated under the NPDES, no cumulatively significant exceedance of Santa Ana RWQCB wastewater treatment requirements would occur.	Mitigation not required		Less than Significant
Impact 4.16.4.6.1 Construction or Expansion of Electrical and Natural Gas Facilities			
	4.16.4.6.1A	Future development will document estimated energy consumption using California Energy Efficiency Standards procedures. The project will exceed the State Energy Conservation Efficiency Standards for Nonresidential buildings (Title 24, Part 6, Article 2,	Less than Significant

Table 1.A: World Logistics Center Project Environmental Impact Summary

Issues/Impacts	Summary of Mitigation Measures		Level of Significance
		California Administrative Code) by a minimum of 10 percent. Among other items, future development will install cool roofs and solar ready building for possible PV facilities on project roofs.	
	4.16.4.6.1B	Future development will install energy efficient lighting, appliances, and equipment to exceed applicable Building and Energy Efficiency Standards by a minimum of 10 percent.	

Table 1.B: List of All Mitigation Measures

Aesthetics

4.1.6.1A	Prior to the issuance of any discretionary permit for development along the western boundary of the WLCSP, a minimum 250-foot setback shall be verified from closest residential property line along Redlands Boulevard, Bay Avenue, and Merwin Street to any truck access area of the WLC project. The setback area shall include berms, planted walls, and landscaping sufficient to provide effective visual screening between new development and existing residences upon maturity of the landscaping materials. Prior to development of the portion of the WLC Specific Plan property adjacent to Redlands Boulevard, the existing olive trees shall remain in place as long as practical to help screen views of the project site. This measure shall be implemented to the satisfaction of the City Planning Division.
4.1.6.1B	Prior to the issuance of any discretionary permit for development under the WLCSP adjacent to Redlands Boulevard, Bay Avenue, and Merwin Street, the developer shall provide a plot plan or site plan, landscaping plan, and visual rendering(s) consistent with the WLCSP that accurately illustrate the appearance of the proposed development. The renderings shall be sufficient to demonstrate that views of the buildings and trucks will be effectively screened from view by existing residents upon maturity of planned landscaping. The location and number of view presentations shall be at the discretion of the City Planning Division.
4.1.6.3A	Prior to the issuance of any discretionary permit for development under the WLCSP, the developer shall provide a site plan, landscaping plan, and visual rendering(s) consistent with the WLCSP that demonstrate changes in views of Mount Russell, the Badlands, and/or Mystic Lake for travelers along SR-60 or Gilman Springs Road, as appropriate. The renderings shall be sufficient to demonstrate typical views based on proposed site and landscaping plans, but the location and number of view presentations shall be at the discretion of the City Planning Division. These views shall be simulated from a height of six feet from the edge of the roadway travel lane closest to the visual resource.
4.1.6.4A	Each project proposed to be developed under the WLCSP adjacent to residential development shall provide a photometric plot of its proposed exterior lighting prior to the issuance of building permits. This plot shall demonstrate that it is consistent with the requirements of Section 9.08.100 of the City Municipal Code, to the satisfaction of the City's Planning Division. The lighting study shall indicate the expected increase in ambient night light levels at the property lines of adjacent residential uses (i.e., in the southwestern and western portions of the project site). The study shall demonstrate that the proposed lighting fixtures and/or visual screening do not exceed City standards regarding ambient light level impacts.
4.1.6.4B	Prior to the issuance of any building permits for development under the WLCSP, the developer shall provide an analysis of any solar panels to be installed on the roof of the new building. The analysis shall demonstrate that, under "worst case" annual conditions, glare from the proposed panels will not leave the confines of the roof, based on building roof parapet design, and affect adjacent residential uses or public travelers along perimeter roadways. Design or construction modifications necessary to meet these requirements shall be implemented to the satisfaction of the City Planning Division.
4.1.6.4C	Prior to the issuance of any building permit for development under the WLCSP, low-pressure sodium (LPS) lighting shall be installed on the south sides of any building adjacent to the San Jacinto Wildlife Area (SJWA) to minimize "white" light spillage into the SJWA. This measure shall be implemented to the satisfaction of the City

Table 1.B: List of All Mitigation Measures

Planning Division based on consultation with the SJWA manager.

Agricultural and Forestry Resources

4.2.6.1A Prior to issuance of any discretionary permits for development within the WLCSP property, Highland Fairview shall offer to dedicate five (5) acres of land to the City for "heritage farming" (e.g., community gardens, farm museum, or pumpkin patch). This offer shall be in force for a period of 3 years. If the City has not accepted the offer after that time, the land shall revert to Highland Fairview for development consistent with the General Plan and zoning at that time. This measure shall be implemented to the satisfaction of the City Planning Division in consultation with the Riverside County Farm Bureau and the City's Environmental and Historic Preservation Board as appropriate. The site must have water service readily available.

Air Quality

4.3.6.2A During construction of any development within the WLCSP, the following measures shall be implemented by each developer to the satisfaction of the City Planning Department. Construction equipment maintenance records and data sheets of equipment design specifications (including the emission control tier of the equipment) shall be kept on site during construction subject to inspection by the City and provided to the City on a monthly basis by the applicant or construction manager depicting that the mitigation measures are being met.

a) Prior to the year 2017, off-road diesel-powered construction equipment greater than 50 horsepower shall meet or exceed United States Environmental Protection Agency (EPA) Tier 3 off-road emissions standards.

b) In the year 2017 and thereafter, off-road diesel-powered construction equipment greater than 50 horsepower shall implement one of the following: meet EPA Tier 4 emissions standards, meet EPA Tier 4 Interim emissions standards, or meet EPA Tier 3 standards with California Air Resources Board verified Level 3 filters to reduce 85 percent diesel particulate matter. If a good faith effort to rent Tier 4 equipment within 200 miles of project has been conducted but has been unsuccessful, then Tier 3 equipment (without filters) can be used. Written verification of the Tier 4 equipment search of three or more rental companies shall be provided by the project applicant to the City verifying the results of the search prior to the use of Tier 3 construction equipment.

c) Off-road diesel-powered equipment during all construction shall be limited to 10 hours per day in the on position and in compliance with the project Noise Reduction Compliance Plan with regards to the timing and location of grading operations. There are no restrictions for equipment powered by natural gas or electricity.

d) Construction equipment shall be properly maintained according to manufacturer specifications.

e) Contractors shall turn off all construction equipment and delivery vehicles when not in use or limit on-site idling to 5 minutes or less in any one hour.

f) On-site electrical hook ups to power grid shall be provided for electric construction tools including saws, drills and compressors, where feasible, to reduce the need for diesel-powered electric generators.

g) The project shall demonstrate compliance with South Coast Air Quality Management District Rule 403 concerning fugitive dust and provide appropriate

Table 1.B: List of All Mitigation Measures

documentation to the City of Moreno Valley.

h) Off-site construction shall be limited to the hours between 6a.m. to 8 p.m. on weekdays only. Construction during City holidays shall not be permitted.

4.3.6.2B Prior to issuance of any grading permits for development within the WLCSP, the developer shall provide a traffic control plan to the City that describes in detail the location of equipment staging areas, stockpiling/storage areas, construction parking areas, safe detours around the project construction site, as well as provide temporary traffic control (e.g., flag person) during construction-related truck hauling activities. The traffic control plan is intended to minimize traffic congestion and delays that increase idling and acceleration emissions. The developer shall maintain one copy on site in the construction trailer to the satisfaction of the City.

4.3.6.2C During construction of any development within the WLCSP, the following measures shall be applied to construction activities as indicated:

a) Use paints with a volatile organic compound (VOC) content 100 grams per Liter or lower for both interior and exterior surfaces, if painted.

b) Recycle leftover paint. Take any leftover paint to a household hazardous waste center; do not mix leftover water-based and oil-based paints.

c) Keep lids closed on all paint containers when not in use to prevent VOC emissions and excessive odors.

d) For water-based paints, clean up with water only. Whenever possible, do not rinse the clean-up water down the drain or pour it directly into the ground or the storm drain. Set aside the can of clean-up water and take it to the hazardous waste center (www.cleanup.org).

e) Use compliant low VOC cleaning solvents to clean paint application equipment.

f) Keep all paint and solvent-laden rags in sealed containers to prevent VOC emissions.

4.3.6.2D During construction of any development within the WLCSP, grading shall not occur on days with an Air Quality Index forecast greater than 150 for particulates or ozone (unhealthy for sensitive groups, unhealthy, very unhealthy, or hazardous conditions). Air Quality Index forecasts can be obtained at www.airnow.gov and/or www.enviroflash.info.

4.3.6.3A Prior to issuance of occupancy permits for each warehouse building within the WLCSP, the developer shall demonstrate to the City that vehicles can access the building using paved roads and parking lots.

4.3.6.3B All applications for development shall be subject to the following conditions of approval:

Prior to the issuance of a Certificate of Occupancy

a) Post signs informing truck drivers about the health effects of diesel particulates, the California Air Resources Board diesel idling regulations, and the importance of being a good neighbor by not parking in residential areas.

b) Post signs in all dock and delivery areas containing the following: truck drivers shall turn off engines when not in use; trucks shall not idle for more than five minutes; telephone numbers of the building facilities manager and the California

Table 1.B: List of All Mitigation Measures

Air Resources Board to report violations.

c) Prior to issuance of occupancy permits, signs shall be installed at each exit driveway, providing directional information to the City's truck route. Text on the sign shall read "To Truck Route" with a directional arrow. Truck routes shall be clearly marked per the City's Municipal Code.

On an Ongoing Basis

d) Tenants shall maintain records on their fleet equipment and vehicle engine maintenance to ensure that equipment and vehicles serving the warehouses within the project are in good condition and in proper tune pursuant to manufacturer's specifications. The records shall be maintained on site and be made available for inspection by the City.

e) Tenants will ensure that site enforcement staff in charge of keeping vehicle records will be trained/certified in diesel health effects and technologies, for example, by requiring attendance at California Air Resources Board approved courses (such as the free, one-day Course #512). Documentation of said training shall be maintained on-site and be available for inspection by the City.

f) Tenants will be encouraged to become a SmartWay Partner.

g) Tenants will be encouraged to maximize the number of truck trips will be carried by SmartWay 1.0 or greater carriers.

All of the measures above shall be incorporated into conditions of approval for each future development project within the WLCSP.

4.3.6.3C The 2012 Regional Transportation Plan includes a zero/near-zero emissions truck corridor along State Route 60. The WLC project shall provide for the establishment of onsite alternative fueling infrastructure (electric charging stations and/or natural gas fueling), which will help facilitate the use of these low-emitting trucks. An alternative fueling facility to serve the WLCSP will be in place prior to the issuance of building permits for more than 25 million total square feet of logistics warehousing within the WLC Specific Plan. This facility may be on or offsite, subject to review and approval by the City.

4.3.6.3D The WLC project shall provide a site for the sale of food, fuel, and convenience items to minimize the need for trucks to travel off-project to purchase these goods and services. This facility shall be in place within the project area prior to the issuance of building permits for more than 25 million total square feet of logistics warehousing within the WLC Specific Plan to minimize the need for trucks to traverse through residential neighborhoods.

4.3.6.4A Prior to the issuance of a building permit for each development within the WLCSP, the developer shall demonstrate to the satisfaction of the City that the project incorporates the following:

a) All tenants shall participate in Riverside County's Rideshare Program. The purpose of the program would be to discourage single-occupancy vehicle trips and encourage alternate modes of transportation such as carpooling, transit, walking, and biking. The program shall provide employees with assistance in using alternate modes of travel, including carpooling encouragement, ride-matching assistance, and vanpool assistance.

b) Storage lockers shall be provided in each building for a minimum of three percent of the full-time equivalent employees based on a ratio of 0.60 employee per

Table 1.B: List of All Mitigation Measures

1,000 square feet of building area.

c) Class II bike lanes shall be incorporated into the design for Gilman Springs Road (SR-60 to Alessandro Boulevard), Theodore Street (SR-60 to project), Eucalyptus Avenue (Redlands Boulevard to Theodore Street), and the main roads in the project (Street A, Street B, Street C, Street D, Street E, and Street F).

d) The project shall incorporate pedestrian pathways between on-site uses.

e) Site design and building placement shall provide pedestrian connections between internal and external facilities.

f) The project shall provide pedestrian connections to residential uses within 0.25 mile from the project site.

g) A minimum of two electric vehicle-charging stations for automobiles or light-duty trucks shall be provided at each building.

h) Each building shall provide secure bicycle storage space equivalent to five percent of the automobile parking spaces provided.

i) Each building shall provide a minimum of two shower and changing facilities within 200 yards of a building entrance.

j) Each building shall provide preferred parking for low-emitting and fuel-efficient vehicles equivalent to at least eight percent of the required number of parking spaces.

k) All discretionary approvals for development shall include a 250-foot setback along the western portion of the site adjacent to Redland Boulevard, Bay Avenue and Merwin Street, from the CDFW property, and between residentially zoned property and logistics buildings in the WLC Specific Plan along Redlands Boulevard, Bay Avenue, and Merwin Street.

l) Electrical power sources shall be provided for service equipment and docking of trucks to minimize idling emissions and emissions from transportation refrigeration units if such units are to be used. The project applicant shall include in all new lease documents the requirement that tenants shall use only trucks with transportation refrigeration units capable of utilizing electrical hook-ups.

Biological Resources

4.4.6.1A All development projects on lots adjacent to the CDFW property shall provide a minimum 250-foot setback between the CDFW property line and any building or vehicular circulation area (excluding emergency access drives). Permitted uses within or adjacent to this setback area include landscaping, drainage and water quality facilities, fences and walls, maintenance access drives, and similar related uses. Prior to issuance of any discretionary permit in the WLCSP for development adjacent to the CDFW Conservation Buffer Area, development plans shall establish a minimum 250-foot clear setback along the southern property line of the WLC Specific Plan, both east and west of the SDG&E natural gas compressor plant. For the purposes of this measure, the term “clear” shall refer to all existing or future roads, industrial buildings or related improvements, walls, truck travel areas, etc. The only allowed uses within the 250-foot setback area are landscaping per the WLCSP, drainage or water quality basins, or relocation of any impacted plant or animal species from development areas within the Specific Plan. In addition, development plans shall also establish a minimum 150-foot setback from the north edge of the

Table 1.B: List of All Mitigation Measures

	clear zone to the closest logistics warehouse building. This will provide a total minimum building setback of 400 feet from the northern edge of the CDFW Conservation Buffer Area to new warehouse buildings within the Specific Plan. Development adjacent to the 250-foot open space setback shall have a minimum six-foot tall chain link fence to help separate warehouse activity from the buffer area. Any chain link fencing installed on any properties adjacent to the 250-foot buffer area shall have metal mesh installed below and above ground level to prevent animals from accessing new development areas. In addition, all truck activity areas within 750 feet of the southern boundary of the site shall be enclosed by minimum 11-foot tall solid block walls to help reduce noise and lighting impacts on the CDFW Conservation Area to the south. This measure shall be implemented to the satisfaction of the City Planning Division. A landscape plan for the 250-foot setback area shall be submitted with any development proposal for lots adjacent to the CDFW property. The landscape plan shall be prepared by a licensed landscape architect in consultation with a qualified biologist and shall be consistent with the design standards contained in the Specific Plan. No plant species listed in Section 6.1.4 of the MSHCP shall be installed within the setback area. In conjunction with development adjacent to the CDFW Conservation Buffer Area, cottonwood trees shall be planted along the southern boundary of the 250-foot "clear" setback zone, consistent with the WLCSP landscaping plan and plant palette. This measure shall be implemented to the satisfaction of the City Planning Division in consultation with the SJWA Manager.
4.4.6.1B	Prior to the approval of a Plot Plan for any development project, the applicant shall submit a biological assessment prepared by a qualified biologist surveying the project site for any non-covered MSHCP listed or sensitive species of plant or animal. If any such species are found, appropriate conditions shall be added to any project approval to address the treatment of such species. This measure shall be implemented to the satisfaction of the City Planning Division.
4.4.6.1C	Any development projects on lots adjacent to the CDFW property shall provide runoff management and water quality facilities adequate to minimize downstream erosion, maintain water quality standards and retain pre-development flows in a manner meeting the approval of the City Engineer, in consultation with the City Planning Department. Prior to issuance of any discretionary approvals in the WLCSP, the project developer shall demonstrate whether any detention facilities for their development area are needed in the 250-foot setback identified in Mitigation Measure 4.4.6.1A. No project developer shall install plant species listed in Section 6.1.4 of the MSHCP. Any drainage improvements constructed within this setback shall be designed to minimize runoff and erosional impacts on the SJWA land to the south, to the extent practical. This measure shall be implemented to the satisfaction of the City Planning Division.
4.4.6.2A	Prior to the approval of any Plot Plans for development within the project area, the applicant shall submit a biological assessment of the proposed development site prepared by a qualified biologist to identify if any of the following sensitive plants (i.e., Coulter's goldfields, smooth tarplant, or thread-leaved brodiaea) are present on the proposed development site. If plants are found in the proposed development area, they may be relocated to the 250-foot clear setback area outlined in the Specific Plan and discussed in Mitigation Measure 4.4.6.1A. Alternatively, an appropriate impact fee may be paid to the Western Riverside County Regional Conservation Authority (RCA) or other appropriate conservation organizations to offset for the loss of these species on the WLC project site. This measure shall be implemented to the

Table 1.B: List of All Mitigation Measures

	satisfaction of the City Planning Division in consultation with the County RCA.
4.4.6.2B	Prior to the approval of any tentative maps for development within the WLCSP, the applicant shall conduct a Joint Project Review (JPR) with the Resource Conservation Agency (RCA). All cell groups shall be provided on tentative maps, and an application shall be completed and processed by the applicant.
4.4.6.3A	Prior to the approval of any Plot Plans proposing development adjacent to any on-site drainage channels identified in the project programmatic Jurisdictional Delineation (MBA 2012), the developer shall retain a qualified biologist to prepare a site-specific jurisdictional delineation and submit it to the U.S. Army Corps of Engineers (USACE) and California Department of Fish and Wildlife (CDFW) for review and concurrence. If the development plan will not affect identified jurisdictional areas, no USACE permitting is required. However, permitting through the Regional Water Quality Control Board (RWQCB) and CDFW (i.e., Streambed Alternation Agreement) may still be required for this development. The applicant shall consult with USACE, CDFW and RWQCB to establish the need for permits based on the results of the 2012 jurisdictional delineation and final design plans for each of the proposed the facilities. Consultation with the three agencies shall take place and appropriate permits obtained. Compensation for losses associated with the altering of drainages on site shall be in agreement with the permit conditions. Any development adjacent to Drainage 9 shall be designed with the channel in its relatively natural condition, and shall provide a minimum 25-foot open space setback from the top of each bank. Any landscaping of this setback area shall use only native species to help protect resources residing within or traveling through these drainages between the SJWA and the Badlands, and to protect any riparian vegetation along this drainage. This measure shall be implemented to the satisfaction of the City Planning Division.
4.4.6.3B	As an alternative to Mitigation Measure 4.3.6.3A, the project developer shall retain a qualified biologist to prepare a Determination of Biologically Equivalent or Superior Project (DBESP) relative to development along Drainage 9 in order to maximize protection or preservation of the drainage, otherwise the DBESP must demonstrate why protection or preservation is not possible. This measure shall be implemented to the satisfaction of the City Planning Division in consultation with the County Resource Conservation Agency (RCA). The DBESP shall be prepared to document measures to reduce impacts to riparian/ riverine habitats in accordance with the MSHCP as well as CDFW and USFWS guidelines. The DBESP shall include specific measures to reduce impacts to riparian areas and provide mitigation in the form of on-site preservation of riparian areas and/ or a combination of compensation through purchase and placement of lands with riparian/riverine habitat into permanent conservation through a conservation easement and/or restoration or enhancement efforts at off-site or on-site locations.
4.4.6.4A	Pursuant to the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (CFGC), site preparation activities (removal of trees and vegetation) shall be avoided during the nesting season of potentially occurring native and migratory bird species (generally February 1 to August 31). If site preparation activities must occur during the nesting season, a pre-activity field survey shall be conducted by a qualified biologist prior to issuance of grading permits for such development. The survey shall determine if active nests of species protected by the MBTA or CFGC are present in the construction zone. If active nests of these species are found, the

Table 1.B: List of All Mitigation Measures

	developer shall establish an appropriate buffer zone with no grading or heavy equipment activity within of 500 feet from an active listed species or raptor nest, 300 feet from other sensitive or protected bird nests (non-listed), or 100 feet for sensitive or protected songbird nests. In the event no special status avian species are identified within the limits of disturbance, no further mitigation is required. In the event such species are identified within the limits of ground disturbance, Mitigation Measure 4.4.6.4B shall also apply. This measure shall be implemented to the satisfaction of the City Planning Division.
4.4.6.4B	If it is determined that project-related grading or construction will affect nesting special status avian species, no grading or heavy equipment activity shall take place within the limits established in Mitigation Measure 4.4.6.4A until it has been determined by a qualified biologist that the nest/burrow is no longer active, and all juveniles have fledged the nest/burrow. This measure shall be implemented to the satisfaction of the City Planning Division.
4.4.6.4C	Prior to issuance of any grading permits, a pre-construction survey for burrowing owls shall be prepared by a qualified biologist and submitted to the City. This survey shall be required and conducted no more than 30 days prior to initiation of ground-disturbing activities. If construction is to be initiated during the breeding season (February 1 through August 31) and burrowing owl is determined to occupy any portion of the study area during the 30-day pre-construction survey, consultation with the CDFW and USFWS shall take place and no construction activity shall take place within 500 feet of an active nest/burrow until it has been determined that the nest/ burrow is no longer active and all juveniles have fledged the nest/burrow. No disturbance to active burrows shall occur without appropriate permitting through the MBTA and/or CDFW. If active burrowing owl burrows are detected outside the breeding season (September through January), or within the breeding season but owls are not nesting or in the process of nesting, passive relocation may be conducted following consultation with the CDFW and USFWS. Construction activity may occur within 500 feet of the active nests at the discretion of the biological monitor. If active nests are identified in a development area, the nests shall be avoided or the owls actively or passively relocated to the 250-foot setback area in the southern portion of the Specific Plan site (see Mitigation Measure 4.4.6.1A). This setback area shall be considered a “conservation area” for burrowing owl or other species of animals or plants that need to be relocated from the portions of the WLCSP site to be developed. In the event no burrowing owls have been identified within the limits of ground disturbance, no further mitigation is required. In the event burrowing owls are identified within the limits of ground disturbance, Mitigation Measure 4.4.6.4D shall apply. To avoid active nests adequately, no grading or heavy equipment activity shall take place within at least 250 feet of an active nest during the breeding season (February 1 through August 31) and 160 feet during the non-breeding season. This measure shall be implemented to the satisfaction of the City Planning Division.
4.4.6.4D	If active burrowing owl burrows are detected outside the breeding season, passive and/or active relocation may be undertaken following consultation with and approval by the CDFW and/or USFWS. The installation of one-way doors may be installed as part of a passive relocation program. Burrowing owl burrows shall be excavated with hand tools by a qualified biologist when determined to be unoccupied, and back filled to ensure that animals do not re-enter the holes/dens. Owls may also be actively relocated on site to the 250-foot clear buffer zone along the southern boundary of the WLCSP, as outlined in Mitigation Measure 4.4.6.1A. This measure shall be

Table 1.B: List of All Mitigation Measures

	implemented to the satisfaction of the City Planning Division.
4.4.6.4E	Prior to the approval of any Plot Plans proposing the development of land including or adjacent to Drainage 9, a protocol survey for the Los Angeles Pocket Mouse (LAPM), including 100 feet upstream and downstream of the affected reach shall be prepared by a qualified biologist and submitted to the City. If the affected drainage is not occupied, the area is considered not to be occupied and development can continue without further action. If the species is found within the specific survey area, no development shall occur until an appropriate mitigation fee is paid or appropriate amount of land set aside on the project site or off site to compensate for any loss of occupied LAPM habitat. Alternatively, individuals may be relocated to the 250-foot setback zone along the southern boundary of the property identified in Mitigation Measure 4.4.6.1A, or other appropriate areas as determined by the USWFS. If necessary, this measure shall also be coordinated with Mitigation Measure 4.4.6.2B regarding preparation and processing of a DBESP report. This measure shall be implemented to the satisfaction of the City Planning Division.
4.4.6.4F	Prior to approval of any discretionary permits for development along the southern border of the WLCSP, a Biological Resource Management Plan (BRMP) shall be prepared to prescribe how the 250-foot "safe zone" outlined in Mitigation Measure 4.4.6.1A will be managed and maintained to provide a buffer and resources for wildlife of the adjacent SJWA. This plan will identify frequent and infrequent vegetation management requirements (i.e., removal of invasive plants) and maintaining trees along both the north and south sides of the detention basins to provide roosting and nesting opportunities for raptors and other birds. The BRMP will also describe how relocation of listed or sensitive species will occur from other locations as outlined in Mitigation Measures 4.4.6.2A, 4.4.6.4D, and 4.4.6.4E. Preparation and implementation of the BRMP shall be to the satisfaction of the City Planning Division in consultation with the SJWA Manager. The BRMP shall cover all the land within the 250-foot setback zone along the entire southern boundary of the WLCSP. Implementation of the plan shall be supervised by the Riverside Land Conservancy or a qualified conservation organization or biologist, to the satisfaction of the City Planning Division.
4.4.6.4G	Mitigation Measure 4.4.6.1A specifies that a landscape plan shall be submitted with any development proposal for lots adjacent to the CDFW property prior to issuance of a precise grading permit. The landscape plan shall be prepared by a licensed landscape architect in consultation with a qualified biologist and shall be consistent with the design standards contained in the Specific Plan. No plant species listed in Section 6.1.4 of the MSHCP shall be installed within the setback area. In conjunction with development adjacent to the CDFW Conservation Buffer Area, cottonwood trees shall be planted along the southern boundary of the 250-foot "clear" setback zone, consistent with the WLCSP landscaping plan and plant palette.
4.4.6.4H	As outlined in Mitigation Measure 4.4.6.1A, development adjacent to the 250-foot open space setback shall have a six-foot chain link fence to help separate human activity and the buffer area. Any chain link fencing installed on any properties adjacent to the 250-foot buffer area shall have metal mesh installed below and above ground level to prevent animals from accessing new development areas.
Cultural and Paleontological Resources	
4.5.6.1A	Prior to the approval of any grading or other discretionary permit for any of the "Light Logistics" parcels, the parcels shall be evaluated for significance by a qualified

Table 1.B: List of All Mitigation Measures

archaeologist since they were not available for survey during preparation of the EIR. A Phase I Cultural Resources Assessment shall be conducted on each of the "Light Logistics" parcel prior to development to determine if it contains significant archaeological or historical resources. A Phase II evaluation shall be completed for any of these sites that are determined to contain significant archaeological or historical resources based on the results of the Phase I assessment. Cultural resources include but are not limited to stone artifacts, bone, wood, shell, or features, including hearths, structural remains, or historic dumpsites. If a particular resource is determined to be significant, it shall be adequately documented using DPR523 forms for archival research/storage in the Eastern Information Center (EIC). If the particular resource is determined to be not significant, no further documented is required. Any artifacts determined to be significant shall be considered for relocation or archival documentation, as appropriate, depending on whether the building or buildings are determined to be significant under CEQA. If any building is determined to be significant, a Phase III recovery study shall be conducted to recover remaining significant cultural artifacts. If necessary, a feasibility study shall be conducted to determine if a significant structure can be relocated effectively to off-site parcels. The study shall also identify if there are appropriate parcels available within or close to the Moreno area of the City. If the structure cannot be feasibly relocated, or there is not an appropriate parcel to relocate the structure to, the structure shall be demolished after complete archival recordation in a manner determined by the project archaeologist.

4.5.6.1B Prior to the approval of any grading or ground-disturbing permit by the City construction of off-site improvements for the WLCSP, the developer requesting the permit shall retain a qualified archaeologist to prepare a Phase I cultural resource assessment (CRA) of the project site if an up to date CRA is not available for the site at the time of development. If archaeological resources are uncovered or discovered during construction activities, no further excavation or disturbance of the area where the resources were found shall occur until a qualified archaeologist evaluates the find. If the find is determined to be a unique archaeological resource, appropriate action shall be taken to include but not be limited to: (a) planning construction to avoid archeological sites; (b) capping or covering archeological sites with a layer of soil before building on the affected site; or (c) excavation to adequately recover the scientifically consequential information from and about the resource. Work may continue on other parts of the project site while the unique archaeological resource mitigation takes place. This measure shall be implemented to the satisfaction of the City Planning Division.

If the qualified archaeologist determines that the find is a unique archaeological resource, the resource site shall be evaluated and recorded in accordance with requirements of the State Office of Historic Preservation (OHP). If the site is determined to be significant, an adequate amount of data at the specific site shall be collected by the qualified archaeologist and the findings of the report shall be submitted to the City. If the site is not determined to be not significant, the site need not be mitigated for as described above.

4.5.6.1C Prior to any discretionary approvals for development within 3,750 feet of the southwest corner of the site, the project developer shall retain a qualified archaeologist to monitor grading as this area has been identified as having moderate to high sensitivity for cultural resources. Project-related archaeological monitoring shall include the following requirements:

1. All construction-related earthmoving shall be monitored to a depth of ten (10) feet below grade by the Project Archaeologist or his/her designated

Table 1.B: List of All Mitigation Measures

representative;

2. Once 50 percent of the earth to be moved has been examined, the Project Archaeologist may, at his or her discretion, terminate monitoring if and only if no buried cultural resources have been detected;

3. If buried cultural resources are detected, monitoring shall continue until 100 percent of virgin earth within the permit area has been disturbed and inspected by the Project Archaeologist or his/her designated representative.

4. Grading shall cease in the area of a cultural artifact or potential cultural artifact as delineated by the Project Archaeologist or his/her designated representative. Grading should continue in other areas of the site while particular find are investigated; and

5. If cultural artifacts are uncovered during grading, they shall be Phase II tested by the Project Archaeologist, evaluated for significance in accordance with §15064.5 the *CEQA Guidelines*, and curated in a museum chosen by the City if the resource(s) are determined to be significant. Appropriate actions for significant resources include but are not limited to avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds (Phase III recovery). A mitigation-monitoring report must accompany any archived artifacts.

6. No further grading shall occur in the area of the discovery until the City approves specific actions to protect identified resources. Any archaeological artifacts recovered as a result of mitigation shall be donated to a qualified scientific institution approved by the City where they would be afforded long-term preservation to allow future scientific study.

7. The developer shall make reasonable efforts to avoid, minimize, or mitigate significant adverse impacts on cultural resources on the WLCSP property, and the SHPO and local Native American tribes will be consulted and the Advisory Council on Historic Preservation will be notified within 48 hours in compliance with 36 CFR 800.13(b)(3). This measure shall be implemented to the satisfaction of the City Planning Division.

4.5.6.1D Prior to the issuance of any grading permit within 3,750 feet of the southwest corner of the site, the City and the applicant shall invite interested Tribal Group(s) representatives to help monitor grading if they so desire. Qualified representatives of the Tribal Group(s) shall be granted access to the permit site to monitor grading as long as they provide 48-hour notice to the developer of their desire to monitor, so the developer can make appropriate safety arrangements on the site. This measure shall be implemented to the satisfaction of the City Planning Division.

4.5.6.1E It is possible that ground-disturbing activities during construction may uncover previously unknown, buried cultural resources (archaeological or historical). In the event that buried cultural resources are discovered during grading and no Project Archaeologist or Historian is present, grading operations shall stop in the immediate vicinity of the find and a qualified archaeologist shall be retained to determine the most appropriate course of action regarding the resource. The Archeologist shall make recommendations to the City on the actions that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with §15064.5 of the *CEQA Guidelines*. Cultural resources could consist of, but are not limited to, stone artifacts, bone, wood, shell, or features, including hearths, structural remains, or historic dumpsites. Any previously undiscovered resources found during construction within the project area

Table 1.B: List of All Mitigation Measures

should be recorded on appropriate DPR forms and evaluated for significance in terms of CEQA criteria. If the resources are determined to be unique historic resources as defined under §15064.5 of the *CEQA Guidelines*, mitigation measures shall be identified by the Archaeologist and recommended to the City. Appropriate protective actions for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds.

No further grading shall occur in the area of the discovery until the City approves the measures to protect these resources. Any archaeological artifacts recovered as a result of mitigation shall be donated to a qualified scientific institution approved by the City where they would be afforded long-term preservation to allow future scientific study.

In addition, reasonable efforts to avoid, minimize, or mitigate adverse effects to the property will be taken and the SHPO and Native American tribes with concerns about the property, as well as the Advisory Council on Historic Preservation will be notified within 48 hours in compliance with 36 CFR 800.13(b)(3).

4.5.6.2A If any historic resources are found during implementation of Mitigation Measure 4.5.6.1A, the project Archaeologist or Historian (as appropriate) shall offer any artifacts or resources to the Moreno Valley Historical Society (MVHS) or the Eastern Information Center/County Museum or the Western Science Center in Hemet as appropriate for archival storage. From the time any artifacts are turned over to the Moreno Valley Historical Society or other appropriate historical group, the developer shall have no further responsibility for their management or maintenance. This measure shall be implemented to the satisfaction of the City Planning Division in consultation with the Moreno Valley Historical Society.

4.5.6.2B As part of construction of the trail segment connecting Redlands Boulevard to the California Department of Fish and Wildlife property, the developer shall contribute $5,000 to the City for the installation of a historical marker acknowledging the passing of Juan Bautista de Anza through this area during his exploration of California. This measure shall be incorporated into trail plans for this segment and that will be subject to review and approval by the Park and Recreation Department in consultation with the Moreno Valley Historical Society.

4.5.6.3A Prior to the issuance of any grading permits for development within the WLCSP, the project developer shall retain a City-approved Paleontologist to conduct paleontological monitoring as needed for all grading related to development. Development permits shall include the following actions:

1. Monitoring must occur in areas where excavations are expected to exceed twenty (20) feet in depth, or in areas where fossil-bearing formations are found during grading. This monitoring must be conducted by a qualified Project Paleontologist in all areas found to or suspected of containing fossil-bearing formations.
2. Paleontological monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates.
3. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens.
4. Monitoring may be reduced if the potentially fossiliferous units described herein are not present, or, if present, are determined upon exposure and examination by

Table 1.B: List of All Mitigation Measures

a qualified Project Paleontologist to have low potential to contain fossil resources. The sole discretion to reduce monitoring rests with the City.

This measure shall be implemented to the satisfaction of the City Planning Division. It should be noted that the Project Paleontologist and the Project Archaeologist described in Mitigation Measure 4.5.6.1C may be the same person if they meet the qualifications of both positions.

4.5.6.3B Prior to the issuance of any grading permits for the construction of any off-site improvements necessary for development in the WLCSP, the project developer shall retain a qualified paleontologist to conduct an assessment for paleontological resources on each off-site improvement location. If any site is determined to have a potential for exposing paleontological resources, the project paleontologist shall monitor off-site grading/excavation, subject to coordination with the City. Development permits shall include the following mitigation measures:

1. Monitoring must occur in areas where excavations are expected to reach fossil-bearing formations during grading. This monitoring must be conducted by a qualified Project Paleontologist in all areas found to or suspected of containing fossil-bearing formations.
2. The Project Paleontologist shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates.
3. The Project Monitor shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens.
4. Monitoring may be reduced if the potentially fossiliferous units described herein are not present, or, if present, are determined upon exposure and examination by a qualified Project Paleontologist to have low potential to contain fossil resources. The sole discretion to reduce monitoring rests with the City.

Geology and Soils

4.6.6.1A Prior to approval of any projects for future development between Redlands Boulevard and Theodore Street, south of Dracaea Avenue (projected east from Redlands Boulevard), and the area south of Alessandro from the western boundary along the Mount Russell toe of slope easterly into the site 1,500 feet, the City shall determine if a detailed fault study of the Casa Loma Fault Zone area is required based on available evidence. If necessary, any additional investigations shall be prepared by a qualified geologist and determine if structural setbacks are needed, and shall identify specific remedial earthwork and/or foundation recommendations. Structures intended for human occupancy shall not be located within any structural setback zone as determined by those studies. This measure shall be implemented to the satisfaction of the City Engineer in consultation with the Project Geologist.

4.6.6.1B Prior to approval of any projects for future development within or adjacent to the San Jacinto Alquist-Priolo Earthquake Fault Zone, the City shall review and approve a geotechnical fault study prepared by a qualified geologist to confirm the alignment and size of any required building setbacks related to the fault zone. If necessary, this study shall identify a “special foundation or grading remediation zone” for the areas supporting structures intended for human occupancy where coseismic deformation (fractures) is observed. This zone shall be determined after subsurface evaluation based on proposed building locations. Specific remedial earthwork and foundation recommendations shall be evaluated as necessary based on proposed building

Table 1.B: List of All Mitigation Measures

	locations. This study will likely involve future trenching to adequately identify the location of the Claremont segment of the San Jacinto Fault Zone that crosses the eastern portion of the WLCSP property. This measure shall be implemented to the satisfaction of the City Engineer in consultation with the Project Geologist.
4.6.6.1C	Prior to the approval of project grading permits, or permits for construction of off-site improvements, whichever comes first, the City shall review and approve plans confirming that the project has been designed to withstand anticipated ground shaking and other geotechnical and soil constraints (e.g., settlement). The project proponent shall submit improvement plans to the City or County as appropriate for review and approval prior to construction of any offsite improvements related to the project. This measure shall be implemented to the satisfaction of the City Engineer.
4.6.6.2A	Prior to issuance of any building permits the City shall review and approve plans to confirm that the siting, design and construction of all structures and facilities are in accordance with the regulations established in the California Building Code (California Code of Regulations, Title 24), City Building Code, and/or professional engineering standards appropriate for the seismic zone in which such construction may occur.
4.6.6.3A	Prior to the approval of a Plot Plan for any development project or associated off-site improvements, a geotechnical report evaluating the site and planned improvements shall be submitted to and approved by the City. These investigations shall identify any site-specific impacts from compressible and expansive soils based on the actual location of individual pads proposed in the future, so that differential movement can be further verified or evaluated in view of the actual foundation plan and imposed fill or structural loads. Compliance with this measure will ensure that future buildings are designed to protect the structure and occupants from on-site soil limitations, consistent with State Building Code requirements. This measure shall be implemented to the satisfaction of the City Engineer.
4.6.6.3B	Prior to issuance of any grading permit for development within the Specific Plan, any cut slopes in excess of five (5) feet in vertical height shall be constructed as “replacement fill slopes” per the project geotechnical report, due to the variable nature of the onsite alluvial soils. This measure shall be implemented to the satisfaction of the City Land Development Division and the City Engineer.
4.6.6.3C	Prior to issuance of any discretionary permit for development within the Specific Plan, additional geotechnical and soils site investigations will be required as appropriate once site grading and foundations plans become available for individual building sites. These studies shall address if or to what degree compressible and/or expansive alluvium on or underlying individual pads is present, or if there is a potential for differential settlement. This measure shall be implemented to the satisfaction of the City Engineer.
4.6.6.3D	Prior to issuance of any discretionary permit and during grading for development within the Specific Plan, a geotechnical engineer shall observe and/or supervise site preparation, removal of unsuitable soils, mapping of all earthwork excavations, approval of imported earth materials, fill placement, foundation installation, and other geotechnical operations. Laboratory testing of subsurface materials to confirm compacted dry density and moisture content, consolidation potential, corrosion potential, expansion potential, and resistance value (R-value) shall be performed prior to and during grading as appropriate. This measure shall be implemented to the satisfaction of the City Engineer.

Table 1.B: List of All Mitigation Measures

Greenhouse Gas Emissions, Climate Change, and Sustainability

4.7.6.1A The project shall implement the following requirements to reduce solid waste:

a) Prior to issuance of a building permit, the applicant shall submit a Recyclables Collection and Loading Area Plan for review and comment to the City Building and Safety Division for construction related materials prior to issuance of a grading permit and to the City Public Works Department for operational aspects of the project prior to the issuance of the occupancy permit that shall indicate how the trash and recycling enclosures would be accessed by the hauler. The plan shall conform to the Riverside County Waste Management Department's Design Guidelines for Recyclable Collection and Loading Areas.

b) Prior to issuance of certificate of occupancy, the recyclables collection and loading area shall be constructed in compliance with the Recyclables Collection and Loading Area plan.

c) Prior to issuance of certificate of occupancy, documentation shall be provided to the City confirming that recycling is available for each building.

d) Within six months after occupancy of a building, the City shall confirm that all tenants have recycling procedures set in place to recycle all items that are recyclable, including but not limited to paper, cardboard, glass, plastics, and metals.

e) The City shall advise all tenants of the availability of community recycling and composting services.

f) Existing on-site street material shall be recycled for new project streets to the extent feasible.

Hazards and Hazardous Materials

4.8.6.1A Prior to demolition of any existing rural residences or associated structures, a qualified contractor shall be retained to survey structures proposed for demolition to determine if asbestos-containing materials (ACMs) and/or lead-based paint (LBP) are present. If ACMs and/or LBP are present, prior to commencement of general demolition, these materials shall be removed and transported to an appropriate landfill by a licensed contractor. This measure shall be implemented to the satisfaction of the City Building Division including written documentation of the disposal of any ACMs or LBP in conformance with all applicable regulations.

4.8.6.1B Prior to the issuance of any discretionary permits associated with the natural gas fueling facility (LS zone), the applicant shall provide a risk assessment or safety study that identifies the potential public health and safety risks from accidents at the facility (e.g., fire, tank rupture, boiling liquid, or expanding vapor explosion). This study shall be prepared to industry standards and demonstrate that the facility will not create any significant public health or safety impacts or risks, to the satisfaction of the City Community Development Director and the City Building Official.

Hydrology and Water Quality

4.9.6.1A Prior to issuance of any development permit within the Specific Plan area, the developer shall place detention basin(s) and spreading area(s) as appropriate within each proposed watershed, as outlined in the project hydrology plan, to mitigate the impacts of increased peak flow rate, velocity, flow volume and reduce the time of concentration by storing increased runoff for a limited period of a time and release the outflow at a rate that does not exceed the pre-development condition. This

Table 1.B: List of All Mitigation Measures

measure shall be implemented to the satisfaction of the City Engineer. Energy dissipaters shall be used as the spillways of basins to reduce the runoff velocity and dissipate the flow energy. Drainage structures shall be constructed at the downstream end of the watersheds flowing to the San Jacinto Wildlife Area to control the runoff and spread the flow in such a way that the flows exiting the project boundary will return to the sheet flow pattern similar to the existing condition. Detention basins and spreading areas shall be designed to account for the amount of the sediment transported through the project boundary so that the existing sediment carrying capacity is maintained.

4.9.6.2A Prior to issuance of any grading permit for development in the WLCSP, the project developer shall file a Notice of Intent (NOI) with the Santa Ana Regional Water Quality Control Board to be covered under the National Pollutant Discharge Elimination System (NPDES) General Construction Permit for discharge of storm water associated with construction activities. The project developer shall submit to the City the Waste Discharge Identification Number issued by the State Water Quality Control Board (SWQCB) as proof that the project's NOI is to be covered by the General Construction Permit has been filed with the SWQCB. This measure shall be implemented to the satisfaction of the City Engineer.

4.9.6.2B Prior to issuance of any grading permit for development in the WLCSP, the project developer shall submit to the State Water Quality Control Board (SWQCB) and receive approval for a project-specific Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall include a surface water control plan and erosion control plan citing specific measures to control on-site and off-site erosion during the entire grading and construction period. In addition, the SWPPP shall emphasize structural and nonstructural best management practices (BMPs) to control sediment and non-visible discharges from the site. BMPs to be implemented may include (but shall not be limited to) the following:

- Sediment discharges from the site may be controlled by the following: sandbags, silt fences, straw wattles and temporary debris basins (if deemed necessary), and other discharge control devices. The construction and condition of the BMPs are to be periodically inspected by the RWQCB during construction, and repairs would be made as required.
- Materials that have the potential to contribute non-visible pollutants to storm water must not be placed in drainage ways and must be placed in temporary storage containment areas.
- All loose soil, silt, clay, sand, debris, and other earthen material shall be controlled to eliminate discharge from the site. Temporary soil stabilization measures to be considered include: covering disturbed areas with mulch, temporary seeding, soil stabilizing binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Stockpiles shall be surrounded by silt fences and covered with plastic tarps.
- The SWPPP shall include inspection forms for routine monitoring of the site during the construction phase.
- Additional required BMPs and erosion control measures shall be documented in the SWPPP.
- The SWPPP would be kept on site for the duration of project construction and shall be available to the local Regional Water Quality Control Board for inspection at any time.

Table 1.B: List of All Mitigation Measures

The developer and/or construction contractor for each development area shall be responsible for performing and documenting the application of BMPs identified in the project-specific SWPPP. Regular inspections shall be performed on sediment control measures called for in the SWPPP. Monthly reports shall be maintained and available for City inspection. An inspection log shall be maintained for the project and shall be available at the site for review by the City of Moreno Valley and the Regional Water Quality Control Board.

4.9.6.3A Prior to issuance of any grading or building permits a site-specific Water Quality Management Plan (WQMP) shall be submitted to the City Land Development Division for review and approval. The WQMP shall specifically identify site design, source control, and treatment control BMPs that shall be used on site to control pollutant runoff and to reduce impacts to water quality to the maximum extent practicable. The WQMP shall be consistent with the Water Quality Management Plan approved for the overall WLCSP project. At a minimum, the site developer shall implement the following site design, source control, and treatment control BMPs as appropriate:

Site Design BMPs

i. Minimize urban runoff.
ii. Maximize the permeable area.
iii. Incorporate landscaped buffer areas between sidewalks and streets.
iv. Maximize canopy interception and water conservation by planting native or drought-tolerant trees and large shrubs.
v. Use natural drainage systems.
vi. Where soil conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration.
vii. Construct on-site ponding areas or retention facilities to increase opportunities for infiltration consistent with vector control objectives.
viii. Minimize impervious footprint.
ix. Maximize the permeable area.
x. Construct streets, sidewalks and parking lot aisles to the minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised.
xi. Reduce widths of street where off-street parking is available.
xii. Minimize the use of impervious surfaces such as decorative concrete, in the landscape design.
xiii. Conserve natural areas.
xiv. Maximize canopy interception and water conservation by planting native or drought tolerant trees and large shrubs.
xv. Use natural drainage systems.
xvi. Minimize Directly Connected Impervious Areas (DCIAs).
xvii. Runoff from impervious areas will sheet flow or be directed to treatment control BMPs.
xviii. Streets, sidewalks, and parking lots will sheet flow to landscaping/ bioretention areas.

Source Control BMPs

Source control BMPs are implemented to eliminate the presence of pollutants through prevention. Such measures can be both non-structural and structural.

a. Non-structural source control BMPs include:
   - Education for property owners, operator, tenants, occupants, or employees;
   - Activity restrictions;

Table 1.B: List of All Mitigation Measures

- Irrigation system and landscape maintenance;
- Common area litter control;
- Street sweeping private streets and parking lots; and
- Drainage facility inspection and maintenance.

b. Structural source control BMPs include:
- MS4 stenciling and signage;
- Landscape and irrigation system design;
- Protect slopes and channels; and
- Properly design fueling areas, trash storage areas, loading docks, and outdoor material storage areas.

Treatment Control BMPs

Treatment control BMPs supplement the pollution prevention and source control measures by treating the water to remove pollutants before it is released from the project site. The treatment control BMP strategy for the project is to select Low Impact Development (LID) BMPs that promote infiltration and evapotranspiration, including the construction of infiltration basins, bioretention facilities, and extended detention basins. Where infiltration BMPs are not appropriate, bioretention and/or biotreatment BMPs (including extended detention basins, bioswales, and constructed wetlands) that provide opportunity for evapotranspiration and incidental infiltration may be utilized. Harvest and use BMPs (i.e., storage pods) may be used as a treatment control BMP to store runoff for later non-potable uses.

Site-specific WQMPs have not been prepared at this time as no site-specific development project has been submitted to the City for approval. When specific projects within the project are developed, BMPs will be implemented consistent with the goals contained in the master WQMP. All development within the project will be required to incorporate on-site water quality features to meet or exceed the approved Master WQMP's water quality requirements identified previously.

4.9.6.3B The Master Property Owners Association (MPOA) and all property owners shall be responsible to maintain all onsite water quality basins according to requirements in the guidance WQMP and/or subsequent site-specific WQMPs, and established guidelines of the Regional Water Quality Control Board. Failure to properly maintain such basins shall be grounds for suspension or revocation of discretionary operating permits, and/or referral to the Regional Water Quality Control Board for review and possible action. This measure shall be implemented to the satisfaction of the City Land Development Division, in consultation with the City Engineer, and Regional Water Quality Control Board.

4.9.6.3C Prior to issuance of future discretionary permits for any development along the southern boundary of the WLCSP, the project developer of such sites, in cooperation with the Master Property Owners Association (MPOA), shall establish and annually fund a Water Quality Monitoring Plan to confirm that project runoff will not have deleterious effects on the adjacent San Jacinto Wildlife Area (SJWA). This program shall include at least quarterly sampling along the southern boundary of the site (i.e., at the identified outlet structures of the project detention basins) during wet season flows and/or when water is present, as well as sampling of any dry-season flows that are observed entering the SJWA property from the project property, including Drainage "H," which is planned to convey only clean off-site flows from north of the WLCSP site across Gilman Springs Road. The program shall also include at least twice yearly sampling after completion of construction, and a pre-construction survey must be completed to determine general water quality baseline conditions prior to and during development of the southern portion of the WLCSP. This sampling shall

Table 1.B: List of All Mitigation Measures

	be consistent with and/or comply with the requirements of applicable Storm Water Pollution Prevention Plans (SWPPPs) for the development site. The project developer of sites along the southern border of the WLCSP shall be responsible for preventing or eliminating any toxic pollutant (not including sediment) found to exceed applicable established public health standards. Once development is complete, the developer shall retain qualified personnel to conduct regular (i.e., at least quarterly) water sampling/testing of any basins and their outfalls to ensure the SJWA will not be affected by water pollution from the project site. The City Planning and/or Land Development Division shall file an annual water quality report with the Moreno Valley City Council, State Department of Recreation (Mystic Lake Manager), and Eastern Municipal Water District. This measure shall be implemented to the satisfaction of the City Planning and/or Land Development Division based on consultation with the project developer, Eastern Municipal Water District, the Regional Water Quality Control Board-Santa Ana Region, and the Mystic Lake Manager.
Noise	
4.12.6.1A	Prior to issuance of any discretionary approvals for development in the WLCSP, the project applicant shall submit a Noise Reduction Compliance Plan (NRCP) to the City of Moreno Valley for review and approval. The NRCP shall show the limits of nighttime construction in relation to any then occupied residential dwellings. Conditions shall be added to any discretionary projects requiring that the limits of nighttime grading be shown on the NRCP and all grading plans submitted to the City. The limits of construction allowed at night shall be clearly staked on site, and contractors will be provided with a copy of the plan showing the limits of nighttime construction.
4.12.6.1B	During all project site grading, all construction equipment, fixed or mobile, shall be equipped with operating and maintained mufflers consistent with manufacturers' standards.
4.12.6.1C	All discretionary approvals for development in the WLCSP shall prohibit construction vehicles from using Redlands Boulevard south of Fir Avenue during on-site construction for all phases of the Specific Plan.
4.12.6.1D	All discretionary approvals for development in the WLCSP shall include conditions of approval stating that no nighttime grading shall occur within 2,800 feet of residences south of SR-60 (between 8 p.m. and 6 a.m. on weekends and 8 p.m. and 7 a.m. on weekends or holidays). These restrictions shall be included as part of the Noise Reduction Compliance Plan. As an alternative to this requirement, a temporary construction sound barrier may be used in lieu of the construction buffer, per Mitigation Measure 4.12.6.1E.
4.12.6.1E	As an alternative to Mitigation Measure 4.12.6.1D, a 12-foot tall temporary construction sound barrier may be installed for residences within 1,580 feet of active nighttime construction areas. The temporary sound barrier shall be constructed of plywood with a total thickness of 1 to 1.5 inches, or a sound blanket wall may be used. If sound blankets are used, the curtains must have a Sound Transmission Class (STC) rating of 27. This shall be included as part of the Noise Reduction Compliance Plan required in Mitigation Measure 4.12.6.1A which shall be reviewed and approved by the City prior to implementation.
4.12.6.1F	As an alternative to Mitigation Measure 4.12.6.1D, actual noise measurements of construction areas may be taken by qualified personnel and recommend specific

Table 1.B: List of All Mitigation Measures

	buffer distances between construction activities and existing residences based on actual noise levels. These measurements will be incorporated into the Noise Reduction Compliance Plan required in Mitigation Measure 4.12.6.1A which shall be reviewed and approved by the City prior to implementation.
4.12.6.1G	Any discretionary approvals for development that proposes grading within 1,580 feet of occupied residential units shall require that all grading equipment be equipped with residential grade mufflers (or better).
4.12.6.1H	All material stockpiles in connection with any grading operations shall be located at least 1,200 feet from existing residences.
4.12.6.1I	All project-related off-site construction shall be limited to 6 a.m. and 8 p.m. on weekdays only. Construction during City holidays shall not be permitted.
4.12.6.1J	Prior to the issuance of grading permits for off-site construction activities in support of development in the WLCSP, the project developer shall provide evidence to the City that any off-site construction area adjacent to occupied residential units shall have a 12-foot temporary sound barrier installed for construction activities lasting more than one month.
4.12.6.2A	Within the WLCSP, Street D shall be designed such that exterior noise levels at existing residential areas shall not exceed 65 CNEL, which may require installation of a soundwall or other noise attenuation improvements. The design and calculations of such improvements shall be incorporated into a report that shall be submitted to the City for review and approval prior to the issuance of construction permits for Street D.
4.12.6.2B	Prior to issuance of any discretionary approvals for development in the WLCSP, a WLC Noise Development Impact Fee study shall be submitted to the City for review and approval. The City shall require future development within the WLCSP to participate in a WLC Noise Development Impact Fee program to include soundwall attenuation to mitigate impacts from the proposed project based on the collection of fair-share fee payments from each increment of development and the implementation of each soundwall in accordance with Mitigation Measure 4.12.6.2C. The update to the DIF shall be based on a nexus study in conformance with State law (i.e., AB 1600). The Nexus study shall examine the soundwalls specified below, shall include detailed cost estimates for each soundwall, and shall establish a pro-rated fee to be paid per square foot by all development proposals within the WLCSP. The soundwalls to be included in this study include: **Cactus Avenue Soundwall from Redlands Boulevard to Street D.** Construct an approximately 1,000-foot long, 6-foot high soundwall at the top of slope. The existing wrought-iron fencing will be removed and replaced with the soundwall (e.g., masonry wall, berming, glass barrier, or combinations of these barriers). The soundwall would need to measure 6 feet as measured from the rear yard of the residences. **John F. Kennedy Drive, east side, Soundwall from Cactus Avenue to Bay Hill Drive.** Construct an approximately 5,000-foot long, 6-foot high soundwall at the top of slope for the existing residences that are on the east side of John F. Kennedy Drive. The existing wrought-iron fencing will be removed and replaced with the soundwall (e.g., masonry wall, berming, glass barrier, or combinations of these barriers). The soundwall would need to measure 6 feet as measured from the rear yard of the residences. **Moreno Beach Drive Soundwall between Locust Avenue and Ironwood Avenue.** Construct an approximately 2,000-foot long, 6-foot high soundwall at the top of slope for the existing residences that are on the east side of John F. Kennedy Drive. The

Table 1.B: List of All Mitigation Measures

soundwall would need to measure 6 feet as measured from the rear yard of the residences.

Perris Boulevard Soundwall between John F. Kennedy Drive and Iris Avenue. Construct an approximately 1,500-foot long, 6-foot high soundwall at the top of slope for the existing residences that are on the east side of John F. Kennedy Drive. The soundwall would need to measure 6 feet as measured from the rear yard of the residences.

State Route 60 Soundwall from Redlands Boulevard to Theodore Street. Construct an approximately 580-foot long, 6-foot high soundwall for the existing residences. The soundwall would need to measure 6 feet as measured from the rear yard of the residences.

Iris Avenue Soundwall from Nason Street to Oliver Street. Construct an approximately 3,000-foot long, 6-foot high soundwall along the property line for the existing residences.

Sycamore Canyon Boulevard Soundwall from College Boulevard and Central Avenue. Construct an approximately 1,000-foot long, 6-foot high soundwall at the top of slope for the existing residences. The soundwall would need to measure 6 feet as measured from the rear yard of the residences.

4.12.6.2C Prior to issuance of any building permits for development in the WLCSP, the City shall collect the Development Impact Fee (DIF) as modified in accordance with Mitigation Measure 4.12.6.2B. The City shall establish a schedule for installing the specific soundwalls listed in Mitigation Measure 4.12.6.2B consistent with the WLC Noise DIF program.

4.12.6.3A All discretionary approvals for development in the area of Redlands Boulevard, Bay Avenue, Merwin Street, and Cactus Avenue shall provide a minimum 250-foot setback between residentially zoned property and logistics buildings within the WLCSP. In addition, all such discretionary approvals shall provide sound attenuation improvements that will reduce expected noise levels from development to within City standards.

4.12.6.4A Prior to the issuance of building permits for projects within 500 feet of the SCGC and SDG&E facilities, documentation shall be submitted to the City confirming that sound attenuation devices or improvements for the blow-down facilities providing at least a 40 dB reduction in noise levels during blow-down events area available and will be installed for all planned blow-down events. This measure shall be implemented to the satisfaction of the City Planning Official.

Traffic and Circulation

4.15.7.4A When processing future individual development permits under the World Logistics Center Specific Plan, as part of the City's discretionary approval process, the City shall require each project to perform a project-specific traffic impact study to ensure that the assumptions set forth in the TIA prepared for the programmatic level entitlement remain valid. These traffic impact analyses shall conform to the traffic impact analysis guidelines prepared by the City of Moreno Valley and the California Department of Transportation and shall be used to impose project-specific mitigation on the individually-proposed projects. These traffic analyses shall be completed prior to the issuance of grading permits for the requested development. It should be noted that the City will require that the applicant to fully fund or to pay a fair share of some of the improvements identified in Tables 4.15.AX through 4.15.BC. These improvements will be

Table 1.B: List of All Mitigation Measures

	required by the City as Conditions of Approval.
4.15.7.4B	As a condition of approval for individual development permits processed in the future under the World Logistics Center Specific Plan, the City shall require the dedication of appropriate right-of-way consistent with the Subdivision Map Act for frontage street improvements contained within the World Logistics Center Specific Plan Circulation Map, as shown in DEIR Figure 3-10.Required dedications shall be made prior to the issuance of occupancy permits for the requested development.
4.15.7.4C	As a condition of approval for individual development permits processed in the future under the World Logistics Center Specific Plan, the City shall require each project to pay the Development Impact Fee (DIF) as set forth in Municipal Code Chapter 3.42. Required DIF payments shall be made prior to the issuance of occupancy permits for the requested development.
4.15.7.4D	As a condition of approval for individual development permits processed in the future under the World Logistics Center Specific Plan, the City shall require each project to pay the requisite Transportation Uniform Mitigation Fee (TUMF) as set forth in Municipal Code Sections 3.55.050 and 3.55.060. Required TUMF payments shall be made prior to the issuance of occupancy permits for the requested development.
4.15.7.4E	As a condition of approval for individual development permits processed in the future under the World Logistics Center Specific Plan, the City shall require each project to pay the requisite fair-share obligation for infrastructure improvements not covered by the City's DIF or TUMF and demonstrated to be required by the individual project-level traffic impact analysis to mitigate project-level impacts to less than significant levels. Required fair share payments shall be made prior to the issuance of occupancy permits for the requested development.
4.15.7.4F	City shall participate in a multi-jurisdictional effort with Caltrans and adjacent cities to develop a study to identify fair-share contribution funding sources to supplement other regional and State funding sources necessary to implement the State facility and extra-territorial improvements identified in Tables 4.15.AZ and 4.15.BC necessary to mitigate the identified programmatic impacts to less than significant levels. The study shall include fair-share contributions related to other private and public development and shall be based on the nexus requirements contained in the Mitigation Fee Act (Govt. Code Section 66000, et seq.) and 14 Cal. Code of Regs. Section 15126.4(a)(4). The Study shall also be compliant with Government Code Section 66001(g) and other applicable provisions of law. The Study shall set forth a timeline and other agreed upon relevant criteria for implementation of the improvements recommended in this EIR. Once the study is approved, the City shall impose the fair-share fees on each project that is developed under the World Logistics Center as part of the individual review of each development project. Prior to the adoption of the Study, City shall impose a fair-share payment requirements on each development project processed under the World Logistics Center Specific Plan in accordance with the requirements of the Mitigation Fee Act. Required fair share payments shall be made prior to the issuance of occupancy permits for each requested development.
4.15.7.4G	City shall work directly with WRCOG to request that TUMF funding priorities be shifted to align with the improvements identified in this TIA.
4.15.7.4H	The City will work directly with WLCSP development and other jurisdictions to coordinate the funding and installation of intersection and roadway improvements

Table 1.B: List of All Mitigation Measures

outside of the City of Moreno Valley. This measure shall be implemented to the satisfaction of the City Engineer.

Utilities and Service Systems

4.16.1.6.1A Prior to issuance of a precise grading permit for development within the WLCSP, the developer shall submit landscape plans that demonstrate compliance with the WLCSP, the State of California Model Water Efficient Landscape Ordinance (AB 1881), and Conservation in Landscaping Act (AB 325). Landscape plans shall be approved prior to issuance of building permits and incorporate the following:

- Use of xeriscape, drought-tolerant, and water-conserving landscape plant materials wherever feasible and as outlined in Section 6.0 of the WLCSP;
- Use of vacuums, sweepers, and other "dry" cleaning equipment to reduce the use of water for wash down of exterior areas;
- Weather-based automatic irrigation controllers for outdoor irrigation (i.e., use moisture sensors);
- Use of irrigation systems primarily at night or early morning, when evaporation rates are lowest;
- Use of recirculation systems in any outdoor water features, fountains, etc.;
- Use of low-flow sprinkler heads in irrigation system;
- Provide information to the public in conspicuous places regarding outdoor water conservation; and
- Use of reclaimed water for irrigation if it becomes available.

4.16.1.6.1B Prior to issuance of any building permit for development within the WLCSP, the developer shall submit building plans that demonstrate the project has water-efficient design features outlined in Section 4.0 of the WLCSP including, but not limited to the following:

- Instantaneous (flash) or solar water heaters;
- Automatic on and off water facets;
- Water-efficient appliances;
- Low-flow fittings, fixtures and equipment;
- Use of high efficiency toilets (1.28 gallons per flush [gpf] or less);
- Use of waterless or very low water use urinals (0.0 gpf to 0.25 gpf);
- Use of self-closing valves for drinking fountains;
- Infrared sensors on drinking fountains, sinks, toilets and urinals;
- Low-flow showerheads;
- Water-efficient ice machines, dishwashers, clothes washers, and other water-using appliances;
- Cooling tower recirculating system where applicable;
- Provide information to the public in conspicuous places regarding indoor water

Table 1.B: List of All Mitigation Measures

conservation; and

- Use of reclaimed water for wash down if it becomes available.

4.16.1.6.1C Prior to issuance of any precise grading permit for development within the WLCSP, the developer shall submit irrigation plans that demonstrate the development will have separate irrigation lines for recycled water. The irrigation plans shall be approved prior to issuance of a building permit. All irrigation systems shall be designed so that they will function properly with recycled water if it becomes available in the future.

4.16.1.6.2A Concurrent with the submittal of applications for discretionary approvals in the WLCSP, the applicant shall submit grading and drainage studies for each development area, with supporting engineering calculations, to the City Engineer for review and approval. The plans shall specify that detention basins shall be placed within each proposed watershed to mitigate the impacts of increased peak flow rate, velocity, flow volume, and reduced time of concentration by storing increased runoff for a limited period of time and release of the outflow in a way that the flow existing the project boundary will return to a sheet flow pattern similar to the existing condition. This measure shall be implemented to the satisfaction of the City Engineer.

4.16.1.6.2B Concurrent with the submittal of applications for discretionary approvals along the southern boundary of the WLCSP, the applicant shall submit grading and drainage studies, with supporting engineering calculations, to the City Engineer for review and approval. The plans shall specify that energy dissipaters shall be used in the spillways of basins to reduce the runoff velocity and dissipate the flow energy. Basins with weir structures shall be constructed where the existing drainages exit the WLCSP property onto the San Jacinto Wildlife Area property to spread the outflow in a way that the flow exiting the project boundary will return to a sheet flow pattern similar to the existing condition. This measure shall be implemented to the satisfaction of the City Engineer.

4.16.1.6.2C Concurrent with the submittal of applications for discretionary approvals in the WLCSP, the applicant shall submit a concept grading and drainage plan, with supporting engineering calculations, to the City Engineer for review and approval. The plans shall specify that offsite flows shall be conveyed through the project in such a way that the existing sediment carrying capacity of the drainage courses exiting the project area is similar to the existing condition. The runoff leaving the project site shall be comparable to the sheet flow of the existing condition to maintain the sediment carrying capacity and amount of available sediment for transport so that no increased erosion will occur downstream. This measure shall be implemented to the satisfaction of the City Engineer.

4.16.4.6.1A Prior to the issuance of any building permit within the WLCSP, each project developer shall submit energy calculations used to demonstrate compliance with the performance approach to the California Energy Efficiency Standards to the Building Department that shows each new structure meets applicable Building and Energy Efficiency Standards. The plans shall also ensure that buildings are in conformance with the State Energy Conservation Efficiency Standards for Nonresidential buildings (Title 24, Part 6, Article 2, California Administrative Code). Plans shall show the following:

Energy-efficient roofing systems, such as “cool” roofs, that reduce roof temperatures significantly during the summer and therefore reduce the energy requirement for air conditioning. Examples of energy-efficient building materials and suppliers can be found at http://eetd.lbl.gov/ CoolRoofs or similar websites.

Table 1.B: List of All Mitigation Measures

Cool pavement materials such as lighter-colored pavement materials, porous materials, or permeable or porous pavement, for all roadways and walkways not within the public right-of-way, to minimize the absorption of solar heat and subsequent transfer of heat to its surrounding environment. Examples of cool pavement materials are available at http://www.epa.gov/heatisld/images/extra/level3_pavingproducts.html or similar websites.

Energy-efficient appliances that achieve the 2008 Appliance Energy Efficiency Standards (e.g., EnergyStarappliances) and use of sunlight-filtering window coatings or double-paned windows.

4.16.4.6.1B Prior to the issuance of any building permits within the WLCSP, each project developer shall submit energy calculations used to demonstrate compliance with the performance approach to the California Energy Efficiency Standards to the Building Department that shows each new structure meets the applicable Building and Energy Efficiency Standards. Plans may include but are not necessarily limited to implementing the following as appropriate:

- High-efficiency air-conditioning with EMS (computer) control.
- Variable Air Volume (VAV) air distribution.
- Outside air (100 percent) economizer cycle.
- Staged compressors or variable speed drives to flow varying thermal loads.
- Isolated HVAC zone control by floors/separable activity areas.
- Specification of premium-efficiency electric motors (i.e., compressor motors, air handling units, and fan-coil units).
- Use of occupancy sensors in appropriate spaces.
- Use of compact fluorescent lamps in place of incandescent lamps.
- Use of cold cathode fluorescent lamps.
- Use of Energy Star exit lighting or exit signage.
- Use of T-8 lamps and electronic ballasts where applications of standard fluorescent fixtures are identified.
- Use of lighting power controllers in association with metal-halide or high-pressure sodium (high intensity discharge) lamps for outdoor lighting and parking lots.
- Use of skylights (may conflict with installation of solar panels in some instances).
- Consideration of thermal energy storage air conditioning for spaces or hotel buildings, meeting facilities, theaters, or other intermittent-use spaces or facilities that may require air-conditioning during summer, day-peak periods.
- Use of high efficiency toilets (1.28 gallons per flush [gpf] or less).
- Use of zero to low water use urinals (0.0 gpf to 0.25 gpf).
- Use of weather-based irrigation controllers for outdoor irrigation.
- Use of drought-tolerant and native plants in outdoor landscaping.

2.0 INTRODUCTION AND PURPOSE

This programmatic Environmental Impact Report (EIR) has been prepared to evaluate the environmental impacts associated with the proposed World Logistics Center Project ("proposed project" or "project") in Rancho Belago, the eastern potion of the City of Moreno Valley ("City"), and to identify mitigation measures to avoid or minimize significant environmental impacts. The City is the "public agency which has the principal responsibility for carrying out or approving the project" and, as such, is the "Lead Agency" for this project under the California Environmental Quality Act (CEQA) of 1970 (*CEQA Guidelines* section 15367). CEQA requires the Lead Agency to consider the information contained in the EIR prior to taking any discretionary action. The EIR is also a public disclosure document available to agencies and the public for review and comment prior to the consideration of the proposed project by the City, and is intended to serve as an informational document to be considered by the City, Responsible Agencies, and Trustee Agencies during deliberations on the proposed project. The project approvals associated with the proposed project are described in Section 3.0.

This section of the EIR outlines the document's format; describes the purpose of the EIR; summarizes public review of the EIR; describes the Mitigation Monitoring and Reporting Program (MMRP); identifies the environmental issues discussed in the EIR; and defines the parameters and data to be used in the analysis of cumulative impacts.

2.1 DOCUMENT FORMAT

To assist the reader's review of the document, the following describes the format of this EIR.

Section 1.0 *Executive Summary* provides a summary of the EIR document and (in Table 1.B) identifies potentially significant impacts, mitigation measures, and the level of significance of each impact following mitigation.

Section 2.0 *Introduction and Purpose* outlines the EIR document's format including technical appendices; describes the purpose of the EIR including the legal purpose of CEQA, the intended use of EIR, and the EIR's incorporated documents and referenced technical reports; summarizes the public review of the EIR to date; describes the role of the MMRP to be provided in the Final EIR; identifies the sixteen environmental issues that are discussed; and defines the cumulative analysis provided in the EIR.

Section 3.0 *Project Description* provides a detailed description of the geographical setting, project location, project setting, City of Moreno Valley General Plan designations, World Logistics Center Specific Plan land use designations, zoning designations, project characteristics, project objectives, and discretionary actions required to implement the proposed project. This section also explains the other areas in addition to the Specific Plan that are part of the proposed project (i.e., off-site improvement areas, California Department of Fish and Wildlife property, and public facilities lands).

Section 4.0 *Existing Setting, Impacts, and Mitigation Measures* evaluates the impacts associated with the proposed project. This section is organized by sixteen issue areas with each following the framework:

- *Existing Setting*. Information in the existing setting contains a discussion of the local and regional environment conditions (environmental and man-made) in existence at the time this EIR was prepared. Existing setting information provides the reader with the "baseline" from which future impacts are analyzed, and provides a standard against which to measure these impacts.

- *Existing Policies and Regulations.* Regulatory requirements and policies (federal, state, and local) applicable to the issue area are summarized.
- *Methodology*. A brief summary of the methods and resources utilized in the preparation of the environmental analysis.
- *Thresholds of Significance*. Determinations regarding the significance of potential impacts resulting from implementation of the proposed project are provided. These thresholds represent the criteria used in this programmatic EIR to determine whether identified impacts are significant.
- *Less than Significant Impacts*. Potential issues for which the proposed project was determined to have no impact or a less than significant impact are identified. For these issues, either no mitigation would be required or adherence to established regulations, standards, and policies would reduce potential impacts to a less than significant level.
- *Significant Impacts*. Potential impacts from implementation of the proposed project are identified. Each of these issues contains an impact analysis, mitigation measures, and significance after mitigation discussion.
    - *Impact Analysis.* An analysis of potential programmatic impacts of the proposed project is presented in this section. This discussion focuses on the impacts of implementation of the proposed project, and includes potential short-term/long-term and direct/indirect project impacts, and consistency with applicable planning documents or regulations.
    - *Project Design Features.* Characteristics of the WLC Specific Plan or other aspects of the WLC project that help reduce potential environmental impacts.
    - *Mitigation Measures*. The measures proposed to mitigate any potential impacts of the proposed project are identified.
    - *Level of Significance after Mitigation* provides a conclusion as to whether implementation of the proposed project will reduce the project-related and cumulative impacts to a level that is less than significant.
- *Cumulative Impacts.* This discussion focuses on the potential environmental effect of the proposed project combined with the effects of reasonably foreseeable cumulative projects within the project study area.

Section 5.0 *Other CEQA Topics* contains discussions of additional topics required by CEQA, including effects found not to be significant, unavoidable effects of the proposed project, and significant irreversible environmental changes. The proposed project's consistency with regional plans (discussed in Section 4.10) and potential to induce growth (discussed in Sections 4.13) are summarized in this section.

Section 6.0 *Alternatives* contains discussion of alternatives to development of the proposed project. As allowed by CEQA, the impacts of these alternatives are evaluated at a more general level than the analyses of the proposed project that is contained in Section 4.0. This section also evaluates the proposed effects of the No Project Alternative and identifies the environmentally superior alternative.

Section 7.0 This section lists the organizations and persons consulted in preparation of the EIR.

Section 8.0 This section contains all the references cited in the EIR, acronyms and abbreviations used in the document, and definitions of terms used, including those specific to the proposed WLC project.

Appendices The Appendices contain a copy of the NOP, NOP mailing list, NOP comment letters and responses, public scoping meeting information, all of the various technical

studies that support the EIR analysis, referenced materials, and other relevant correspondence received during the course of the analysis of the proposed project.

2.2 PURPOSE OF CEQA AND THE ENVIRONMENTAL IMPACT REPORT

According to Section 15002 of *CEQA Guidelines*, the basic purposes of CEQA are to:

- Inform government decision-makers and the public about the potential significant environmental effects of proposed activities;
- Identify ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governing agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

CEQA requires that a project be reviewed to determine the environmental effects that would result if the project were approved and implemented. The City has the responsibility for preparing, processing, and determining whether to approve the proposed project and certify this EIR. As Lead Agency, the City has the authority to make decisions regarding discretionary actions relating to implementation of the proposed project.

2.2.1 Program EIR

This EIR will serve as a Program EIR pursuant to the *State CEQA Guidelines* Section 15168, which states that a Program EIR is appropriate for a project that involves "… a series of actions that can be characterized as one large project and are related either:

(1) Geographically;

(2) A logical parts in the chain of contemplated action;

(3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or

(4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways."

Section 15168 of the *CEQA Guidelines* explains how a Program EIR relates to future activities within the project area:

"(c) Use with Later Activities. Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.

(1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.

(2) If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.

(3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.

(4) Where the subsequent activities involve site-specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

(5) A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

(d) Use with Subsequent EIRs and Negative Declarations. A program EIR can be used to simplify the task of preparing environmental documents on later parts of the program. The program EIR can:

(1) Provide the basis in an Initial Study for determining whether the later activity may have any significant effects.

(2) Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.

(3) Focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before.

(e) Notice with Later Activities. When a law other than CEQA requires public notice when the agency later proposes to carry out or approve an activity within the program and to rely on the program EIR for CEQA compliance, the notice for the activity shall include a statement that:

(1) This activity is within the scope of the program approved earlier, and

(2) The program EIR adequately describes the activity for the purposes of CEQA."

2.2.2 World Logistics Center EIR

As previously noted, CEQA requires the Lead Agency consider the information contained in the EIR prior to taking any discretionary action on a project. This EIR provides information to the Lead Agency and other public agencies, the general public, and decision-makers regarding the potential environmental impacts from the construction and operation of the proposed project. The purpose of the public review of the EIR is to evaluate the adequacy of the environmental analysis in terms of compliance with CEQA. Section 15151 of the *CEQA Guidelines* states the following regarding standards from which adequacy is judged:

> "An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among experts. The courts have not looked for perfection but for adequacy, completeness, and a good faith effort at full disclosure."

An EIR is the most comprehensive form of environmental documentation identified in CEQA and the *CEQA Guidelines*, and provides the information needed to assess the environmental consequences of a proposed project. EIRs are intended to provide an objective, factually supported, full-disclosure

analysis of the environmental consequences associated with a proposed project that has the potential to result in significant, adverse environmental impacts.

Under CEQA (PRC Section 21002.1[a]):

> "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the proposed project, and to indicate the manner in which those significant effects can be mitigated or avoided."

This programmatic EIR has been prepared to evaluate the potential environmental impacts associated with the entitlement, construction and operation of the proposed 41.6 million square feet of logistics warehouse facilities (i.e., the World Logistics Center), as well as its associated infrastructure, designation of the CDFW property as permanent open space, and designation of the Natural Gas Compressor Plant as Public Facility, along with related entitlements. As permitted under the *CEQA Guidelines* (Section 15084[d-e]), LSA Associates, Inc. (LSA) has prepared the EIR under the direction of professional City planning staff. However, prior to certification, the Planning Commission and the City Council must independently review the methodologies used, and conclusions reached in the EIR. The City is undertaking an independent review of this EIR by having City planning staff work with LSA on the EIR, and by employing a third-party consultant to independently review the EIR. If certified by the City, the information included in and the conclusions reached in the EIR will therefore represent the City's independent judgment.

This programmatic EIR has been prepared utilizing information from City planning and environmental documents, applicant-provided technical studies, and other publicly-available data. Alternatives to the proposed project are also discussed and mitigation measures that would offset, minimize, or otherwise avoid significant environmental impacts from the proposed project have been identified. This EIR has been prepared in accordance with CEQA, California Public Resources Code §21000 *et seq.*; the *Guidelines for California Environmental Quality Act* (California Code of Regulations, Title 14, Chapter 3); and the rules, regulations, and procedures for implementing CEQA as adopted by the City. The objective of the EIR is to inform City decision-makers, representatives of other affected/ responsible agencies, the public, and other interested parties of the potential environmental consequences that may be associated with the approval and implementation of the proposed project.

2.3 REGIONALLY SIGNIFICANT PROJECT

When an EIR is prepared for any project that is considered to be of statewide, regional, or areawide significance, as defined by *CEQA Guidelines* Section 15206, then the Draft EIR must be submitted to the State Clearinghouse and the appropriate metropolitan area council of governments for review and comment. A project is considered to be of statewide, regional, or areawide significance if it meets any of the following criteria:

(1) A proposed local general plan, element, or amendment thereof for which an EIR was prepared.

(2) A project has the potential for causing significant effects on the environment extending beyond the city or county in which the project would be located. Projects of this nature would include:

   (a) A proposed residential development of more than 500 dwelling units.

   (b) A proposed shopping center or business establishment employing more than 1,000 persons or encompassing more than 500,000 square feet of floor space.

   (c) A proposed commercial office building employing more than 1,000 persons or encompassing more than 250,000 square feet of floor space.

   (d) A proposed hotel/motel development of more than 500 rooms.

(e) A proposed industrial, manufacturing, processing plant, or industrial park planned to employ more than 1,000 persons, occupying more than 40 acres of land, or encompassing more than 650,000 square feet of floor area.

(3) A project which would result in cancellation of an open space contract made pursuant the California Land Conservation Act of 1965 (Williamson Act) for any parcel of 100 or more acres.

(4) A project for which an EIR has been prepared that is located in and would substantially affect areas of critical environmental sensitivity.

(5) A project which would substantially affect sensitive wildlife habitats and habitats for endangered, rare, or threatened species.

(6) A project that would interfere with the attainment of regional water quality control standards as stated in the approved area-wide waste treatment management plan.

(7) A project that would provide housing, jobs, or occupancy for 500 or more persons within 10 miles of a nuclear power plant.

The World Logistics Center Project, as proposed, would be considered a "project of statewide, regional or area-wide significance" per criteria 2(e). In addition, the Southern California Association of Governments (SCAG) indicated in its NOP letter that this project was regionally significant. Therefore, the NOP, Draft EIR, and NOC will be transmitted to the State Clearinghouse and the appropriate metropolitan area council of governments, which in this case is the Western Riverside Council of Governments (WRCOG), for review and comment.

2.4 INCORPORATED DOCUMENTS

CEQA (§15150) permits the incorporation by reference of all or portions of other documents that are generally available to the public. Any document incorporated by reference shall be made available to the public for inspection at a public place or public building and requires that the EIR state where the incorporated documents will be made available for public inspection. The following documents have been incorporated by reference:

- *City of Moreno Valley General Plan, various elements,* adopted by City Council Resolution No. 2006-83, July 11, 2006, and last updated October 2006.
- City of Moreno Valley General Plan Final Environmental Impact Report, certified July 2006.
- City of Moreno Valley General Plan Land Use Map, last updated August 2010.
- City of Moreno Valley Zoning Atlas, last updated November 2011.
- City of Moreno Valley Municipal Code (various chapters), last updated February 2012.
- Moreno Highlands Specific Plan EIR, adopted 1992.

2.5 TECHNICAL REPORTS

Various technical or project-related reports have been prepared to assess specific issues that may result from the construction and operation of the proposed project. As relevant, information from the following documents and technical reports has been integrated into the EIR as appendices.

- **"**The World Logistics Center Specific Plan" (Highland Fairview).
- "An Agricultural Industry Analysis of the Inland Empire" (Andrew Chang & Company, LLC).
- "Agricultural Resources Assessment for the WLCSP" (Parsons Brinckerhoff).

- "Air Quality, Greenhouse Gas, and Health Risk Assessment for the WLCSP" (MBA).
- "Habitat Assessment, MSHCP Consistency Analysis, and HANS Review" (MBA).
- "Delineation of Jurisdictional Waters and Wetlands" (MBA).
- "Phase I and Phase II Cultural Resources Assessment" (MBA).
- "Preliminary Geotechnical Investigation" (Leighton).
- "Supplemental Geotech Assessment for Offsite Improvements Related to the WLCSP" (Leighton).
- "Phase 1 Environmental Site Assessments" (various, LOR Geotechnical).
- **"**Draft Master Plan of Drainage Study" (CH2MHill).
- "Preliminary Water Quality Management Plan" (CH2MHill).
- **"**Noise Assessment for the WLCSP" (Mestre Greve Associates).
- "Traffic Impact Assessment (TIA) for the WLCSP" (Parsons Brinckerhoff).
- "NAIOP Assessment of Available High-Cube Trip Generation Rates" (Kunzman Associates).
- "Water Supply Assessment for the WLCSP" (Eastern Municipal Water District).
- "Highlands Water Budget" (CH2MHill).
- "Water System Modeling Results" (CH2MHill).
- "Sewer and Reclaimed Wastewater Memorandum" (CH2MHill).
- "Dry Utilities – Technical Memorandum" (Utility Specialists).
- "Electrical System Forecast of Utility Infrastructure" (MVU Engineering).
- "Fiscal and Economic Impact Study" (David Taussig and Associates).

In addition to their inclusion in their entireties as appendices to this EIR, these documents are available for review at the following location:

Moreno Valley City Hall
Community &Economic Development Department
Planning Division
14177 Frederick Street
Post Office Box 88005
Moreno Valley, California 92552
Phone: (951) 413-3238
Monday–Thursday 7:30 a.m.–5:30 p.m.

2.6 PUBLIC REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT REPORT

This EIR was distributed to responsible and trustee agencies, other affected agencies, and interested parties. Additionally, in accordance with Public Resources Code Section 21092(b)(3), the EIR has been provided to all parties who have previously requested copies. The Notice of Completion (NOC) and Notice of Availability (NOA) of the EIR have been distributed as required by CEQA. During the 45-day public review period, the EIR and technical appendices have been made available for review.

Written comments regarding this EIR should be addressed to:

John Terell, Planning Official
Community & Economic Development Department
Planning Division
14177 Frederick Street
Post Office Box 88005
Moreno Valley, California 92552
Phone: (951) 413-3206
Email: JohnT@moval.org

After the 45-day public review period, written responses to all significant environmental issues raised will be prepared. These responses will be available for review for a minimum of 10 days prior to the public hearings before the City of Moreno Valley Planning Commission and City Council, at which time the certification of the Final EIR will be considered. The Final EIR (which includes the Draft EIR, the public comments and responses to the Draft EIR, and findings) will be included as part of the environmental record for consideration by the City decision-makers. The City will respond as appropriate to comments made at public hearings on the WLC Project and EIR.

2.6.1 Notice of Preparation

The City initiated the environmental process without completion of an Initial Study. The City determined that, due to the nature and size of the proposed project, all environmental topics warranted further environmental review in an EIR. The City circulated over 40 copies of the Notice of Preparation (NOP) for the World Logistics Center EIR to State, regional, and local agencies, and nine copies to owners of adjacent properties on February 26, 2012, for a 30-day review period.[1] The NOP was distributed to the State Clearinghouse, as well as agencies and organizations that may provide comment on the proposed project as well as the potential environmental impacts that may result from the construction and operation of the proposed on-site uses.

Comments received regarding the NOP were used to help identify impacts that could result from implementation of the proposed project. The City received 27 comment letters to the NOP and six comment cards from the public Scoping Meeting. In addition, 30 individuals spoke at the Scoping Meeting. The NOP and comment letters received regarding the NOP are included in Appendix A of the EIR. Table 2.A provides a brief summary of NOP comment letters, Table 2.B lists City-identified issues from the scoping process, and Table 2.C lists Senate Bill (SB) 18 Native American consultation contacts.

Table 2.A: Notice of Preparation Comments Received

Agency/ Organization/ Individual	Date	Comments*	Addressed in Section(s) of the EIR
Governor's Office of Planning and Research	2/22	Scott Morgan. This letter acknowledges receipt of the NOP and identified the 30-day review period (2/22–3/22). OPR issued State Clearinghouse No. 2012021045	(2.0) Introduction
California Department of Transportation (Caltrans)	2/29	Daniel Kopulsky. Must prepare a traffic impact study according to the Caltrans' Guide for the Preparation of Traffic Impact Studies. Also must prepare a drainage study and identify impacts to state drainage facilities. Existing capacity of the state drainage systems cannot be exceeded.	(4.15) Traffic
California Native	3/7	Dave Singleton. NAHC Sacred Lands File did not identify any	(4.5) Cultural

[1] The Notice of Preparation 30-day public review period was from February 25 to March 26, 2012. City of Moreno Valley.

Table 2.A: Notice of Preparation Comments Received

Agency/ Organization/ Individual	Date	Comments*	Addressed in Section(s) of the EIR
American Heritage Commission (NAHC)		resources within project area, but did list the following local tribes: Pechanga Band; Ramona Band; Santa Rosa Band; Morongo Band; San Manuel Band; Serrano Nation; Cahuilla Band; and Soboba Band (see Table 2.C).	
Morongo Band	2/22	Franklin Dancy. Tribe indicated site was in its traditional use area and requested to be notified if human remains are found and the Morongo Band is determined to be the Most Likely Descendant, or if Native American artifacts are found during excavation/grading. They also requested that they be consulted if a Treatment Plan is needed for significant cultural resources on site.	(4.5) Cultural
Pala Tribe	3/8	Shasta Gaughen, Ph.D. Determined project was outside of traditional tribal area.	(4.5) Cultural
California Department of Fish and Wildlife (CDFW)	3/22	Jeff Brandt. EIR should address County's MSHCP, the San Jacinto Wildlife Preserve (SJWP), State jurisdictional areas and permitting, water resources, greenhouse gases, direct, indirect, and cumulative biological impacts.	(4.4) Biology (4.9) Hydrology
California Department of Parks and Recreation	3/21	Ron Krueper. Concerned about impacts to Lake Perris State Recreational Area to southwest. Also must evaluate MSHCP and keeping Davis Road closed to traffic.	(4.4) Biology (4.14) Services
Southern California Association of Governments (SCAG)	3/19	Jacob Lieb. Encouraged EIR to use data from Regional Transportation Plan (RTP) for jobs, housing, and employment. Project is regionally significant.	(4.10) Land Use (4.13) Population & Housing
South Coast Air Quality Management District (SCAQMD)	3/23	Ian MacMillan. All air quality studies need to provide actual CalEEMod files, and evaluate construction and occupancy impacts for criteria pollutants, LSTs, Health Risk Assessment, dust (PM_{10} and $PM_{2.5}$), and use Western Riverside Council of Governments (WRCOG) "Good Neighbors" guidelines for distribution centers.	(4.3) Air Quality
Eastern Municipal Water District (EMWD)	3/22	Joseph Lewis. Need to address water resources.	(4.9) Hydrology (4.16) Utilities
Sierra Club, San Gorgonio Chapter, Moreno Valley Group	3/26	George Hague. EIR needs to address environmental justice and notices should be in Spanish. Also NOP insufficient and public needs more time to review. Need to evaluate SJWP, MSHCP, loss or transfer of 7,700 housing units elsewhere in the City from loss of Moreno Highlands project, local and regional traffic impacts, air quality impacts on wildlife, especially diesel particulates. Trails, LEED certification, transit, alternative access, rail, March Inland Port, infrastructure, loss of logistics from Panama Canal expansion, impacts to existing onsite homes, possible truck stop, "toxic" runoff, groundwater, Water Supply Assessment, green-solar design, 90% offsets with Tier III trucks, loss of agricultural land, raptors and foraging land, parking, alternative fuels, truck routes through the City, noise barriers during construction, burrowing owls, greenhouse gases, global climate change effects, and reasonable range of alternatives. Suggested references.	(2.0) Introduction (3.0) Project Description (4.1) Aesthetics (4.2) Agriculture (4.3) Air Quality (4.4) Biology (4.5) Cultural (4.6) Geology (4.7) Greenhouse Gases (4.8) Hazards (4.9) Hydrology (4.10) Land Use

Table 2.A: Notice of Preparation Comments Received

Agency/ Organization/ Individual	Date	Comments*	Addressed in Section(s) of the EIR
			(4.12) Noise (4.13) Population & Housing (4.14) Services (4.15) Traffic (4.16) Utilities (5.0) Other Topics (6.0) Alternatives
Friends of San Jacinto Valley	3/22	Tom Paulek. Concerned about CDFW land and impacts to SJWP and MSHCP analysis.	(4.4) Biology (4.9) Hydrology
San Jacinto Valley Wetlands Foundation	3/19	Michael Marshall. Impact of lights and diesel pollutants on SJWP, also noise and human disturbance too. Traffic, runoff and water quality, groundwater supplies, water use, and MSHCP analysis.	(4.1) Aesthetics (4.3) Air Quality (4.4) Biology (4.9) Hydrology (4.15) Traffic (4.16) Utilities (water)
Residents for a Livable Moreno Valley	3/26	Susan Gilchrist. Impacts to employment and income in the City, loss of 7,700 homes, overall EIR process, biology impacts with CDFW land, SJWP, runoff, lighting, buffers for SJWP and Lake Perris, impacts on biology excess runoff, views, traffic, glut of warehouses in the City and region, need jobs diversity, actual number of employees, will it have a truck stop, alternative fuels, and building setbacks.	(2.0) Introduction (3.0) Project Description (4.1) Aesthetics (4.3) Air Quality (4.4) Biology (4.7) Greenhouse Gases (4.9) Hydrology (4.10) Land Use (4.13) Population & Housing (4.15) Traffic (4.16) Utilities (5.0) Other Topics
James Devlin	3/15	Devlin Eng. Representing Multivac (local property owners). Concerned about truck traffic through residential areas, concentrate trucks onto Theodore Street, use block walls to reduce noise impacts where houses are adjacent, need landscape buffers along Merwin Street and Redlands Boulevard, add lower intensity land uses along west side of project.	(4.1) Aesthetics (4.10) Land Use (4.12) Noise
Michael McCoy	3/21	Need site plan details, not Specific Plan; too vague, need accurate employment projections, seismic impacts, traffic, air quality, rail access, biological resources, drainage, and definition of high cube.	(3.0) Project Description (4.3) Air Quality (4.4) Biology (4.6) Geology (4.9) Hydrology

Table 2.A: Notice of Preparation Comments Received

Agency/ Organization/ Individual	Date	Comments*	Addressed in Section(s) of the EIR
			(4.13) Population & Housing
Michael McKibben	3/25	NOP too short. Geologic and seismic constraints (San Jacinto, Casa Loma, and Farm Road Faults), Alquist Priolo earthquake zones, hazards, FEMA flooding, suggested references.	(4.6) Geology and Soils (4.9) Hydrology
Thomas Ketcham	3/12	Supports creation of new local jobs but not at expense of residents and environment. Skechers mainly transferred jobs from Ontario warehouse and Cabazon Outlet Mall. Also concerned that previous project by Highland Fairview (HF), called Aquabella, has cost the City a lot in terms of improvements while HF has not made its required improvements, and commenter is worried HF might do the same thing on this project. City does not need more debt. Project will generate jobs but does not need or want 100% warehouse jobs, need a mix. Already adequate of space and land for more warehouses in southern end of town where they are more appropriate. Also March JPA has space for warehouses too. City services, police, fire, street maintenance, and street landscaping should not be sacrificed "chasing" new jobs and more growth.	(3.0) Project Description (4.13) Population & Housing (4.14) Services (4.15) Traffic (4.16) Utilities (5.0) Other Topics
Ann McKibben	3/26	Aesthetics, open space, lighting on SJWP, Dark Skies, loss of agricultural land, air quality, biology, MSHCP, open space, energy and conservation, greenhouse gas emissions, water quality, land use and planning, noise, recreation, traffic, cumulative, and alternatives.	(4.1) Aesthetics (4.2) Agriculture (4.3) Air Quality (4.4) Biology (4.7) Greenhouse Gases (4.8) Hazards (4.9) Hydrology (4.10) Land Use (4.12) Noise (4.14) Services (4.15) Traffic (5.0) Other Topics (6.0) Alternatives
Gerald Budlong	3/22	Aesthetics, views, geology and soils, Casa Loma Fault, land use and planning, population and housing, widening of Panama Canal, public services, biology (SJWP), transportation, rail alternatives, and utilities (water and gas lines).	(4.1) Aesthetics (4.3) Air Quality (4.4) Biology (4.10) Land Use (4.14) Services (4.15) Traffic (4.16) Utilities (5.0) Other Topics (6.0) Alternatives
Duncan Bush	3/13	On-site property owner, concerned about local and regional traffic impacts, public services, and cumulative impacts.	(4.13) Population &

Table 2.A: Notice of Preparation Comments Received

Agency/ Organization/ Individual	Date	Comments*	Addressed in Section(s) of the EIR
			Housing (4.14) Services
Dave Simpson and Grace Espino-Salcedo	3/13	Panama Canal to be expanded so west coast logistics will decline, new warehouses only transfer jobs from other cities (e.g., Skechers project and Ontario).	(3.0) Project Description (4.13) Population & Housing
Joshua Freeman and Darisa Vargas	3/27	Quality of jobs and impacts on schools.	(3.0) Project Description (4.13) Population & Housing (4.14) Services
Ned and Dawn Newkirk	3/21	What will happen to existing homes on site and what will be the traffic impacts?	(4.10) Land Use (4.15) Traffic
Scott Simpson	3/26	Concerned about water use, loss of views, air quality, increased lighting, recreation, biological impacts on SJWP, and economics to City.	(4.1) Aesthetics (4.3) Air Quality (4.4) Biology (4.10) Land Use (4.13) Population & Housing (4.14) Services (4.16) Utilities
Ron Roy	ND	Actual jobs (Skechers did not provide the jobs promised). Lease terms, amount of automation, no rail available for logistics, City mostly residential—do we need so much of one kind of employment? Gas costs for freight, traffic impacts (SR-60), changes to job base, visual impacts and loss of open space, and change in City identity.	(3.0) Project Description (4.1) Aesthetics (4.10) Land Use (4.13) Population & Housing (4.15) Traffic
Tom Thornsley	3/25	Air quality, aesthetics, drainage into SJWP, energy and conservation, water quality, land use, population, housing, employment changes, recreation, transportation, utilities, alternatives, and economic impacts.	(4.1) Aesthetics (4.3) Air Quality (4.4) Biology (4.9) Hydrology (4.10) Land Use (4.13) Population & Housing (4.14) Services (4.15) Traffic (4.16) Utilities (6.0) Alternatives
D. and M. Moreno	3/21	Fix local roads, project will reduce property values, air quality, and noise impacts.	(3.0) Project Description (4.1) Aesthetics

Table 2.A: Notice of Preparation Comments Received

Agency/ Organization/ Individual	Date	Comments*	Addressed in Section(s) of the EIR
			(4.3) Air Quality (4.12) Noise (4.15) Traffic
Scoping Meeting Comment Cards			
Jaeger Jones	3/12	HF track record proves this project will not benefit City.	
Sandra Williams	3/12	Should consider less polluting projects within the City that still bring jobs; should not count on only warehouses.	(4.3) Air Quality (4.10) Land Use (6.0) Alternatives
Amber Reilly	3/12	Concerned about traffic, air quality, and local owls	(4.3) Air Quality (4.4) Biology (4.15) Traffic
Peggy Hadaway	3/12	Concerned about actual number of new jobs that will be created and air pollution. Need more variety of new jobs, not just warehousing.	(4.3) Air Quality (4.10) Land Use
George Hague (local Sierra Club representative)	3/12	EIR must look at viable alternatives that reduce impacts on SR-60. What will be transitional uses along the project boundaries to minimize impacts on adjacent residents? Need to clearly define "high cube" and project objectives. Scoping meeting is premature before Specific Plan is ready for the public to review. Does developer control all the land within the SP area? Will there be a truck stop and what would be the impacts of that facility? What level of LEED will be achieved? Project will displace not replace 7,700 housing units so this must be analyzed in EIR (i.e., where those units will be transferred to within the City). EIR must look at toxic diesel particulates in addition to "diesel vapors" (term undefined).	(3.0) Project Description (4.1) Aesthetics (4.3) Air Quality (4.10) Land Use (4.15) Traffic (6.0) Alternatives
"Residents for a Livable Moreno Valley" Scoping handout from local residents (at meeting)	3/12	Concerned about relocation of existing jobs rather than creating new jobs here, and not very many new jobs as compared to other uses. Existing zoning would generate more jobs, more sales, and higher property taxes. Displacement vs. replacement of 7,700 housing units. East end of Moreno Valley does not have infrastructure to support this amount of new warehouses. Air pollutant impacts to sensitive receptors. Why change zoning here when General Plan and regional planners anticipates new warehouses in southwest portion of City near I-215?	(4.3) Air Quality (4.10) Land Use (4.13) Population & Housing
Arturo Benitez	3/14	Very concerned about the process and that everything be transparent and "published" so all can participate.	(2.0) Introduction
Charles Robinson	3/15	Need to make provisions to hire local employees (i.e., City residents) on a prioritized basis.	(3.0) Project Description (4.13) Population & Housing
Scoping Meeting Comments (in order of presentation)			
Kenny Bell	3/12	EIR needs to show accurate estimate of job creation, not like the Skechers project.	(4.13) Population & Housing
Susan Nash	3/12	State land south of site must be protected. CDFW open space land within project should not count toward open space requirements for project.	(4.4) Biology

Table 2.A: Notice of Preparation Comments Received

Agency/ Organization/ Individual	Date	Comments*	Addressed in Section(s) of the EIR
Mike McCoy	3/12	Concerned about seismic safety (Casa Loma and San Jacinto Faults nearby). Impacts of warehouses vs. housing vastly higher, global reductions in logistics due to Panama Canal widening and railroad expansions.	(4.6) Geology
Tom Thornsley (2×)	3/12	Should bring railroad spur into site, should not just rely on trucks, no plans to widen SR-60, would take 10–20 years to complete such a widening. Need accurate economic assessment. Localized flooding and project needs buffers for existing residents.	(4.1) Aesthetics (4.9) Hydrology (4.13) Population & Housing (4.15) Traffic
Cathy Godfree	3/12	Need buffers, open space, zero runoff, reduce flooding, so much more asphalt, Skechers did not take care of flooding on Redlands Boulevard as promised. Trucks get off at Redlands Boulevard and try to enter at Eucalyptus Avenue. Trucks park on Redlands Boulevard waiting to enter project block traffic. Will there be a truck stop? Will need big setbacks to not block views off Merwin Street and Bay Avenue	(4.1) Aesthetics (4.9) Hydrology (4.15) Traffic
Andrew Jones	3/12	Skechers is a nice project, new ones should also be attractive, low water use and runoff.	(4.1) Aesthetics (4.9) Hydrology
Nanette Bartenee	3/12	On board of "Friends of San Jacinto Valley" SJWP is world-famous raptor habitat. Need good alternatives analysis for regional impacts.	(4.4) Biology (6.0) Alternatives
Frank Wright	3/12	Need more jobs but this project will generate a lot of traffic and will need to widen freeways.	(4.13) Population & Housing (4.15) Traffic
Ian McMillian (SCAQMD)	3/12	Works for SCAQMD. Project represents 25% of all planned warehouse space in region, big concern about diesel particulates and other pollutants. He would like to work with developer regarding alternative fuels for trucks.	(4.3) Air Quality (4.7) Greenhouse Gases
Rick Tendell (2x)	3/12	Need environmental design studies (compressed natural gas, hydrogen fuel cells, solar, etc.). Maybe even fuel trucks.	(4.7) Greenhouse Gases
Jim Randondoth	3/12	Skechers laid off 600 people in Ontario when it opened, what will all these projects do to regional employment?	(4.13) Population & Housing
Peggy Hadaway	3/12	Our Quality of Life will deteriorate from more warehouses. Need to bring in more varied employment and is concerned about air pollution.	(4.3) Air Quality (4.13) Population & Housing
Dave Slawson	3/12	Air quality, traffic, groundwater, noise	(4.3) Air Quality (4.9) Hydrology (4.12) Noise (4.15) Traffic
John Escobell	3/12	Need to offer some program for local hiring first.	(4.13) Population & Housing
Cody Muser	3/12	Project needs to be Gold LEED certified.	(4.7) Greenhouse Gases

Table 2.A: Notice of Preparation Comments Received

Agency/ Organization/ Individual	Date	Comments*	Addressed in Section(s) of the EIR
Tom Thornsley	3/12	SP needs to come out with EIR. Need building plans to be able to estimate impacts to local residents.	(2.0) Introduction
Deanna Reader	3/12	Need an unbiased evaluation of impacts. Traffic will be massive, Skechers was poor first example. Keep traffic on Theodore. Panama Canal expansion will change west coast logistics needs, port at capacity.	(2.0) Introduction (4.13) Population & Housing (4.15) Traffic
George Hague (4×)	3/12	EIR must look at viable alternatives that reduce impacts on SR-60. What will be transitional uses along the project boundaries to minimize impacts on adjacent residents? Need to clearly define "high cube" and project objectives. Scoping meeting is premature before Specific Plan is ready. Does developer control all the land within the SP area? Will there be a truck stop and what would be the impacts of that facility? What level of LEED will be achieved? Project will displace not replace 7,700 housing units so this must be analyzed in EIR (i.e., where those units will be transferred to within the City). EIR must look at toxic diesel particulates in addition to "diesel vapors" (term undefined).	(3.0) Project Description (4.1) Aesthetics (4.3) Air Quality (4.10) Land Use (4.15) Traffic (6.0) Alternatives
Lorenzo Fiero	3/12	Alessandro already has lots of trucks and is half destroyed. Other streets have lots of potholes, flooding; this end of the City has poor public services. What will happen with construction and (even worse) project trucks operating on local streets?	(4.9) Hydrology (4.15) Traffic
Dawn Luoker	3/12	Local employment, traffic impacts on local streets to west, must involve Caltrans, need to see plans, also what about the results of the "community survey?" (Note: did not identify what survey.)	(2.0) Introduction (4.13) Population & Housing (4.15) Traffic
Dan Newkirk	3/12	Must identify impacts on properties within the project (houses).	(3.0) Project Description (4.10) Land Use (4.13) Population & Housing
Brad Singer	3/12	With SoCal Audubon Club. Need to look at short- and long-term impacts of project, especially for local wildlife and SJWP, with gyre falcons and other raptors.	(4.4) Biology
Chris ??	3/12	City needs growth and project will have to comply with all the various state environmental laws. Need to plan for our kids and grandkids.	(2.0) Introduction (5.0) Other Topics
Craig Gibbons	3/12	Need 1 mile buffer between project and habitat. Need to plan well because this is the last largest undeveloped part of City.	(4.4) Biology
Raul Wilson	3/12	14.5% unemployment, City needs jobs. Skechers took 3 years to approve, 18 months to build, need what's good for local residents and workers.	(4.13) Population & Housing
Lori Nickels	3/12	Area has historical significance. In 1775 Juan Bautista de Anza came by Mystic Lake and Juan Bautista National Trail runs	(4.5) Cultural (4.14) Services

Table 2.A: Notice of Preparation Comments Received

Agency/ Organization/ Individual	Date	Comments*	Addressed in Section(s) of the EIR
		nearby. Need to contact National Park Service. Served 13 years on RCTC, no way you will get a rail spur out here.	(4.15) Traffic
Tom Gerald	3/12	Was on original General Plan committee, SJWP is a national treasure and project needs to be compatible.	(4.4) Biology
Chris Bauk	3/12	Project will provide jobs; maybe now can take Davis Road south to Ramona Parkway.	(4.4) Biology (4.15) Traffic
Lacy Sikes	3/12	Unemployment equals crime so this project will help.	(4.14) Services
Marshall Scott	3/12	Wants to see more detailed plans; sad to see whole area agriculture lost since early days.	(4.2) Agriculture
Lewis Miramontes	3/12	Need to protect Old Moreno, houses along Redlands Boulevard, on Merwin Street, and Bay Avenue, etc. Need to keep employment local.	(4.10) Land Use (4.13) Population & Housing

* Notes: All NOP response letters are included in Appendix A of the EIR.
GHG = greenhouse gases
HF = Highland Fairview (project applicant)
LEED = Leadership in Energy and Environmental Design
MSHCP = Western Riverside County Multiple Species Habitat Conservation Plan
ND = No Date
NOP = Notice of Preparation
RTP = Regional Transportation Plan (SCAG)
SJWP = San Jacinto Wildlife Preserve
WSA = water supply assessment

Table 2.B: City-Identified Issues from Scoping Process

Issue	Addressed in Section(s) of the EIR
1. Number of jobs anticipated by the project; provide an independent analysis.	(4.13) Population & Housing
2. Identify impacts on local unemployment, including skill levels required.	(4.13) Population & Housing
3. Seismic safety related to the Casa Loma and San Jacinto fault lines.	(4.6) Geology
4. Impacts of current land use plan versus the proposal.	(4.10) Land Use
5. Potential impact of railroad and Panama Canal expansions on local demand for logistics.	(3.0) Project Description
6. Clear explanation of "high cube warehouse."	(3.0) Project Description
7. Identify potential for rail spur to serve project.	(4.15) Traffic
8. Provide an economic assessment of the project (fiscal/cost benefit analysis)	(4.13) Population & Housing
9. Identify flooding impacts before and after project.	(4.9) Hydrology
10. Provide buffers to adjacent housing and wildlife areas.	(4.4) Biology
11. Do not use existing permanent open space as buffer.	(4.4) Biology
12. Identify impact on viability of adjacent residential areas with logistics adjacency.	(4.10) Land Use
13. Include list of other uses allowed in addition to logistics, and their impacts.	(4.10) Land Use
14. Include manufacturing and high tech as permitted uses.	(3.0) Project Description (4.10) Land Use
15. Impacts on views from Moreno neighborhood.	(4.1) Aesthetics
16. Include description of "net zero storm water treatment" and implementation.	(4.9) Hydrology
17. Potential for trucks to exit onto Redlands and need to turn around to access project.	(4.15) Traffic
18. Provide alternatives for waiting trucks rather than parking on off ramps and local streets.	(4.15) Traffic
19. Provide "solid" alternatives analysis to provide viable options.	(6.0) Alternatives
20. Include requirement for solar panels on building roofs.	(4.7) Greenhouse Gases
21. Include assessment on regional air quality including criteria pollutants.	(4.3) Air Quality
22. Work with SCAQMD on implementation of new truck technologies to reduce emissions.	(4.3) Air Quality
23. Identify air quality impacts and specifically on children, elderly residents, and wildlife.	(4.3) Air Quality
24. Identify diesel emission impacts on workers in project area.	(4.3) Air Quality
25. Provide impact on wildlife by species.	(4.4) Biology
26. Identify light and noise impacts on wildlife area.	(4.4) Biology
27. Identify impact on groundwater.	(4.9) Hydrology
28. Identify noise impacts.	(4.12) Noise
29. Identify specific green technologies to be included in project.	(3.0) Project Description (4.7) Greenhouse Gases
30. Include potential for use of CNG, hydrogen fuel cell, solar electricity to supply trucks.	(4.7) Greenhouse Gases
31. Identify amount of traffic on local roads, specifically truck traffic.	(4.15) Traffic

Table 2.B: City-Identified Issues from Scoping Process

Issue	Addressed in Section(s) of the EIR
32. Identify impacts on Alessandro pavement quality.	(4.15) Traffic
33. Include potential diversion of truck traffic from Alessandro.	(4.15) Traffic
34. Identify impacts on wildlife, including owls and other raptors.	(4.4) Biology
35. Identify globally significant raptor habitat & impacts on grazing areas within project area.	(4.4) Biology
36. Identify impact on public services and funding.	(4.14) Services
37. Provide a comprehensive plan for review prior to completing environmental.	(3.0) Project Description
38. Identify all public improvements, including parks, to be provided by project.	(4.14) Services
39. Identify all impacts on current residents within project area.	(4.10) Land Use
40. Identify any use of roadways through the adjacent wildlife area.	(4.4) Biology
41. Identify where 7,700 housing units currently planned for project area will be replaced.	(4.13) Population & Housing
42. Identify traffic impact of relocated planned housing units.	(4.13) Population & Housing (4.15) Traffic
43. Impacts on route and historic views from Juan Bautista de Anza 1775 exploration.	(4.14) Services (trails)
44. Contact National Park Service related to Juan Bautista de Anza trail impacts.	(4.14) Services (trails)
45. Identify impact on crime rates.	(4.14) Services (police)

Source: Memo from John Terell, March 13, 2012

Table 2.C: SB 18 Native American Consultation Contacts

Agency/Tribe	Date[1]	Comments	Desire to Consult?
California Native American Heritage Commission (NAHC)	2/28	City notified NAHC that they would be contacting local tribes that may have an interest in this project. City has contacted these tribes and awaits reply during the SB 18 consultation period (90 days – ends May 30 - see Appendix A).	—
	3/7	NAHC sent letter requesting City contact local tribes and provided tribal contacts.	
	4/9	NAHC sent a second letter with a list of tribes and tribal representatives to contact.	
Cahuilla Tribe	2/29	City letter asking if tribe wished to consult on the WLC project.	No
	4/19	Tribe sent letter requesting consultation.	
Los Coyotes office	2/29	City letter asking if tribe wished to consult on the WLC project.	No
	—	No response from tribe within the 90-day noticing period.	
Morongo	2/29	City letter asking if tribe wished to consult on the WLC project.	No
	2/22	Tribe sent letter providing information to be included in the EIR but did not request consultation.	
	10/2	City sends additional letter regarding consultation.	
Pala Band	2/29	City letter asking if tribe wished to consult on the WLC project.	No
	3/8	Tribe sent letter indicating site was outside of Traditional Tribal Area and deferred to tribes in closer proximity.	
Pechanga	2/29	City letter asking if tribe wished to consult on the WLC project.	**Yes**
	3/16	Tribe sent letter providing information on cultural resources in the area, suggested mitigation language for EIR, and requested consultation on the project.	
	5/30	City met on site with tribe to consult regarding project activities.	
	10/2	City sends additional letter on consultation and EIR process.	
Ramona Band	2/29	City letter asking if tribe wished to consult on the WLC project.	No
	4/19	City sent consultation notification reminder to tribe. No response received from tribe within the 90-day noticing period.	
Rincon Band of Luiseño Indians	2/29	City letter asking if tribe wished to consult on the WLC project.	No
	3/23	Tribe sent letter indicating site was not within the historic boundaries of the tribe, and referred the City to the Soboba Band of Luiseno Indians for further comment.	
San Manuel	2/29	City letter asking if tribe wished to consult on the WLC project.	No
	4/19	City sent consultation notification reminder to tribe. No response received from tribe within the 90-day noticing period.	
Santa Rosa	2/29	City letter asking if tribe wished to consult on the WLC project.	No
	4/19	City sent consultation notification reminder to tribe. No response received from tribe within the 90-day noticing period.	
Serrano Nation	2/29	City letter asking if tribe wished to consult on the WLC project.	No
	4/19	City sent consultation notification reminder to tribe. No response received from tribe within the 90-day noticing period.	
Soboba	2/29	City letter asking if tribe wished to consult on the WLC project.	**Yes**
	4/16	Tribe sent letter with input on EIR regarding cultural resources.	

Table 2.C: SB 18 Native American Consultation Contacts

Agency/Tribe	Date[1]	Comments	Desire to Consult?
	4/19	City sent follow-up letter again to verify tribe's desire to consult.	
	4/30	Tribe sent follow-up letter again requesting consultation.	
	10/2	City sends letter discussing consultation and EIR process.	
	10/8	Tribe wants to be present during ground disturbing activities.	
	11/27	City met on site with tribe consult regarding project activities.	

Source: City Planning Department 2012 records on tribal correspondence (see DEIR Appendix A)
[1] NOP notices mailed February 21 so some tribes were responding to that notice before they received official SB 18 notice.

SB 18 Consultation. It should be noted that the city met with the Pechanga Tribe on May 30, 2012, and with the Soboba Tribe on November 27, 2012. No other Native American entities requested a government-to-government consultation meeting.

2.6.2 Public Scoping Meeting

A public Scoping Meeting was held at the City of Moreno Valley City Hall in the City Council Chambers on March 12, 2012, 6:00 p.m. There was one agency staff representative (from the Air Quality Management District) and over 150 individual members of the public in attendance. City staff and the developer briefly described the project, and then comments from the public were solicited. Local residents brought up essentially every major environmental concern, including traffic, truck traffic, air quality, noise, loss of views, and impacts to the nearby wildlife area. Copies of the written scoping comment forms are included in Appendix A and a list of commenters is provided as part of previously referenced Table 2.A.

2.7 MITIGATION MONITORING AND REPORTING PROGRAM

A Mitigation Monitoring and Reporting Program (MMRP) will be prepared for this EIR to comply with the requirements of State law (Public Resources Code Section 21081.6). When mitigation measures are required to avoid or reduce the severity of significant impacts, State law requires the adoption of an MMRP. The monitoring program is intended to ensure compliance during implementation of the program. An MMRP will be adopted by the City Council concurrent with certification of the Final EIR for the proposed project.

2.8 POTENTIAL IMPACTS OF THE PROJECT DISCUSSED IN THE EIR

This EIR focuses on the areas of concern identified in the NOP and comments submitted regarding the NOP. The following sixteen environmental topics are addressed in this EIR:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality, including Human Health
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions, Energy Conservation, and Global Climate Change
- Hazards and Hazardous Materials
- Hydrology, and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population, Housing, and Employment
- Public Services and Facilities
- Transportation and Traffic
- Utilities and Service Systems

2.9 EFFECTS FOUND NOT TO BE SIGNIFICANT

As required under CEQA (Section 15128), an EIR is to contain a statement supporting the Lead Agency's determination that some of the possible effects of a project are not significant and, therefore, are not discussed in detail in the EIR. In this case, the proposed project is not consistent with the City's General Plan or the currently approved Moreno Highlands Specific Plan and the respective EIRs prepared for each. Due to the size and scope of the project, the City determined that all potential environmental issues outlined above would be evaluated in this EIR. Section 4.0 of the EIR determined that only mineral resources and forest resources would not be significantly affected by the proposed project.

2.10 CUMULATIVE IMPACTS

2.10.1 Definition of Cumulative Impact

CEQA defines cumulative effects as "two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts." (*State CEQA Guidelines* Section 15130) The *Guidelines* further state that the individual effects can be the various changes related to a single project or the changes involved in a number of other closely related past, present, and reasonably foreseeable future projects (Section 15335). Substantial changes are anticipated to occur as the result of warehousing and employment growth of the proposed project, as well as growth in population, housing, and employment from development of other projects in the City of Moreno Valley and the surrounding region. Section 15130 of the *State CEQA Guidelines* requires that an EIR include a discussion of the potential cumulative impacts of a proposed project. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the development when added to the impacts of other closely related past, present, and reasonably foreseeable or probable future developments. Cumulative impacts can result from individually minor, but collectively significant, developments taking place over a period of time. With respect to the analysis of cumulative impacts, CEQA generally requires the following:

(a) Cumulative impacts shall be discussed when the project's incremental effect is cumulatively considerable.

(b) The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of

> *the effects attributable to the project. The discussion should be guided by the standards of practicality and reasonableness.*

Pursuant to *CEQA Guidelines*, Section 15130, the assessment of cumulative impacts contained in EIRs is typically based on either: (i) past, present, and probable future projects, which are either approved or being considered for approval by the City or other municipalities (or anticipated to be submitted for consideration, including projects in the design phase or under construction); or (ii) growth projections set forth in regional plans, including regional modeling plans.

Due to the size of the proposed project and its potential future new land use and employment implications for the City, the cumulative analysis for this EIR will use the City's General Plan growth projections. It is expected that the cumulative impact analysis set forth in this EIR will be conservative and would tend to overstate (rather than understate) cumulative impacts.

The significance of a cumulative impact may be greater than the effects resulting from the individual actions if the effects of more than one action are additive. Thus, as set forth above, this section evaluates the proposed project together with (i) the reasonably foreseeable potential effects of other closely related past, present, and reasonably foreseeable or probable future development in the area of the project, and (ii) growth projections set forth in regional plans.

Criteria for evaluating the significance of adverse effects are identified for each environmental issue in Section 4.0. These criteria, which are based on resource sensitivity, quality, and quantity, are also instructive when evaluating whether the environmental effect resulting from implementation of a particular project is cumulatively considerable. The timing and duration of each activity is also an important consideration for evaluating the potential cumulative effects of activities that may occur only for a limited period. In such cases, a cumulative effect may occur only when two or more of the activities are occurring simultaneously.

Because of the nature of individual environmental factors, the cumulative "universe" for every issue addressed in this EIR will not be identical. For example, the cumulative universe for air quality impacts is reasonably assumed to be the entire South Coast Air Basin, which is much larger than the cumulative universe for public service impacts (i.e., the service area of the various service providers.) The individual cumulative areas for the issues addressed in this EIR are provided within the cumulative impacts discussion in the respective impact sections, but range from the City of Moreno Valley to the County to the entire SCAG region when necessary.

To summarize, in determining the cumulative impacts of a proposed project with other area projects, the *CEQA Guidelines* provide that an EIR may either consider a list of past, present, and probable future projects, or it may consider a summary of projections method. This EIR utilizes the summary of projections method due to the size of the project and its growth implications for the City as a whole.

2.10.2 City of Moreno Valley Growth Projections

The Moreno Valley General Plan establishes policies to guide future development within the City and implementation is long-term in nature. The Regional Growth Projections Method is the appropriate methodology in evaluating cumulative impacts because it provides general growth projections for the region and considers long-term growth. Table 2.D summarizes the cumulative growth information from the Final Program EIR for the City General Plan Update from July 2006 (Section 7, *Cumulative Impacts*). Table 2.D shows that the City expects to grow at an average annual rate of 2–3 percent from 2000 to 2030, with a population at that point of 238,703 persons and 71,619 households. The City will comprise approximately 7 percent of the County's population and housing stock at that time.

Table 2.D: General Plan Growth Projections for Moreno Valley (2000–2030)

Jurisdiction	Population		Households	
	2000	2030	2000	2030
City of Moreno Valley	142,655	238,703	39,264	71,619
Average Annual Increase	—	+2.24%	—	+2.75%
Riverside County	1,850,231	3,143,468	509,311	1,127,780
Average Annual Increase	—	+2.33%	—	+4.05%
City (Percent of County)	7.7%	7.6%	7.7%	6.4%

Sources: SCAG, 2008 RTP Growth Forecast, Table 7-1, General Plan Final EIR, Section 7.0, Cumulative Impacts.

2.10.3 Regional Growth Projections

The SCAG estimates regional growth for the Riverside County area for the purposes of planning and public policy development. The most recent set of growth projections are provided in the most recent *Regional Transportation Plan (RTP) Growth Forecast*, based on extensive analyses of the regional economic and demographic conditions. The *Draft 2012 RTP Growth Forecast* provides estimates and forecasts of employment, population, and housing for the period between 2011 and 2035. Consistent with the projections shown in previously referenced Table 2.D, Table 2.E shows that the population, housing, and employment of the City are expected to increase consistent with overall regional trends for that period (i.e., approximately 2–3% per year).

Table 2.E: Regional Population, Housing, and Employment Forecasts through 2035

Forecast Category	2011	2020	2035
Population			
City of Moreno Valley	195,216	213,700	255,200
Riverside County	2,217,778	2,592,000	3,324,000
SCAG	18,163,664	19,663,000	22,091,000
Housing Units			
City of Moreno Valley	55,635	60,000	72,800
Riverside County	804,915	834,000	1,092,000
SCAG	6,348,741	6,458,000	7,325,000
Employment			
City of Moreno Valley	30,001	48,000	64,400
Riverside County	586,234	939,000	1,243,000
SCAG	7,224,670	8,414,000	9,441,000
Jobs/Housing Ratio			
City of Moreno Valley	0.54	0.80	0.89
Riverside County	0.73	1.13	1.14
SCAG	1.14	1.30	1.29

Sources:
(1) 2010 Employment data for the is based on 2010 data presented in *Profile of the City of Moreno Valley,* Southern California Association of Governments, May 2011.
(2) *Draft 2012 RTP Growth Forecast*, Southern California Association of Governments, http://www.scag.ca.gov/forecast/index.htm, date accessed March 15, 2012.
(3) *Table 2: City/County Population and Housing Estimates, 1/1/2011,* State of California Department of Finance.
(4) *Table 1: Population, Age and Sex Characteristics, April 1, 2010, Incorporated Cities and Census Designated Places (CDP) by County in California.* State of California, Department of Finance, Sacramento, California, May 19, 2011.

According to SCAG projections, the population of Moreno Valley is expected to increase by about 59,984 persons or approximately 30.7 percent between 2011 and 2035 to approximately 255,200 persons. By comparison, the population of Riverside County is projected to increase by 1.1 million persons or approximately 50 percent between 2011 and 2035 to approximately 3,324,000 persons. The number of households is estimated to increase approximately 30.9 percent in Moreno Valley and 35.7 percent in Riverside County over this same time period.

The number of jobs in Moreno Valley is estimated to increase by approximately 115 percent from 2011 to 2035. Over this same time period, jobs in Riverside County are expected to increase by 112 percent. At present, Moreno Valley has a relatively low jobs-to-housing ratio of 0.54 compared to the overall regional ratio of 1.14 (i.e., 1.14 jobs for each 1 housing unit). SCAG's Compass Blueprint Plan and the Regional Transportation Plan encourages "bedroom" communities (i.e., those with more housing than jobs) to encourage jobs growth instead of housing growth, which will eventually help balance these factors across the region and help reduce commuter traffic. These plans forecast that the City's ratio of jobs to housing will increase in the future but will still be less than 1.0 (estimated 0.89 by 2035), compared to a projected ratio of 1.14 for the County and 1.29 for the entire SCAG area. The City's jobs/housing ratio is expected to still be less than 1.0 by 2035, but to achieve that ratio, the City would need to attract over 34,000 jobs in the next 20 years, compared to attracting 17,000 new houses during that same period.

2.10.4 Analysis of Cumulative Impacts

The analysis of each environmental issue or topic (EIR Sections 4.1 through 4.16) also discusses the cumulative impacts of the proposed project. Implementation of the mitigation measures identified in each specific section of this EIR will reduce the cumulative impact of the project to the extent feasible. In many cases, the mitigation measures result in reducing the project's cumulative impact to a less than significant level. For other impacts, the implementation of the identified mitigation measures will not avoid a significant cumulative impact. The sixteen subsections of Section 4.0 (i.e., 4.1 through 4.16) identify those significant, unavoidable cumulative impacts that will not be reduced to a less than significant level by implementation of the identified mitigation measures presented in each of those sections. In addition, the analyses indicate to what degree the project makes a significant contribution to cumulatively considerable impacts for each environmental issue (air quality, biological resources, etc.).

It should be noted that the project Traffic Impact Assessment developed an extensive list of cumulative projects to more accurately estimate potential traffic impacts over time on local roadways and intersections (see Section 4.15, Transportation).

3.0 PROJECT DESCRIPTION

The project description is provided in this section of the EIR in conformance with *CEQA Guidelines* Section 15124. It discusses the geographic setting, project location, project setting, City of Moreno Valley General Plan designations, World Logistics Center (WLC) Specific Plan designations, zoning designations, project characteristics, project objectives, and discretionary actions required to implement the proposed project. The project description is used as the basis for analyzing the proposed project's impacts on the existing physical environment in Section 4.0 of the EIR.

The term "World Logistics Center Project" refers to all related development and planning activities currently proposed by Highland Fairview in the Rancho Belago area of the eastern end of the City of Moreno Valley. The WLC property is generally located south of SR-60, east of Redlands Boulevard, west of Gilman Springs Road, and north of Mystic Lake and the San Jacinto Wildlife Area. The terms "Project Site" or "Project Area" refer to the entire 3,918-acre area covered by the EIR, which encompasses: (a) the WLC Specific Plan Area (2,710 acres); (b) the CDFW Conservation Buffer Area (910 acres); (c) the Public Facilities Lands area (194 aces); and (d) the Off-site Improvement Area on 104 acres. See Section 3.4 for more details on these specific areas.

3.1 PROJECT LOCATION

The project is located in "Rancho Belago," the eastern portion of the City of Moreno Valley, in northwestern Riverside County. The project site is immediately south of SR-60, between Redlands Boulevard and Gilman Springs Road (the easterly city limit), extending to the southerly city limit. Figure 3.1 depicts the location of the proposed project within the region and the City of Moreno Valley. The major roads that currently provide access to the project site are Redlands Boulevard, Theodore Street, Alessandro Boulevard, and Gilman Springs Road.

The project area is located in portions of Sections 1, 12, and 13 of Township 3 South, Range 3 West; and portions of Sections 6, 7, 8, 9, 16, 17, 18, 19, 20, and 21 of Township 3 South, Range 2 West, as depicted on the U.S. Geological Survey (USGS) 7.5-minute series *Sunnymead* and *El Casco, California* quadrangles. Figure 3.2 depicts the proposed project boundary on the applicable USGS quad sheets.

3.2 PROJECT SETTING AND HISTORY

3.2.1 Project Setting

The project site slopes gently (approximately 2%) from north to south, with elevations ranging from approximately 1,760 feet above mean sea level (amsl) at the northeast corner to 1,480 feet amsl at the southeast corner. Soils within the proposed project consist of disturbed top soil and natural soils, with a mixture of various silty clays, sandy silts, silty sands, and sands.

3.2.2 On-site Land Uses

The project area is largely vacant undeveloped marginal agricultural land, with seven occupied single-family homes and associated ranch/farm buildings in various locations on the property. In the 1920s, several farm buildings and related houses were constructed on the property and, in the 1940s, a stock farm operated on a portion of the site that was later expanded into a commercial horse farm and training facility that operated until the mid-1990s. The overall project site has been farmed by a

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FIGURE 3.1

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SOURCE: USGS DEM; Thomas Bros, 2009

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World Logistics Center Project
Environmental Impact Report

Regional Location

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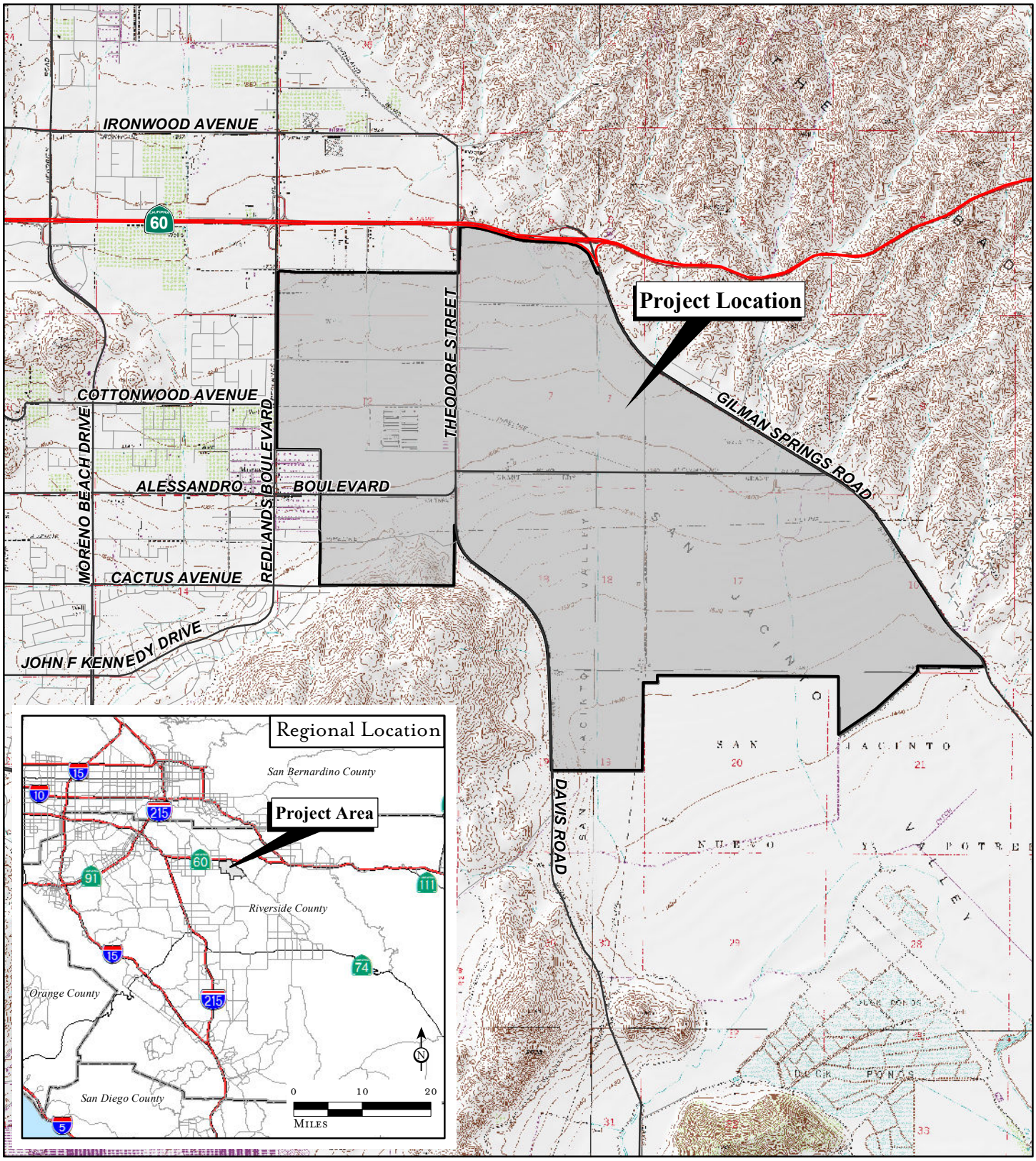

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FIGURE 3.2

SOURCE: USGS 7.5' Quads: El Casco, Lakeview and Perris (1979), Sunnymead (1980), CA; Riverside County, 2011.

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World Logistics Center Project
Environmental Impact Report

Regional and Project Location

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variety of owners since the early 1900s and has supported dry (non-irrigated) farming, livestock grazing, and limited citrus groves. Much of the site continues to be used for dry farming today.

San Diego Gas & Electric (SDG&E) operates a natural gas compressor plant, known as the Moreno Compressor Station, on 19 acres in the south-central portion of the site. The Southern California Gas Company (SCGC) operates a metering and pipe cleaning station on two separate parcels (totalling1.5 acres) in the south-central portion of the site south of Alessandro Boulevard along existing Virginia Street. The site contains a variety of overhead and underground utility lines associated with oil, natural gas, and electrical service.

At present, the project site contains a number of unimproved drainage features, but it does not contain any improved flood control facilities. As Figure 3.3 illustrates, the project vicinity is largely vacant agricultural land with scattered utility facilities and seven rural residential properties.

3.2.3 Surrounding Land Uses

Developed properties in the vicinity include a logistics building to the northwest (Skechers) and several residential neighborhoods along Redlands Boulevard along the western boundary of the project site. An area of the City known as “Old Moreno” is situated near the southwest portion of the project site, around the intersection of Redlands and Alessandro Boulevards. The homes along Bay Avenue, Merwin Street, and Redlands Boulevard, constitute the closest off-site “sensitive receptors” to the project site (i.e., they are across the street from the property). Figure 3.3 shows the seven on-site residences as well as other land uses on and around the project site.

The major roadways that currently provide access to the project area are SR-60 to the north, Redlands Boulevard to the west, Alessandro Boulevard (traverses the site east-west), Gilman Springs Road to the east, and Theodore Street (traverses the site north-south). Redlands Boulevard and Theodore Street are north-south arterial roadways that intersect with SR-60. Alessandro Boulevard is an east-west thoroughfare that runs through Moreno Valley from Interstate 215 (I-215) on the west to Gilman Springs Road on the east. Gilman Springs Road runs northwesterly-southeasterly connecting SR-60 to the Hemet-San Jacinto area.

Highland Fairview Corporate Park (HFCP) is located northwest of the project area between Redlands Boulevard and Theodore Street. It is currently under development and the first phase was completed in late 2011 (i.e., the Skechers logistics warehouse). The area north of SR-60 is largely undeveloped with clusters of low-density residential development.

Near the southwest boundary of the project site is an existing residential neighborhood at the intersection of Redlands Boulevard and Alessandro Boulevard; a small market and a post office are also located near this intersection. This area is referred to as “Old Moreno.” The Moreno Valley Ranch and Golf Club residential community is approximately one mile southwest of the project area.

There is little development adjacent to the east and south boundaries of the project area. The area east of the project site across Gilman Springs Road is commonly referred to as the Badlands, a rugged area that separates the City of Moreno Valley from San Timoteo Canyon and the City of Beaumont. Due to its steep slopes and canyons, the Badlands area has experienced little development; however, there are approximately ten single-family homes in the area east of Gillman Springs Road near the project site. The Badlands Sanitary Landfill, operated by the County of Riverside Waste Management Department, is located approximately 1.5 miles northeast of the project area.

Immediately south of the proposed project is the San Jacinto Wildlife Area (SJWA), which includes an “Upland Game Hunting Area,” Mystic Lake, and the Lake Perris State Recreation Area. These lands

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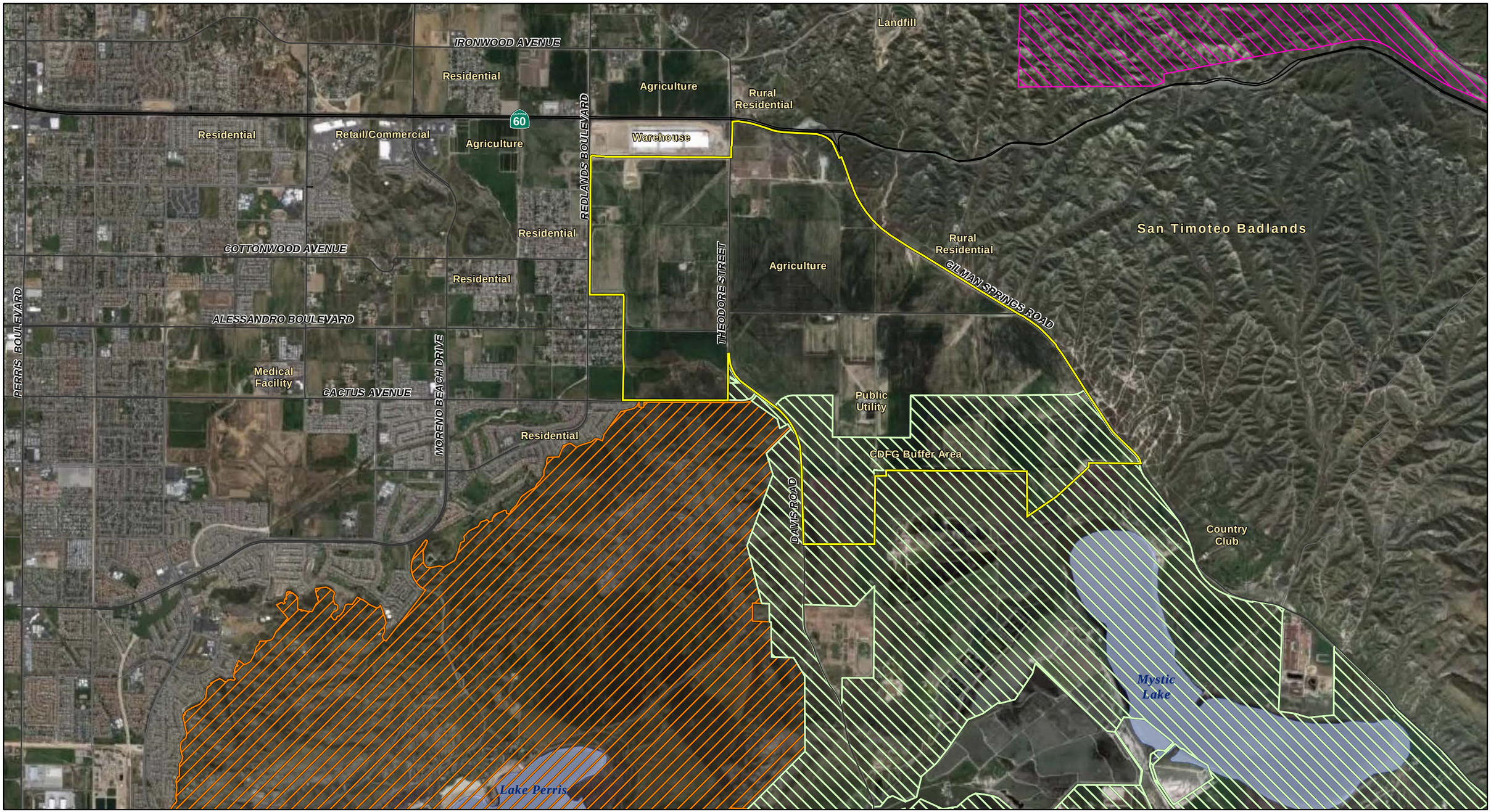

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- Project Boundary
- San Jacinto Wildlife Area (CDFW)
- Lake Perris State Recreation Area
- Norton Younglove Reserve
- Waterbody

SOURCE: County of Riverside, 2003 & 2011; California Dept. of Fish and Game, 2011; Google Earth, 2011

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FIGURE 3.3

World Logistics Center Project
Environmental Impact Report

Existing Land Use

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are state-owned and access to these areas is restricted. The SJWA is owned and operated by the California Department of Fish and Wildlife (CDFW) and contains approximately 20,000 acres of restored wetland and ponds. The Lake Perris State Recreation Area is owned and operated by the California State Parks Department and contains approximately 6,000 acres of open space land, which is used both for recreation and preservation of the natural southern California landscape.

The closest large-scale commercial development is located on the south side of SR-60 at Moreno Beach Drive, approximately 1.25 miles to the west of the proposed project. This shopping complex includes Walmart and Target along with restaurants and ancillary commercial and service uses, as well as the Moreno Valley Auto Center. The central core of Moreno Valley, which includes residential neighborhoods and more extensive commercial activity, is located approximately three miles west of the project area.

March Air Reserve Base (MARB) is located approximately seven miles southwesterly of the proposed project. The MARB is under the authority of the March Joint Powers Authority (MJPA), which acts as the land use authority as well as the March Inland Port Airport Authority for reuse of the former March Air Force Base.

3.2.4 Local History

In 1774, the Spanish explorer Juan Bautista de Anza traveled through this area, passing by Mystic Lake and traveling around the Mount Russell Range on his exploration of Alta California.

The project area was first developed in the late 1890s; prior to this, the property had been part of the *San Jacinto Nuevo y Potrero Rancho*. This Rancho, a subdivision of the massive San Jacinto Rancho (originally 8 square leagues in size or more than 50 square miles) lay vacant during the Spanish era and was not part of any rancho until 1842. Once defined, the old road from Temecula to San Jacinto was expanded such that a road was established between San Jacinto and the Box Springs area of the City of Riverside and points beyond. This road probably ran along the track now covered by Gilman Springs Road, headed to Box Springs across what is now Moreno Valley, thence to Riverside and points west. Because of the lack of reliable water, it is unlikely that the project area was used during the early historic period for anything except springtime grazing of sheep and cattle.

During the historic era, most of the parcels in the project area have been used sporadically for dry-land crops and the occasional irrigated farming plots. Horses were raised on one farm in the northwest corner of the site. Although plans were made to bring water from Big Bear to the project area as part of a regional California land boom scheme (circa 1891), the plan was never completed because the issue of water rights was adjudicated in favor of the City of Redlands.

The Moreno Valley area supported numerous military facilities from the early 1900s to today, with the March Air Reserve Base still functioning near I-215 on the west side of town. From the 1970s through the 1990s, Moreno Valley was one of the fastest-growing residential community in the nation, and incorporated in 1984. In 1992, the City approved a master planned, mixed-use community called “Moreno Highlands Specific Plan” on most of the project site but no uses within this community were ever built.

3.3 GENERAL PLAN AND ZONING DESIGNATIONS

3.3.1 Designations on the Project Site

The Community Development Element of the City’s General Plan currently designates the project area as a mix of residential, commercial, business park, and open space land uses. The currently approved 3,038-acre Moreno Highlands Specific Pan (MHSP) proposes a master planned, mixed-use

community consisting of up to 7,763 residential dwelling units on approximately 2,435 acres and approximately 603 acres of business, retail, institutional, and other uses. Table 3.A is a summary of land uses of the MHSP. Figure 3.4 depicts the City General Plan land use designations for the area.

Table 3.A: Moreno Highlands Specific Plan (Current Land Use Designations)

Land Use	Acreage
Residential Community	
Residential (7,283 du)	1,359.3
Parks and Open Space	701.9
Neighborhood Commercial	10.0
Cemetery	16.5
Public Facilities	347.7
Planned Business Center	
Business Park	360.8
Mixed Use	80.5
Community Commercial	16.0
Parks and Open Space	77.9
Public Facilities	67.4
Project Total	**3,038.0**

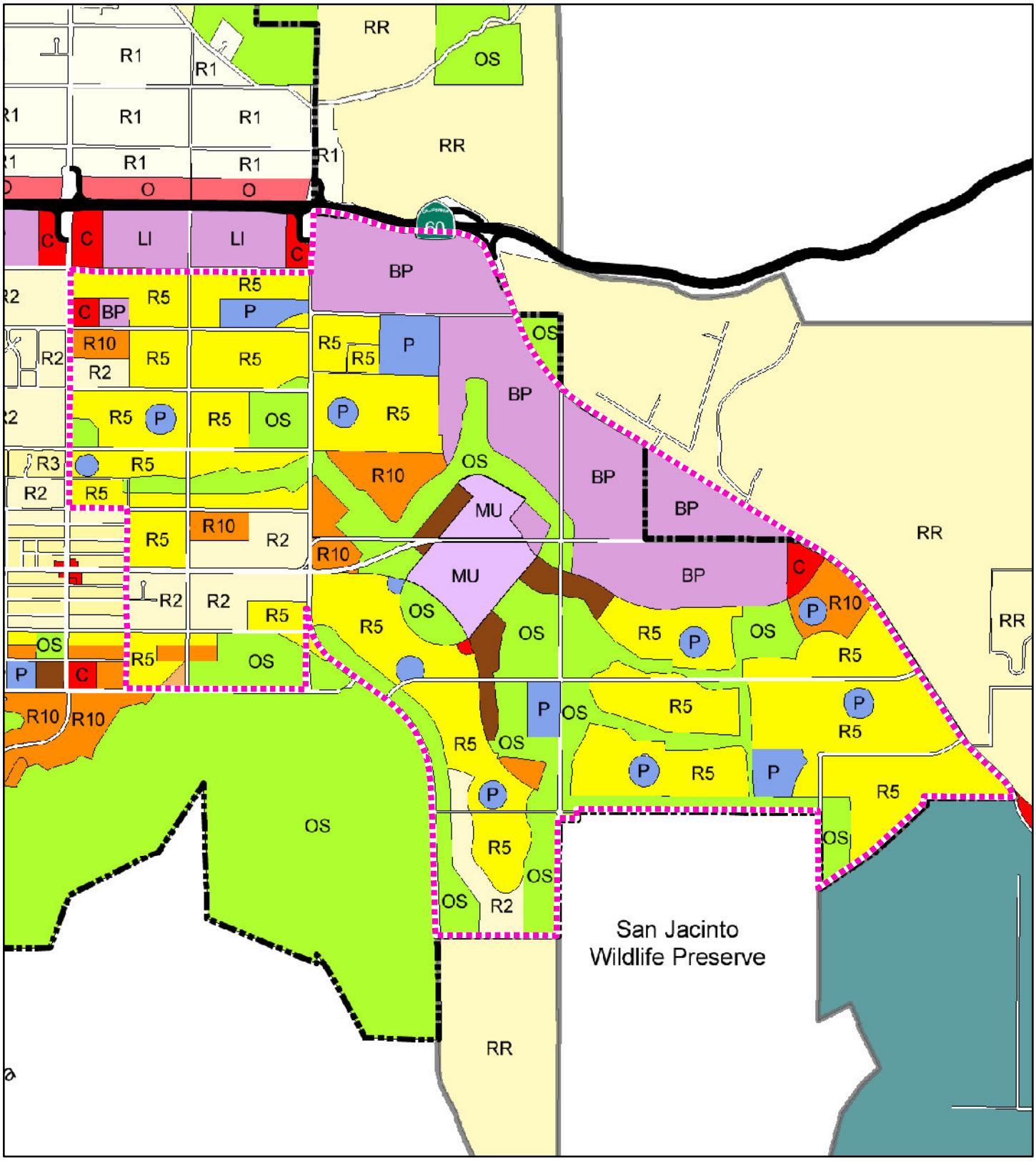
Adopted by City Council March 17, 1992

As a result of a variety of factors, the Moreno Highlands Specific Plan has not been implemented.

The City's 2006 Housing Element identified the Moreno Highlands Specific Plan as a potential source of vacant land that could accommodate possible future residential growth in the City. In 2011, the City updated its Housing Element and anticipated possible land use changes from mixed use and residential to jobs producing warehouses in the eastern part of the City. The 2011 Housing Element concluded that redesignating the entire land area east of Redlands to the eastern City border for warehouse uses would not impede the City's Housing Element Objectives. The State Department of Housing and Community Development certified the City's Housing Element as being in compliance with State law on February 22, 2011. The proposed project is consistent with the City's current Housing Element.

Highland Fairview currently owns or controls development rights on 1,754 acres or 46 percent of the total 3,814 acres within the WLC project area. The remainder of the project area property is owned by private individuals or entities such as the San Diego Gas & Electric Company, Southern California Gas Company, Metropolitan Water District, and California Department of Fish and Wildlife. Figure 3.5 depicts the property ownership within the WLC project area.

An 85-acre parcel located on the west side of Gilman Springs Road near Alessandro Boulevard is within an unincorporated area of Riverside County and within the City Sphere of Influence adopted in 1985. The project will request a pre-annexation General Plan land use designation and zoning of Logistics Development (LD) within a Specific Plan for this parcel, and this EIR will be the environmental documentation used by the Local Agency Formation Commission (LAFCO) to complete the annexation action. The County's land use designation currently applicable to this parcel is W-2-2½. The W-2 area allows single-family residential and light agriculture (the suffix indicates minimum parcel size in acres) and the City's current General Plan land use designation for the site is Business Park (BP) under the MHSP.



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Project Boundary

Highways

City Boundary

Sphere of Influence

Land Use

- Residential: Max. 1 du/ac
- Mixed Use
- Residential: Max. 2 du/ac
- Residential: Max. 3 du/ac
- Residential: Max. 5 du/ac
- Residential: Max. 10 du/ac
- Residential: Max. 20 du/ac
- Office
- Commercial
- Business Park/Light Industrial
- Open Space
- Public Facilities
- Floodplain

SOURCE: Riverside County and City of Moreno Valley, August, 2010.

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FIGURE 3.4

World Logistics Center Project
Environmental Impact Report

General Plan Land Uses

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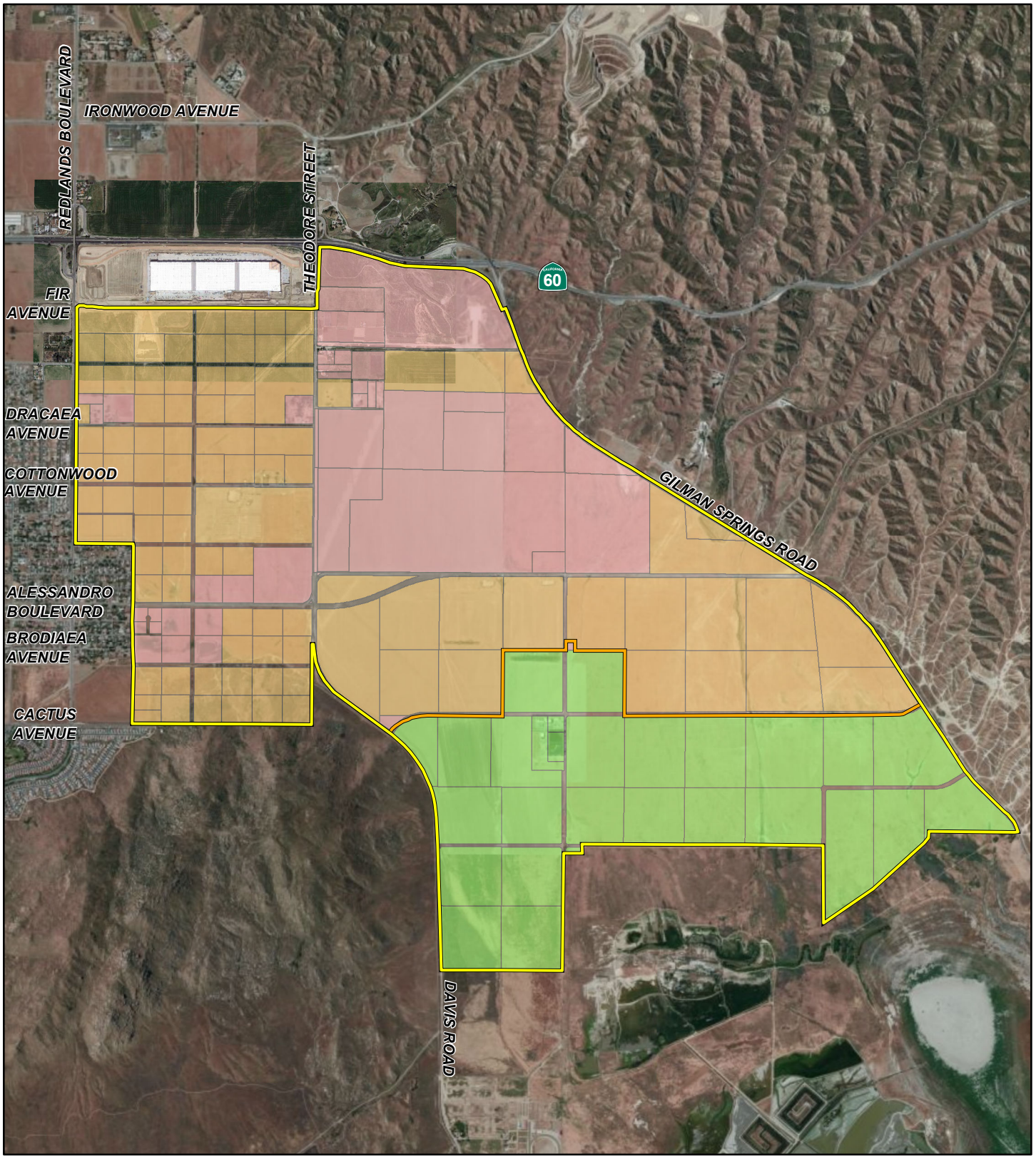

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Project Boundary

Specific Plan Boundary

Area Held by Highland Fairview

Area Not Held by Highland Fairview

State or Utility Ownership

FIGURE 3.5

World Logistics Center Project
Environmental Impact Report

Property Ownership

SOURCE: ESRI World Imagery, 2010; Bing Maps, 2010; Google Maps, 2011.

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The MHSP includes approximately 910 acres of land owned by the CDFW that are part of the San Jacinto Wildlife Area (SJWA). Much of this property is designated for residential development in the MHSP. The CDFW parcels were acquired by the State beginning in 1992 to act as a buffer from future development to the north (the MHSP) and to further the CDFW goal of eventually preserving approximately 20,000 acres of restored wetlands and ponds. The land around Mystic Lake was originally purchased as mitigation for habitat loss as a result of construction of the state water project.

The SJWA was the first state wildlife area to utilize reclaimed water to create and enhance wetlands, and improvements are ongoing. Waterfowl, wading birds, and quail are among the many animals found in this area. It also supports a number of private hunting clubs around its northwestern perimeter.

3.3.2 Existing Conditions and Land Use Designations in Surrounding Areas

3.3.2.1 South of SR-60/East of Redlands Boulevard

Existing Conditions. This area is currently used mainly for dry farming, with several scattered rural residences. The only major improvements are several natural gas facilities and two local roadways (Alessandro Boulevard and Theodore Street).

Existing Land Use Designations. The Highland Fairview Corporate Park (HFCP) project is currently under development and Phase 1 (Skechers' North American Operational Headquarters) was completed in late 2011. HFCP is located immediately northwest of the project area, on the north side of Eucalyptus Avenue between Redlands Boulevard and Theodore Street. The HFCP project was approved by the City of Moreno Valley in 2009. The City General Plan land use designation for the site is Commercial (C) and Business Park/Light Industrial (LI).

3.3.2.2 North of SR-60

Existing Conditions. This area is relatively rural at present with mixed light industrial uses along the freeway and scattered residences farther away from the freeway.

Existing Land Use Designations. The land located on the north side of SR-60 and westerly of Theodore Street is within the City of Moreno Valley and has a land use designation of Office (O) and Residential (R1—density of one dwelling unit per acre). The area easterly of Theodore Street is in an unincorporated area of Riverside County with land use designations of Scenic Highway Commercial (C-P-S) and Controlled Development Area (W-2). The W-2 area allows single-family residential and light agriculture (the suffix indicates a 2-acre minimum parcel size); and the C-P-S district allows certain wholesale and retail commercial uses. This county territory is within the City's Sphere of Influence; the City land use designation for the area is Rural Residential (RR) and Residential (R1).

3.3.2.3 East of Gilman Springs Road

Existing Conditions. This area currently contains scattered rural residences and a golf course southeast of the WLC project area.

Existing Land Use Designations. The Badlands area, lying easterly of Gilman Springs Road, is within the jurisdiction of the County of Riverside and has a land use designation of Controlled Development Area (W-2, W-2-1, and W-2-20). Allowed uses include single-family residential and light

agriculture (the suffix indicates minimum parcel size in acres). A portion of this county territory is within the City's Sphere of Influence. The City land use designation for the area is Rural Residential (RR).

3.3.2.4 Southern Boundary

Existing Conditions. All the land south of the WLC project site is part of the Mystic Lake/San Jacinto Wildlife Area property, and currently provides various open space uses related to the presence of wildlife around the lake.

Existing Land Use Designations. The lands south of the project are within the San Jacinto Wildlife Area and the Lake Perris State Recreation Area, and are designated either Open Space (OS) or public facilities (PF).

3.3.2.5 West of Redlands Boulevard

Existing Conditions. The land north of Eucalyptus Avenue (currently Fir Avenue) was recently approved for industrial warehousing (West Ridge Project) but the City approval of and EIR for that project have been challenged in court; a decision is still pending as of November 2012. The land south of Fir Avenue is planned for suburban residential uses. There are residential neighborhoods along the west boundary of the project site, west of Redlands Boulevard south of Eucalyptus Avenue, and east of Redlands Boulevard south of Cottonwood Avenue.

Existing Land Use Designations. The City land use designations for the residential areas west of Redlands Boulevard are Residential R2 and R3 (maximum density of 2 and 3 dwelling units per acre, respectively). Residential areas southerly of the site along Alessandro Boulevard are subject to City land use designations of R2 and R5 (maximum density of 2 and 5 dwelling units per acre respectively).

Table 3.B summarizes on-site and adjacent land uses for the project site.

Table 3.B: On-site and Adjacent Land Use Designations

Location	Jurisdiction	Current Land Uses	General Plan Land Uses	Zoning Designations
On site	City of Moreno Valley	Agriculture/dry farming, rural residential	Moreno Highlands Specific Plan	Moreno Highlands Specific Plan
North	County and City of Moreno Valley	SR-60, rural residential north of freeway	County W-2, C-P-S City RR, R1	County W-2, C-P-S City O, R1
South	County and State of California	Agriculture, San Jacinto Valley Wildlife Area	MHSP and OS (City and County)	MHSP and OS (City and County)
East	Riverside County	Gilman Springs Road, rural residential	RR (City)	W-2, W-2-1 and W-2-20 (County)
West	City of Moreno Valley	Residential, Industrial [1]	R2, R3, R5, and LI	R2, R3, R5, and LI

Sources: City of Moreno Valley General Plan Land Use Map, adopted August 2010; City of Moreno Valley Zoning, online data accessed March 2012. County of Sphere of Influence, data from Transportation Land Management Agency (TLMA), County website accessed March 2012.

[1] approved Westridge project

3.4 PROJECT CHARACTERISTICS

The project being evaluated in this EIR covers 3,918 acres and proposes a maximum of 41.4 million square feet of "high-cube logistics" warehouse distribution uses classified as "Logistics Development" (LD) and 200,000 square feet (approximately 0.5%) of warehousing-related uses classified as "Light Logistics" (LL) on 2,710 acres within the WLC Specific Plan. The lands within the WLC Specific Plan that are designated LL are existing rural lots, some containing residential uses, that may be considered "non-conforming uses" once the WLC Specific Plan is approved. In addition, the LD designation includes 20,000 square feet of land for Logistics Support (LS) for vehicle fueling. The components of the proposed project are discussed below and are shown in Figure 3.6.

3.4.1 Project Terms

The following terms and areas are defined here for the purposes of analysis in the EIR:

- **World Logistics Center Project:** The term refers to all related development and planning activities currently proposed by Highland Fairview in the Rancho Belago area of the eastern end of the City of Moreno Valley. The WLC property is generally located south of SR-60, east of Redlands Boulevard, west of Gilman Springs Road, and north of Mystic Lake and the San Jacinto Wildlife Area.
- **Project Site or Project Area:** This term refers to the entire 3,918-acre area covered by the EIR encompassed by: (a) the Specific Plan Area (2,710 acres); (b) the CDFW Conservation Buffer Area (910 acres); c) the Public Facilities Lands area (194 aces); and (d) the Off-site Improvement Area on 104 acres.
- **CDFW Conservation Buffer Area:** This term refers to a 910-acre parcel owned by the State of California as part of the San Jacinto Wildlife Area (SJWA). This land is within the City of Moreno Valley and is included in the approved Moreno Highlands Specific Plan. That plan designates this property for a broad mix of urban uses including suburban residential, schools, parks, and roads. This land was purchased by the State in 1991 to act as a buffer between the sensitive biological resources of the SJWA and the future urban development under the Moreno Highlands Specific Plan. This land has been actively farmed for many decades and most of it remains in active production. The southwestern portion contains areas of non-native grasslands, although aerial photographs show that this area has been intermittently tilled over the last 80 years. This property is included in the General Plan Amendment and the Zone Change to replace the current urban land uses that are permitted and replace them with Open Space and Public Facility designations. This property is not within the proposed World Logistics Center Specific Plan. This Buffer Area is a large part of the "Other Project Areas" described herein.
- **Other Project Areas:** The San Diego Gas & Electric Company (SDG&E) and the Southern California Gas Company (SCGC) own a total of 194 acres of land immediately south of the Specific Plan site. These properties are included in the proposed General Plan Amendment and the Zone Change to designate them for Open Space and Public Facilities uses. These designations are consistent with present uses. These properties are not within the proposed World Logistics Specific Plan. Approximately 174 acres of the land owned by SDG&E will be designated as Open Space. Nineteen acres of SDG&E land and one acre of SCGC land will be designated as Public Facilities.
- **Off-site Improvement Areas:** Development under the Specific Plan will require construction of a number of off-site infrastructure improvements covering approximately 104 acres of land adjacent to the Specific Plan Site including, but not limited to the following facilities (see Figure 3.7):
    - Debris Basins easterly of Gilman Springs Road;
    - Water reservoirs and access roads located northeast, north, and west of the project site;

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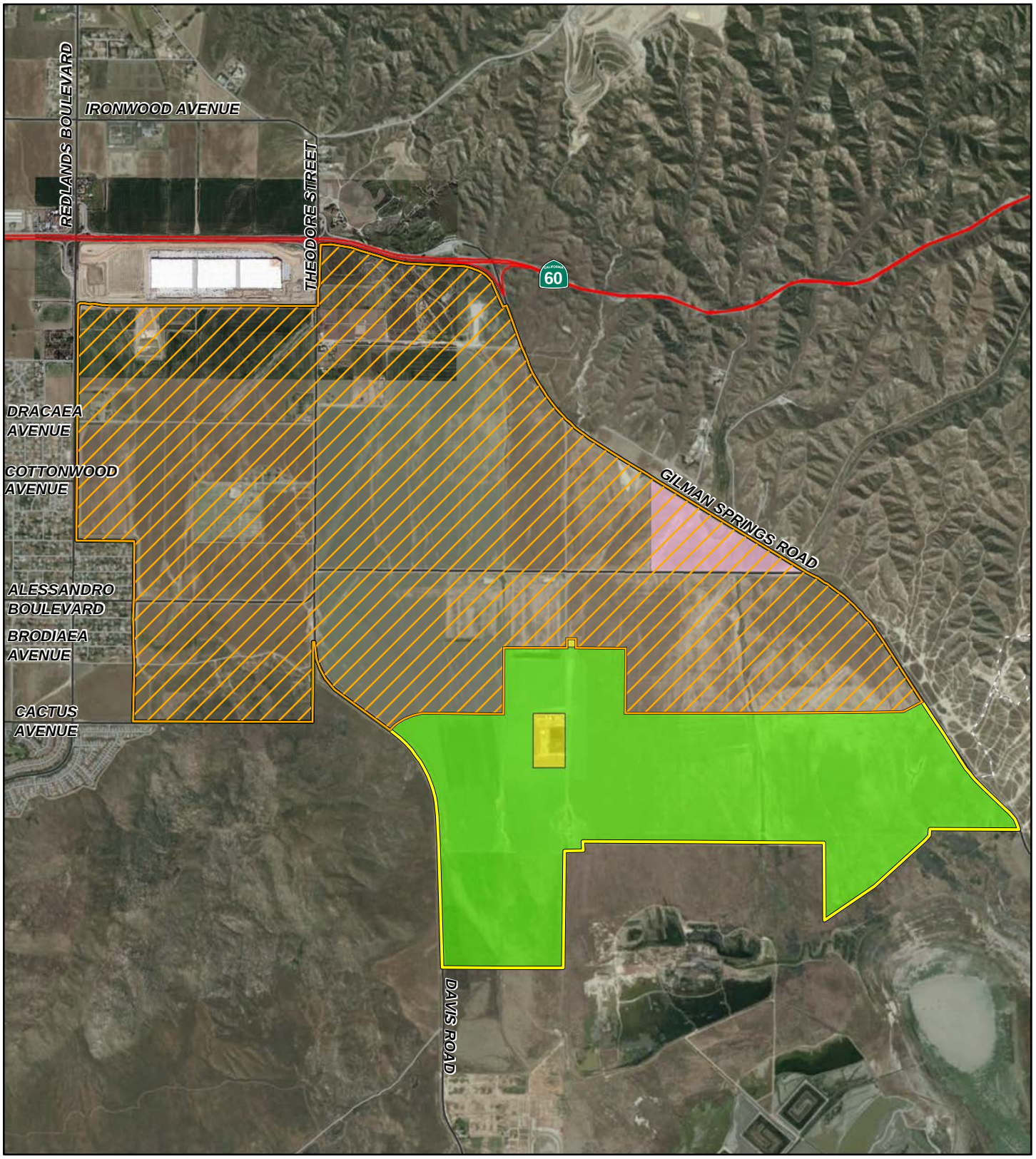

FIGURE 3.6

World Logistics Center Project
Environmental Impact Report

Component Areas

SOURCE: ESRI World Imagery, 2010; Bing Maps, 2010; Google Maps, 2011.

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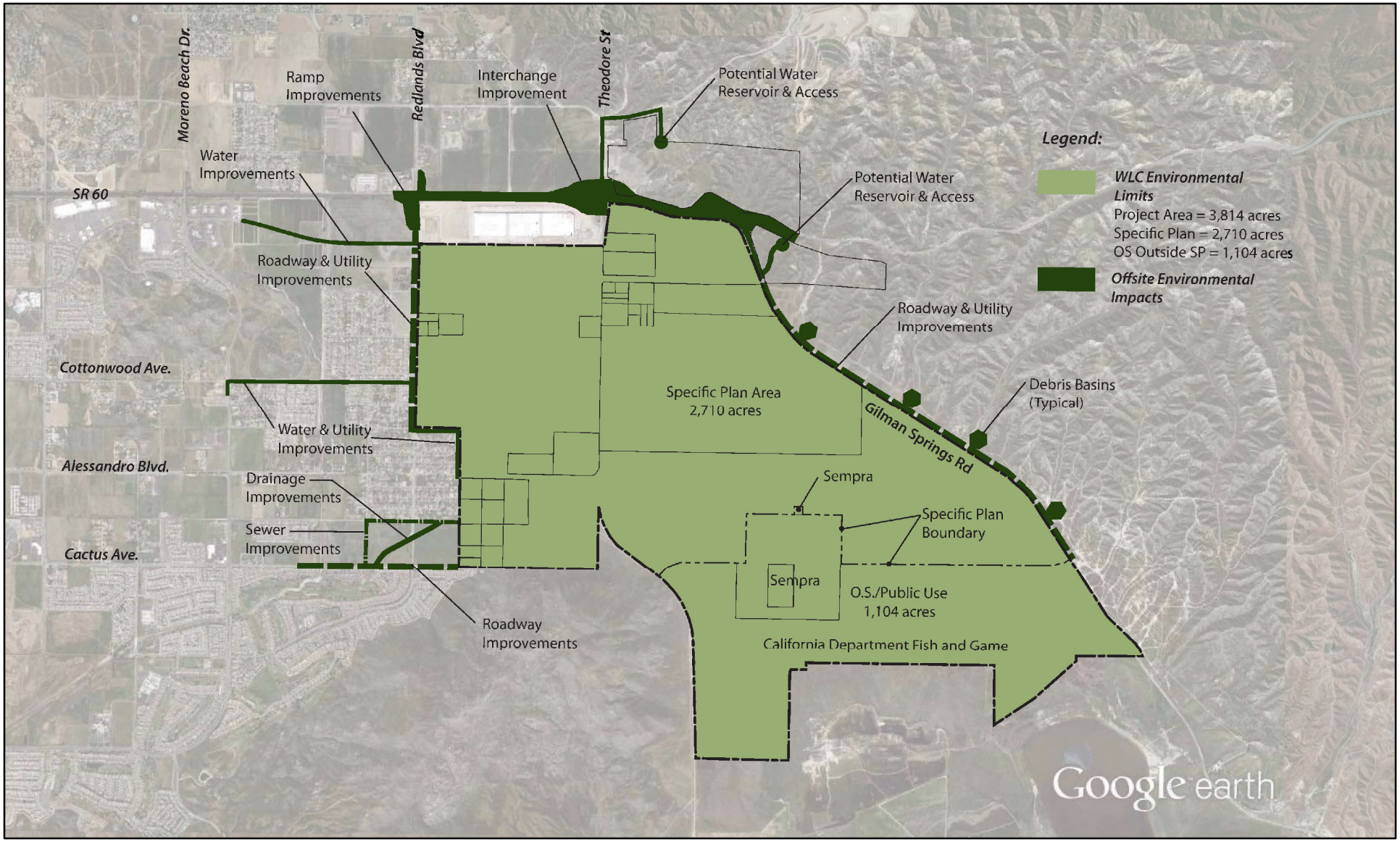

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FIGURE 3.7

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World Logistics Center Project
Environmental Impact Report

SOURCE: HighlandFairview, January 2013

Offsite Improvements

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  - SR-60 interchange improvements; and
  - Roadway, water, sewer, drainage, and utility improvements extending north and west from the project.

- **Specific Plan Site:** Approximately 2,710 acres of the project area are included in the proposed WLC Specific Plan, located generally south of SR-60, east of Redlands Boulevard, west of Gilman Springs Road, and north of the San Jacinto Wildlife Area.
- **WLC Specific Plan:** The WLC Specific Plan proposes a master-planned logistics campus to include up to 41.4 million square feet of high-cube logistics warehousing, up to 200,000 square feet of light logistics uses, a site for logistics support uses (LS designation), and 75 acres of Open Space in the southwest corner of the site. The Specific Plan includes extensive development standards, design guidelines, and review procedures for all development within the project.
- **Annexation Area:** This term refers to an 85-acre parcel located adjacent to Gilman Springs Road that is to be annexed into the City of Moreno Valley. The parcel is already within the City's Sphere of Influence, adopted on November 21, 1985.
- **Tentative Parcel Map Area:** A Tentative Parcel Map is being processed to subdivide 1,539 acres of the project for financing purposes only. This property is owned by the project applicant. Approval of the map will confer no development rights to the property.
- **General Plan Amendment:** One of the proposed entitlements is a General Plan Amendment (GPA) that will permit the establishment of logistics land uses on the 3,814-acre property located east of Redlands Boulevard and south of SR-60. The following General Plan Elements will be amended: Community Development; Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and General Plan Goals and Objectives. The GPA will replace the current Moreno Highland Specific Plan/General Plan Designations with the following land use designations: (a) 2,606 acres for high cube logistics development; (b) 1,084 acres of Open Space; and (c) 20 acres for Public Facilities.
- **Zone Change:** The project includes a Zone Change covering 3,814 acres, which will designate 1,084 acres of land for Open Space (CDFW and SDG&E properties), 20 acres for Public Facilities (SDG&E and SCGC properties), and 2,710 acres for the World Logistics Center Specific Plan.
- **State Lands:** Refers to lands owned by the State of California and includes the San Jacinto Wildlife Area (SJWA) located south of the Specific Plan Site, and the Lake Perris State Recreation Area (LPSRA) located southwesterly of the Specific Plan Site.
- **Off-site Analysis Zone:** This term refers to an approximately 1,000-foot wide zone adjacent to the south and east boundaries of the Specific Plan area that was studied by Michael Brandman Associates (MBA) as part of the assessment of potential impacts on biological resources. It covers approximately 1,637.5 acres.
- **Moreno Highlands Specific Plan:** This term refers to the currently approved Specific Plan that covers 3,038 acres of the project area. This Specific Plan permits the development of a master planned, mixed-use community consisting of up to 7,763 residential dwelling units and approximately 603 acres of business, retail, institutional, and other uses. This development will be replaced with the World Logistics Center Specific Plan and 1,104 acres of Open Space and Public Facilities uses.
- **Proposed Project or World Logistics Center Project:** General term applied to all of the entitlements outlined above that are addressed in this EIR, including:
  - WLC Specific Plan ..... 2,710 acres
  - General Plan Amendment ..... 3,814 acres
  - Zone Change ..... 3,814 acres

- Tentative Parcel Map ..... 1,539 acres
- Annexation ..... 85 acres
- Off-site improvements ..... 104 acres

3.4.2 Logistics Warehousing Development

Logistics warehouses are used primarily for the storage and/or consolidation of manufactured goods (with no manufacturing) prior to their distribution to secondary retail outlets. These facilities consist of large buildings typically larger than 500,000 square feet in size, often subdivided for multiple tenants, with typical ceiling heights of 24 feet or more, and can be characterized by highly automated material handling systems supported by truck activities frequently during off-peak hours, and good freeway access. Goods imported through the Ports of Long Beach and Los Angeles as well as other locations are delivered via truck to the proposed distribution centers and distributed via truck to both in and out of state locations, thus benefiting both local and interstate commerce.

High-cube warehouse and logistics facilities include ancillary office and maintenance space along with the outdoor storage of trucks, trailers, and shipping containers. High cube-logistics warehouses provide businesses with a centralized location to sort, organize, and often transfer products from one shipping process to another where multiple forms of transport are available.

High-cube logistics warehouses are generally constructed with vertical-lift dock-high roll up doors to allow access for the loading and unloading of products from truck/trailers. Building interiors are typically large and open to accommodate the temporary storage and consolidation of the products to be distributed. Parking is provided for trucks and trailers in addition to parking for passenger vehicles in accordance with local standards.

3.4.3 Open Space Properties

The California Department of Fish and Wildlife (CDFW) owns 910 acres of vacant open space land within the project area. This area is the most northerly end of the 6,000-acre San Jacinto Wildlife Area and is being actively farmed. Section 4.4, *Biological Resources*, explains the importance of the SJWA in more detail, but supports a diversity of birds and other wildlife in and around Mystic Lake. This land was purchased by the State as a "buffer" between Mystic Lake and approved development under the Moreno Highlands Specific Plan within the City of Moreno Valley. This land is currently actively farmed and provides raptor foraging habitat in the northern portion of the SJWA. This land is designated as permanent open space on the proposed General Plan Amendment and Zone Change.

SDG&E owns and maintains 174 acres of open space around its 19-acre Moreno Compressor Station plant. The WLC project proposes this land be designated as permanent Open Space under the City General Plan and zoning.

The Specific Plan includes 75 acres of land designated as open space in the southwest corner of the property. It should be noted that Mount Russell and the Mount Russell Range are immediately southwest of the project area, along with the Lake Perris State Recreational Area. No development is proposed for the 75 acres designated as Open Space within the Specific Plan.

3.4.4 Moreno Compressor Plant and Public Facilities

SDG&E operates a regional natural gas compression-transmission facility on 19 acres in the south-central portion of the site. This site is bounded on three sides by the CDFW property identified in Specific Section 3.4.3. The project proposes to designate this facility as "Public Facility" under the

City General Plan and zoning, and does not propose or anticipate any further development of this site. Any proposal to expand the existing facilities at the site would require separate evaluation under CEQA.

A one-acre natural gas facility operated by SCGC is located just north of the Moreno Compressor Facility. It is also proposed to be designated as "Public Facility" as part of the project.

3.4.5 Annexation Area

Approximately 85 acres of land within the project area are within an unincorporated area of Riverside County and within the City's Sphere of Influence. The proposed project includes the completion of the annexation process for this land. This property is located just west of Gilman Springs Road and north of Alessandro Boulevard and is currently dry farmed similar to the land surrounding it. The project includes approval of a pre-annexation General Plan and zoning land use designations of Logistics Development (LD) within the Specific Plan for this parcel. This EIR will be the environmental documentation used by the LAFCO to complete the annexation action, which commenced when the property was included in the City's Sphere of Influence in 1985. The County's land use designation currently applicable to this parcel is W-2-2½, which allows single-family residential and light agriculture, while the City's current General Plan land use designation for the site under the MHSP is Business Park (BP).

3.4.6 World Logistics Center Specific Plan

The proposed project includes a Specific Plan to implement the new General Plan Amendment and to set forth comprehensive land use regulations governing the proposed project. The Specific Plan is a master plan for the future development of up to 41.6 million square feet of building area on 2,710 acres, providing for mainly high-cube logistics and distribution facilities. This programmatic EIR provides a streamlined environmental review process for future development projects in the WLC Specific Plan area, including site-specific subdivisions and development entitlements that are consistent with the overall plan. Subsequent projects that the City determines to be within the scope of the EIR may be approved pursuant to the procedures set forth in *CEQA Guidelines* Sections 15162 and 15177.

The following sections provide a summary of key elements of the Specific Plan, and Table 3.C provides a summary of the land uses of the Specific Plan and other areas addressed by the project.

Table 3.C: WLC Project Characteristics

Area/Land Use	Area Acres	Square Footage[1]	Total Acreage
World Logistics Center Specific Plan (WLCSP)			
LD Logistics Development	2,606	41,400,000	
LS Logistics Support (within LD zone)	—	(20,000)	
LL Light Logistics	29	200,000	
OS Open Space	75	—	
WLCSP Total		***41,600,000***	***2,710***
Other Project Areas			
California Department of Fish and Wildlife	910	—	
San Diego Gas and Electric – Open Space	174	—	
San Diego Gas and Electric – Facility	19	—	
Southern California Gas Company – Facility	1	—	

Table 3.C: WLC Project Characteristics

Area/Land Use	Area Acres	Square Footage[1]	Total Acreage
Other Areas Total		**—**	***1,104***
Off-site Improvement Areas	**104**	**—**	**104**
TOTAL WLC PROJECT AREA		**41,600,000**	**3,918**

[1] Floor Area Ratio (FAR) is 0.35 based on 2,710 gross acres, 0.36 based on 2,635 net acres, and 0.50 based on 1,910 "net net" acres (total minus open space, roads, and landscaping)
Source: WLC Specific Plan November 2012.

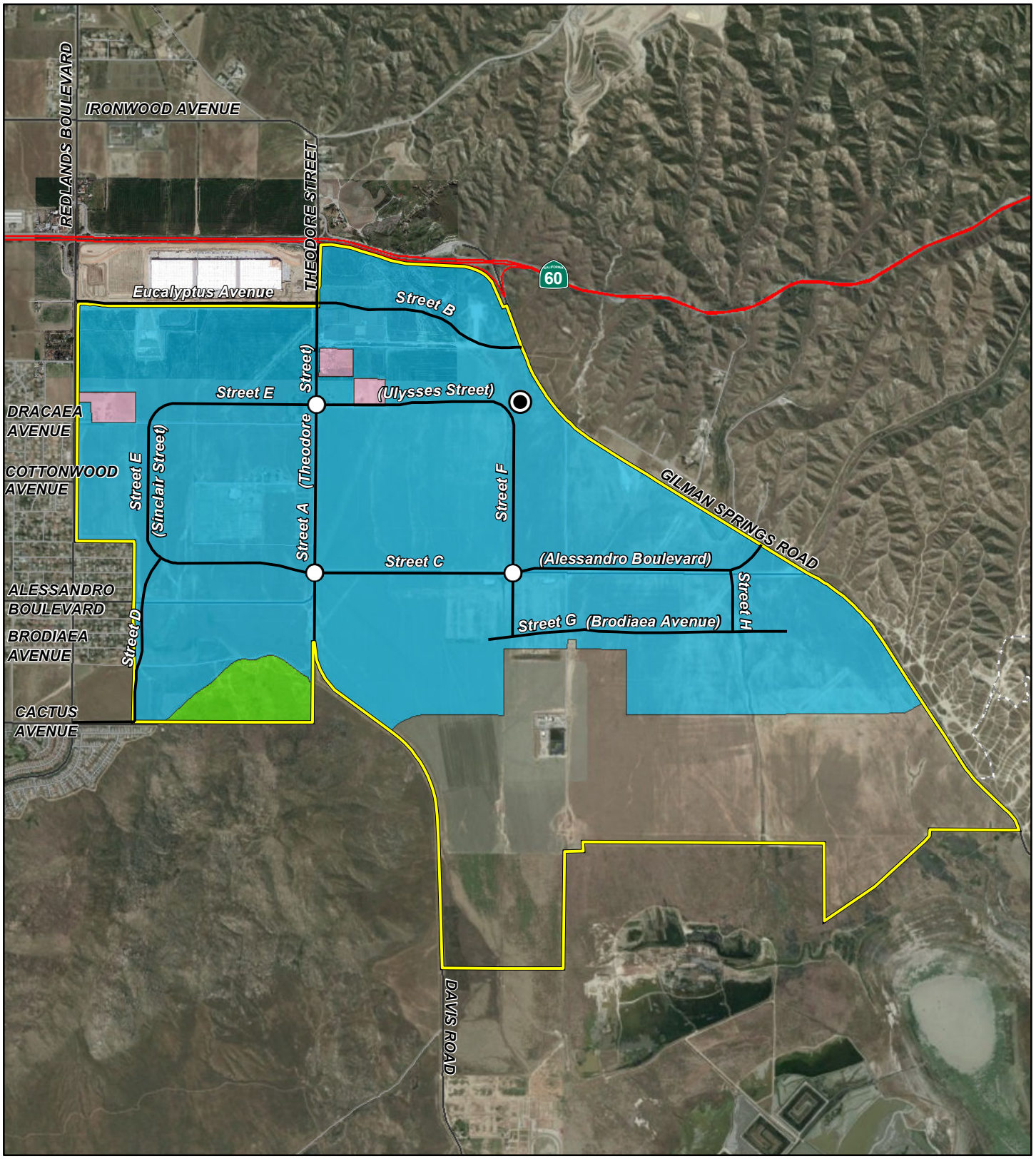
3.4.6.1 Land Use Plan

The WLC Specific Plan is a master plan for the development of up to 41.6 million square feet of development emphasizing modern high-cube logistics distribution facilities. The following information summarizes Section 2.0, *Land Use Plan*, of the WLC Specific Plan (see Appendix B), including three proposed land use designations, as shown in Figure 3.8.

High Cube-Logistics Development (LD). The WLC Specific Plan project proposes to develop approximately 2,606 acres with up to 41.4 million square feet of high cube logistics warehouse space. This represents approximately 99.5 percent of the total building area of the WLC Specific Plan project. Land uses allowed under this classification include high cube logistics warehouse buildings of 500,000 square feet or greater. High cube logistics warehouses are characterized by a high level of automated material handling systems and typical truck activities outside of the peak hour. High cube logistics warehouses are generally used for the storage of manufactured goods prior to their distribution to retail outlets (see Section 4.15 and Appendix J of this EIR). Warehouses permitted in the LD portion of the WLC would be no smaller than 500,000 square feet, with a maximum height of 80 feet. The Specific Plan prohibits buildings over 60 feet in height along the western, northern, and southern boundaries of the site (see Figure 3.9).

Warehousing and logistics activities consistent with the storage and processing of manufactured goods and materials prior to their distribution to other facilities and retail outlets will be permitted throughout the Specific Plan. Ancillary office and maintenance space is included along with the outdoor storage of trucks, trailers, and shipping containers. LD land uses provide a location for businesses to sort, organize, and transfer products from one shipping process to another.

Alternative Fueling. The WLCSP encourages the development of warehousing that uses trucks powered by non-diesel fuels such as liquefied natural gas (LNG). The Specific Plan requires that smaller on-site service vehicles associated with these same buildings will use non-diesel fuels such as compressed natural gas (CNG) as their vehicular fuel (WLCSP Section 1.2.2). The use of LNG/CNG will substantially reduce vehicular emissions from the WLC project, including diesel particulate matter (DPM) and other diesel-related pollutants. **Logistics Support Uses (LS).** A fueling station is proposed in the eastern portion of the Specific Plan area; however, a specific site for this facility has not been selected. This facility will include approximately 20,000 square feet of building area for diesel and LNG/CNG fuel sales, and for a small convenience store. This facility will be located away from residential uses (see Specific Plan Section 1.2.2 and Figure 2-1, Land Use Plan for more information on this facility).



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- Project Boundary
- Light Logistics
- Logistics Development
- Open Space
- Logisctics Support

SOURCE: ESRI World Imagery, 2010; Bing Maps, 2010; Google Maps, 2011.

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FIGURE 3.8

World Logistics Center Project
Environmental Impact Report

Specific Plan Land Uses

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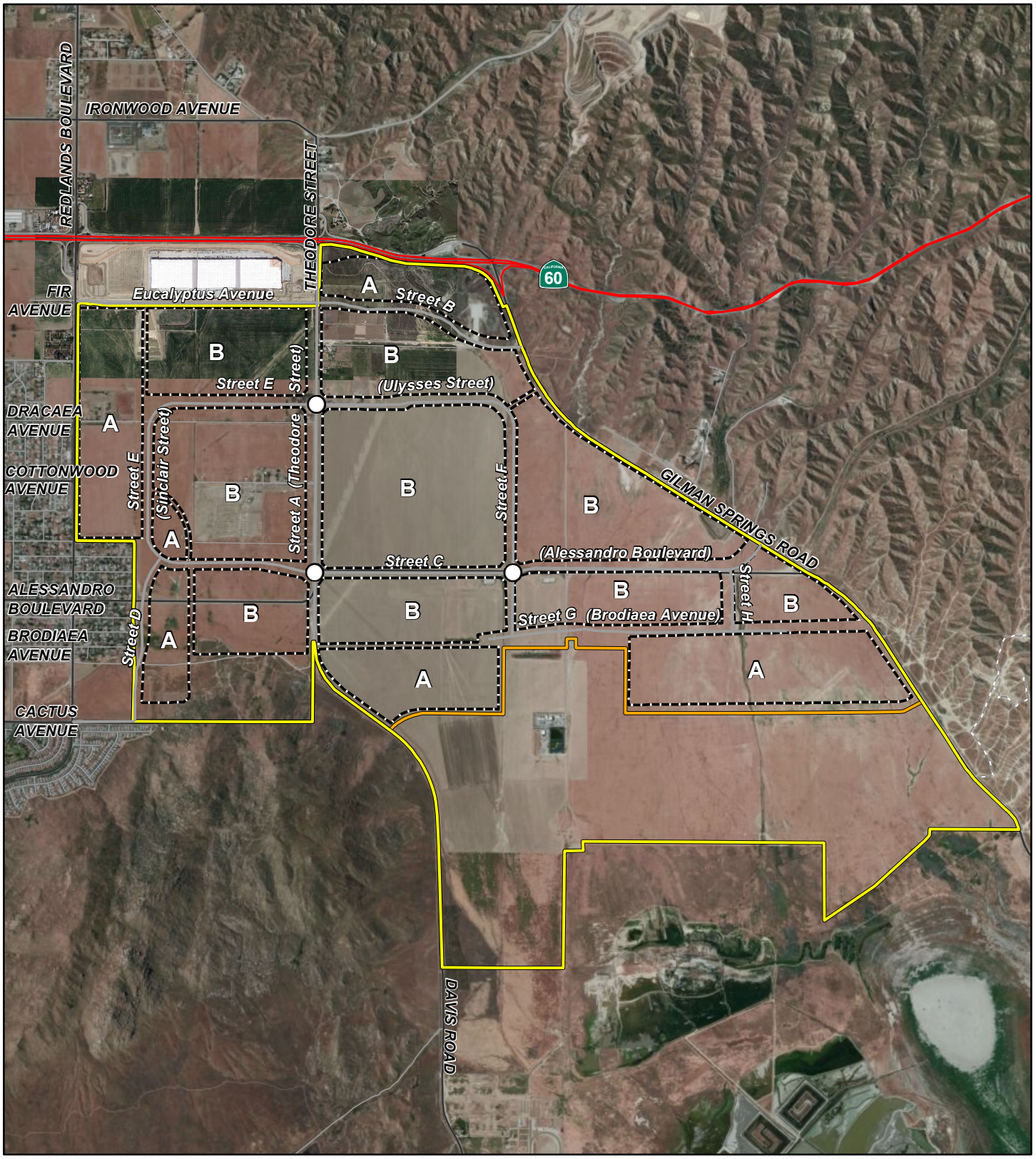

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Project Boundary

Specific Plan Boundary

Height Areas

A = 60 Feet

B = 80 Feet

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FIGURE 3.9

World Logistics Center Project
Environmental Impact Report

Building Height Plans

SOURCE: ESRI World Imagery, 2010; Bing Maps, 2010; Google Maps, 2011.

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Diesel Emissions and Project Operation Restrictions. All medium-heavy duty trucks and heavy-heavy duty trucks entering logistics sites will be required to meet or exceed 2010 engine emission standards specified in California Code of Regulations Title 13, Article 4.5, Chapter 1, Section 2025 or be powered by natural gas, electricity, or other diesel alternative. Facility operators must maintain a log of all trucks entering the facility to document that on average, the daily truck fleet meets the emission standards contained in this mitigation. This log shall be available for inspection by City staff at any time. All service yard trucks (hostlers, yard goats, etc.), pallet jacks, forklifts, and other on-site equipment used during operation shall be powered by electricity, natural gas, propane, and/or 100 percent biodiesel fuel. Electrical power sources shall be provided for service equipment. Finally, any warehouses that include refrigerated components shall provide dock doors with electrical power sources capable of hooking up to transportation refrigeration units.

Light Logistics Uses (LL). This category provides for the storage of materials such as general warehouse, self-storage, or vehicle storage uses, and would also include related office and/or maintenance areas. The WLC Specific Plan applies this designation to 29 acres of existing lots that are not large enough for LD buildings (minimum 500,000 square feet). Build out of these areas could support up to 200,000 square feet of building area or 0.5 percent of the planned development of the site. Some of these lots are currently improved with residential uses and/or agricultural uses. Under the Specific Plan, the residential and agricultural uses would become legal, non-conforming uses.

Open Space (OS). Approximately 75 acres in the southwest corner of the project area is designated for open space use in the Specific Plan. This property is adjacent to Mount Russell and the Lake Perris State Recreational Area. The Specific Plan restricts this property to passive open space and recreation uses.

3.4.6.2 Circulation System

The revised General Plan Circulation Element (as amended by the proposed project) and the Specific Plan's Circulation Plan (Specific Plan Section 3.1) provides for the movement of vehicles in and around the World Logistics Center area. It provides the details of the road/street designations, right-of-way design, and road improvement thresholds. This section addresses the interface of the planning area with existing roadways as defined in the City General Plan.

Four key roadways will provide access to the proposed project: Theodore Street, Eucalyptus Avenue (between Redlands Boulevard and Theodore Street), Gilman Springs Road, and Alessandro Boulevard (between Gilman Springs and the proposed extension of Cactus Avenue), as depicted in previously referenced Figure 3.6. The Specific Plan identifies five points of access for project traffic: (1) Eucalyptus Avenue at Redlands Boulevard; (2) Theodore Street at SR-60; (3) Street B at Gilman Springs Road; (4) Street C at Gilman Springs Road; and (5) Street D to Cactus Avenue (no trucks; passenger vehicles only). Primary vehicular access to the project would be from SR-60 at Theodore Street and interchange improvements are planned to accommodate the increase in traffic volumes.

The Specific Plan provides that Transportation Management Plans (TMPs) may be included with each future building-specific project proposal in order to address project parking requirements in order to support "green building" or sustainable concepts. The number of required parking spaces may be modified subject to the approval of a TMP based on the provision of carpooling, van pools, staggered work hours or other facilities and programs. TMP applications would be processed in connection with future project-specific development applications.

Street Improvements. The following roadways lie on the project perimeter. Future improvements to project-affected roadways will be completed in accordance with City General Plan standards. Figure 3.10 provides the WLCSP Circulation Plan and Figure 3.11 shows the typical street cross-sections.

- **State Route 60.** SR-60 is a State freeway that currently has two mixed-flow lanes in each direction. Future improvements are planned by Caltrans to add a separate truck lane eastbound on the freeway through the Badlands including a dedicated truck lane in the future. SR-60 provides primary access to the project area.
- **Redlands Boulevard.** Redlands Boulevard is a designated truck route between SR-60 and Eucalyptus Avenue only; therefore, truck travel would be prohibited on Redlands Boulevard south of Eucalyptus Avenue. The ultimate street section is a 4-lane Divided Arterial.
- **Eucalyptus Avenue (west of Theodore Street).** Eucalyptus Avenue is a 4-lane Divided Arterial within an ultimate right-of-way of 110 feet. Improvements on the north side of the street (two westbound lanes, a raised median, and one eastbound lane) were recently completed by the HFCP project.
- **Gilman Springs Road.** At project opening year 2013, Gilman Springs Road will remain in its current condition (i.e., a two-lane undivided roadway) and future improvements would occur based on demand. The ultimate street section is a Divided Major Arterial with six through lanes and a raised median. Gilman Springs Road is a City-designated truck route.

The following roadways within the Specific Plan are classified as Arterials (see Figure 3.11). Access rights and intersections with other streets or highways are limited:

- **Theodore Street (Street A).** Theodore Street is a north/south Arterial and is the primary truck route to and from SR-60. The ultimate street section is a four- to six-lane Divided Arterial within a 144-foot right-of-way including a landscaped median. Traffic roundabouts are proposed at the two key intersections along Theodore Street within the project.
- **Street B (Eucalyptus Avenue east of Theodore Street)**. This roadway will ultimately extend through the project from Theodore Street to Gilman Springs Road. The proposed street section is currently a four-lane Divided Arterial with a 122-foot right-of-way and a standard median.
- **Streets C through E.** These roadways would be four-lane Minor Arterials each within a 112-foot right-of-way with no median. Traffic roundabouts are proposed at key intersections within the project to facilitate efficient movement of trucks

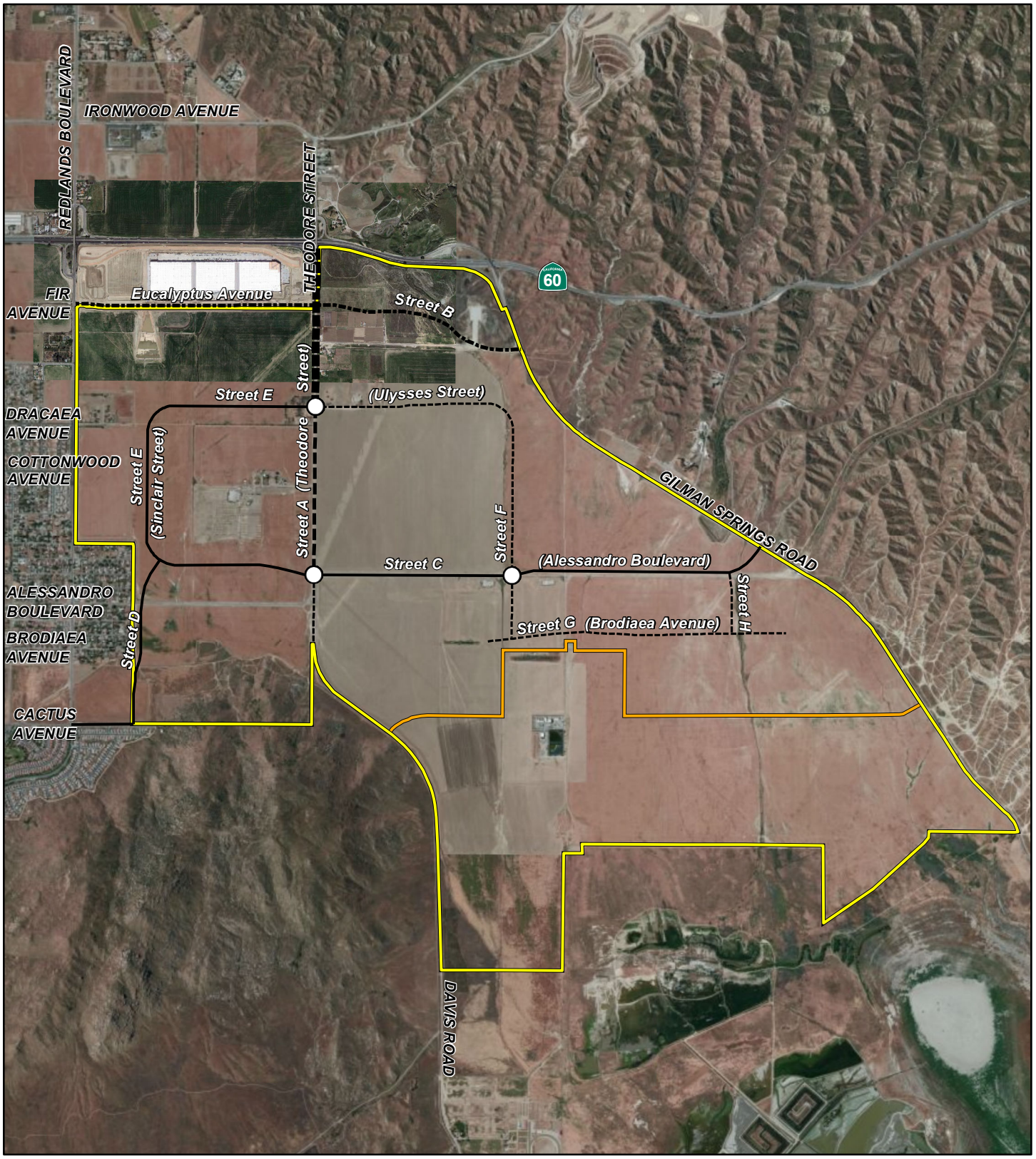
The smaller roadways within the Specific Plan (Streets F through H) would convey truck and other vehicle traffic in and around the project site. These two-lane roadways will have an ultimate right-of-way of 88 feet.

As Figure 3.10 shows, the Specific Plan proposes traffic roundabouts at the three internal intersections (Theodore Street/Streets E & F, Theodore Street/Streets E & C, and Street C/Street F.

Planned Improvements

As part of the analysis of project traffic impacts, it is important to note that development within the WLCSP will make a number of roadway and intersection improvements that are within or adjacent to project property (i.e. onsite improvements). As outlined in the project TIA, these improvements include but are not limited to:

- Gilman Springs/Alessandro Bouevard Intersection
- Gilman Springs/Eucalyptus Avenue Intersection



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Project Boundary

Specific Plan Boundary

Traffic Circle

6-Lane Divided (Wide Median)

4-Lane Divided (Wide Median)

4-Lane Divided (Std. Median)

4-Lane Undivided

2-Lane

See figure 3.11 for typical roadway cross sections.

SOURCE: ESRI World Imagery, 2010; Bing Maps, 2010; Google Maps, 2011.

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FIGURE 3.10

World Logistics Center Project
Environmental Impact Report

Circulation Plan

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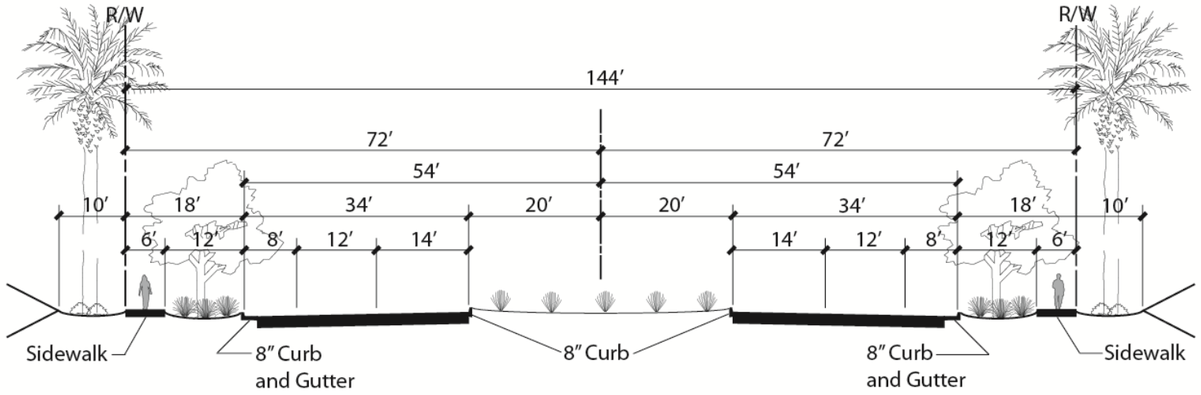
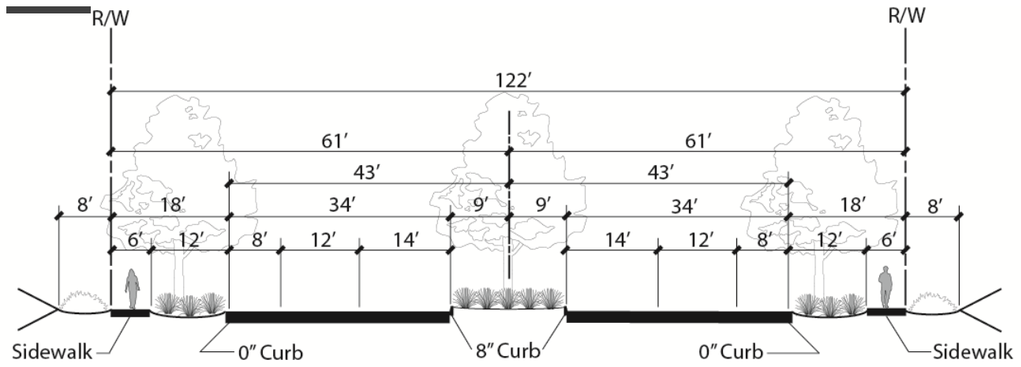
4-Lane Divided (Wide Median)



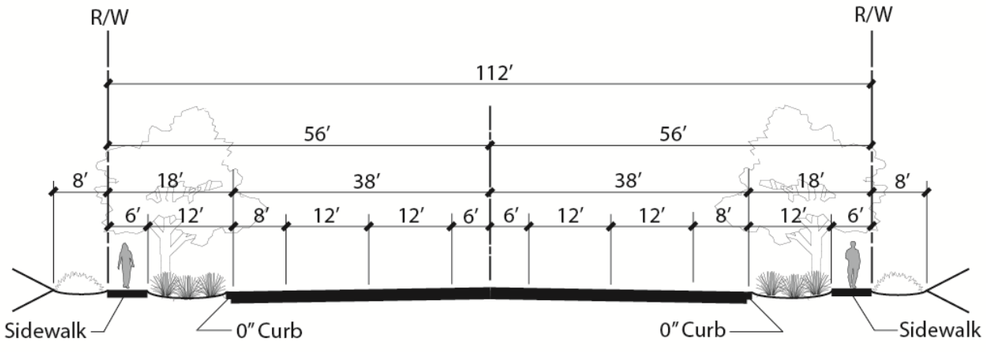
Street "A"

4-Lane Divided (Standard Median)



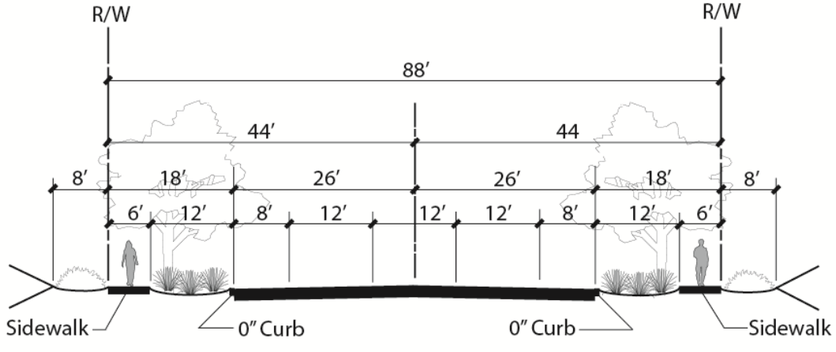
Street "B"

4-Lane Undivided



Street "C", "D", "E"

2-Lane



Street "F", "G", "H"

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FIGURE 3.11

World Logistics Center Project
Environmental Impact Report
Typical Street Cross Sections

SOURCE: World Logistics Center Specific Plan, Highlandfairview, December 2012
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- SR-60 Westbound Ramp/Theodore Street Intersection
- Redlands Boulevard/Eucalyptus Avenue Intersection
- Theodore Street/Eucalyptus Avenue Intersection
- Eucalyptus Avenue from Redlands Boulevard to Theodore Street (south side)
- Internal Streets A through H shown on WLCSP Circulation Plan (DEIR Figure 3-10)

Mobility. Section 3.4, *Non-Vehicular Circulation*, of the Specific Plan indicates that the intent of the mobility, transit, and pedestrian movement section is to ensure that people are able to move from one destination to another with minimal delays, either by walking or using other means of non-motorized travel. This means separating vehicles from pedestrian pathways and incorporating shared modes of travel such as trucks, autos, and bikes in the same right-of-way area where feasible. Bicycles would be able to use the street right-of-way throughout the project area. The Specific Plan states that project site development will support alternative transportation options for employees through implementation of on-site bicycle storage, preferred parking for low-emitting and fuel-efficient cars, carpool high-occupancy vehicles, and access to public transit.

According to Section 3.4.3, *Bicycle Circulation*, the Specific Plan will provide Class II (on-street) bicycle access along all connecting project roadways (i.e., not cul-de-sac streets), as shown in Figure 3.12. These Class II bicycle lanes will be integrated into the City's Bikeway Plan as well as the WRCOG Non-Motorized Transportation Plan, with connectivity to Class II bicycle lanes in the City that are adjacent to the WLC project site.

The Specific Plan requires sidewalks along all project streets (Specific Plan Section 3.3.1). Pedestrian movement relies on sidewalks providing direct access from the street to entry points for properties and buildings. Sidewalks are required to be shown on project-specific plot plans submitted for review by the City. All public street improvement shall meet the standards set forth in Title 24.

Local bus service to the area is provided by the Riverside Transit Agency (RTA). Local bus routes will be extended into the project area when adequate demand is generated as determined by the RTA. All roadways within the WLC area will be designed to accommodate bus access. The need for bus stops, turnouts, etc. will be determined by the RTA during the review of subsequent project-specific applications.

In addition to public sidewalks provided adjacent to project streets, Section 3.3.1 of the Specific Plan, *Pedestrian Circulation and Trails*, requires the construction of a trail connection between the Redlands Boulevard/Cottonwood Avenue intersection and the existing Cactus Avenue trail connection to the Lake Perris Recreational Area. This new trail will continue across the Open Space area and connect to the San Jacinto Wildlife Area at the former Davis Road alignment (see Figure 3.12). Engineering details of the new trail will be provided with project-specific development applications in this portion of the project area.

3.4.6.3 Utilities and Services

The Utilities section of the Specific Plan (Section 3.5) describes the infrastructure systems needed to support the development of the project. This section identifies facilities for potable water, reclaimed water, wastewater, storm drain systems, power, natural gas, and telecommunications. This section also addresses the demand for general City services.

Potable Water. The Eastern Municipal Water District (EMWD) provides water service to the project area. EMWD obtains its water from Metropolitan Water District (MWD) and local groundwater wells.

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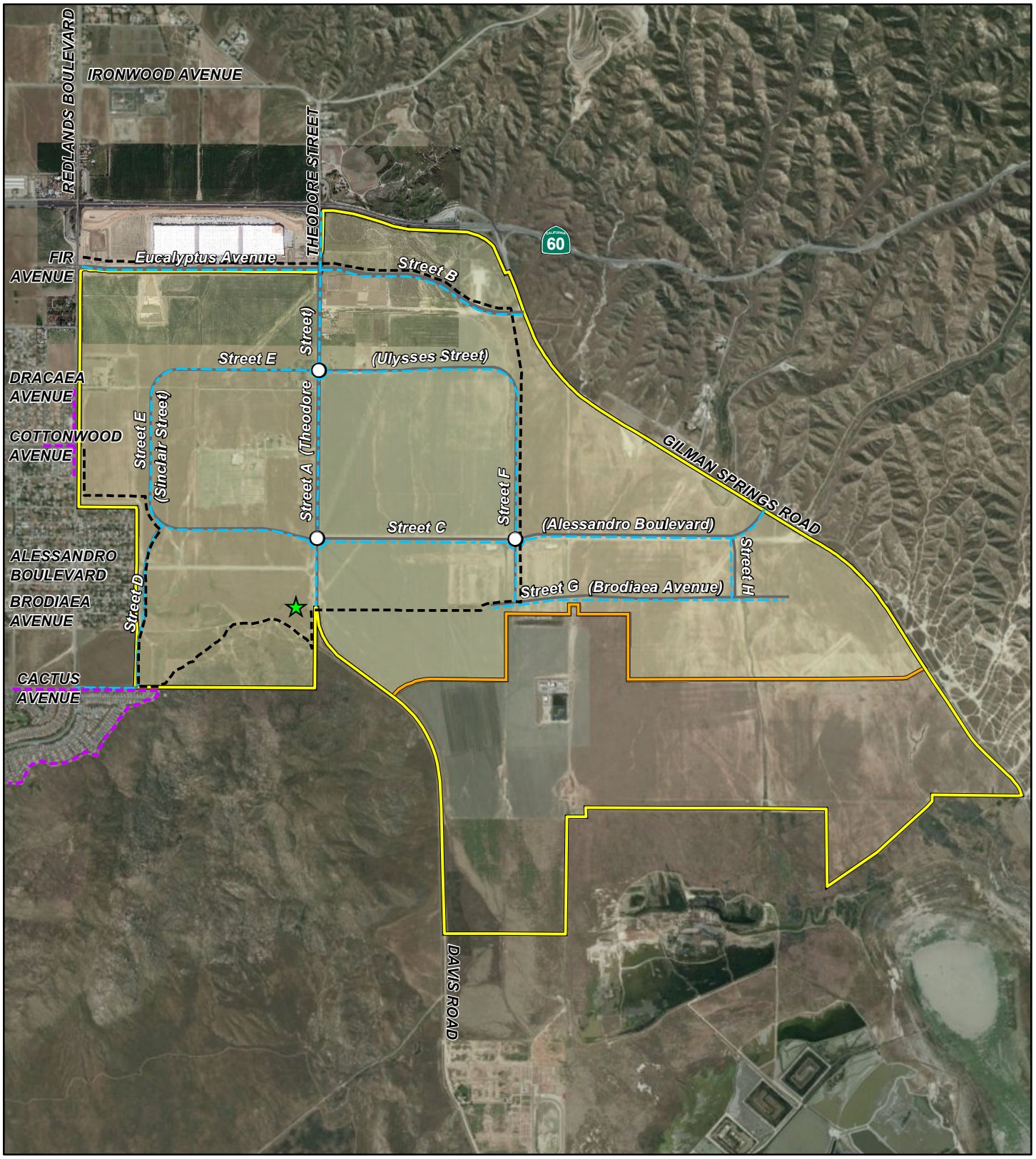

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Project Boundary

Specific Plan Boundary

Class III Bikeway

Conceptual Trail Alignment

Existing Trail Alignment

Staging Area

FIGURE 3.12

World Logistics Center Project
Environmental Impact Report

Non-Vehicular Circulation

SOURCE: ESRI World Imagery, 2010; Bing Maps, 2010; Google Maps, 2011.

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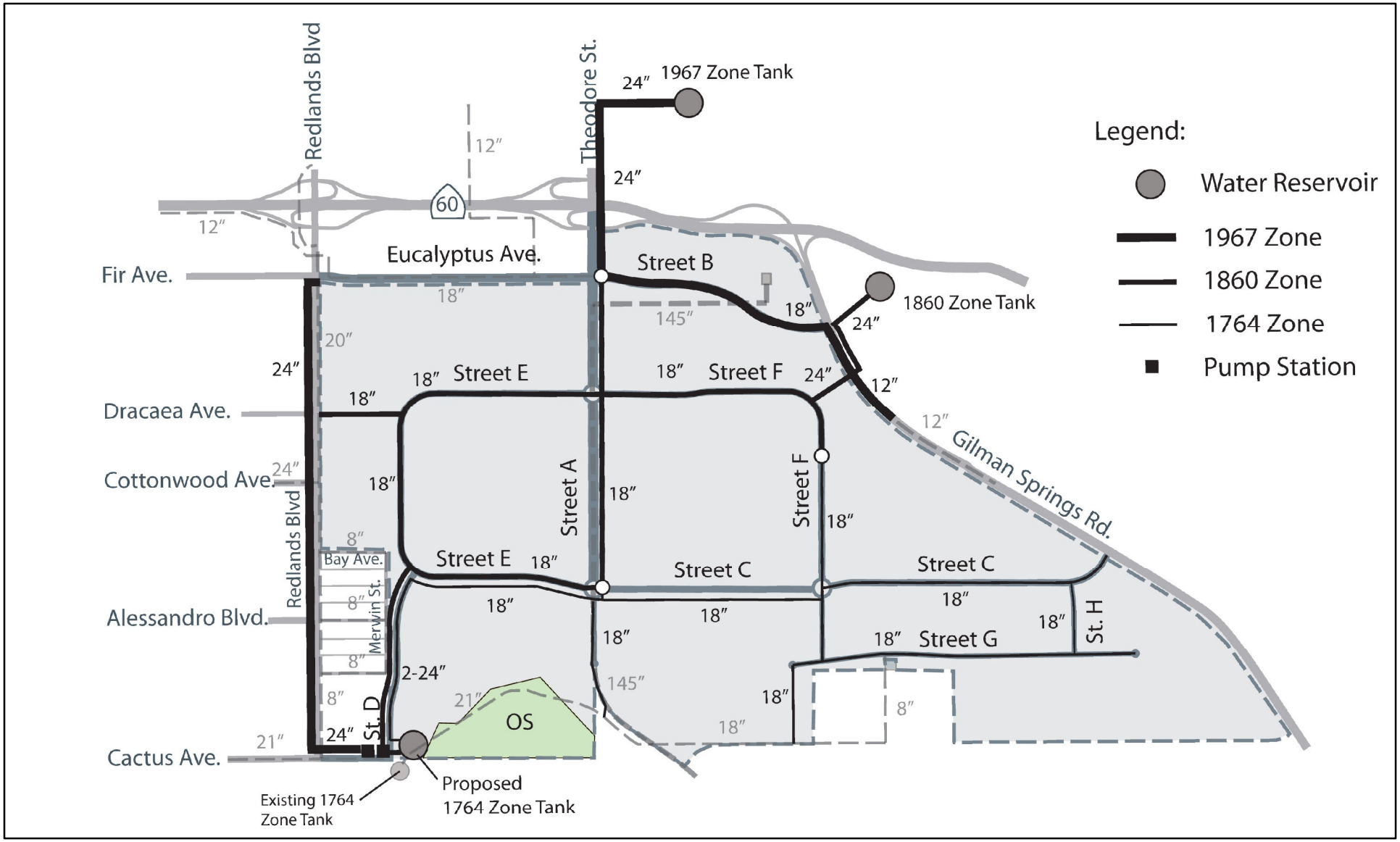

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FIGURE 3.13

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World Logistics Center Project
Environmental Impact Report

Water System

SOURCE: World Logistics Center Specific Plan, Highlandfairview, December, 2012.

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The 2009 EMWD Water Facilities Master Plan (Master Plan) in conjunction with the Moreno Valley Water Pressure Zone Realignment Study (Realignment Study) evaluated the existing and future water needs and facilities required for the Moreno Valley water system. The Master Plan and Realignment Study analyzed the existing water system operating pressures and flows and recommended improvements to the system including realignment of the 1764 and 1900 pressure zones to 1764, 1860, and 1967 pressure zones. The area is currently served by existing pipelines in the 1764 and 1900 pressure zones that range in size from 8-inch to 21-inch diameter pipes (see Figure 3.13). The Master Plan is included in Appendix M of this EIR. The Master Plan indicates that sufficient water is available for potable use and landscaping under expected conditions over a 20-year period.

The MWD owns and operates a 108-inch transmission line that runs north-south through the project area in Theodore Street, and then east-west in Eucalyptus Avenue, east of Theodore Street. Build-out of the proposed project site will require the construction of new water reservoirs to serve each of three water pressure zones (1967, 1860, and 1764). All three reservoir sites are located outside of the Specific Plan boundary. As development proceeds within the project area, new waterlines, ranging in size from 12 to 24 inches, will be constructed in the existing and future street rights-of-way to connect the future water tanks to the development area. The water system will require a new pump station at the 1764 reservoir and an upgrade to the existing EMWD pump station near Cottonwood Avenue and Redlands Boulevard.

All water facilities will be constructed to EMWD standards and will be subject to a Plan of Service approval by EMWD (Specific Plan Section 3.4.1). Previously referenced Figure 3.13 shows the new water system proposed for the project. The EIR will examine potential impacts of onsite and offsite water improvements including these reservoirs as outlined in Appendix M.

Reclaimed/Recycled Water. As stated in EMWD's Water Supply Assessment (Appendix M), EMWD policy recognizes recycled water as the preferred source of supply for all non-potable water demands, including irrigation of recreation areas, greenbelts, open space common areas, commercial landscaping, and aesthetic impoundment or other water features. The proposed project is near an existing recycled water line and EMWD has indicated that in the future, recycled water may be available for the project. If EMWD determines adequate recycled water supply is available, recycled water will be used on the proposed project to the greatest extent practical. The availability, feasibility, and reliability of recycled water use will be included in EMWD's evaluation of the Plan of Service for the project. Landscape irrigation may use potable water until recycled water facilities are in place. Information on reclaimed water is provided in Appendix N.

Wastewater. EMWD provides wastewater service to the project area at EMWD's Moreno Valley Regional Water Reclamation Facility (WRF) located in the southwestern portion of the City near Kitching Street and Mariposa Avenue. The WRF has the capacity to treat 16 million gallons per day (mgd) of wastewater. The analysis provided in Section 4.16, *Utilities and Service Systems*, indicates the WRF has a current excess capacity of 4.5 mgd and the proposed WLCSP would consume 0.3 mgd (6% of excess), so the WLC project does not by itself generate a need for new wastewater treatment facilities.

The primary trunk sewer line serving the project area is located in Redlands Boulevard. This trunk sewer line continues in a southerly direction in Cactus Avenue, JFK Drive, Iris Avenue, and Lasselle Streets conveying wastewater to the WRF (Specific Plan Section 3.4.2). The proposed sewer in Street A and all lines to the west of Theodore (Street A) are a gravity system and run generally southwest to a point of connection at Brodiaea Avenue and Redlands Boulevard. As demand requires, the segment of sewer in Brodiaea Avenue, west of Redlands Boulevard, will be upsized from a 15-inch to a 21-inch line. The sewer system east of Theodore Street (Street A) will flow by

gravity to a future sewer lift station at the southerly project boundary. From there, a force main will carry wastewater in a northwest direction, where it will join the gravity system west of Street A described above. Sewer lines will be located within public street rights-of-way to the greatest degree possible. Some of the buildings may require individual (private) lift stations due to building lengths, location of buildings, and phasing of improvements. Future sewer lines will range in size between 8 and 21 inches, and will be constructed to EMWD standards and will be subject to a plan of service approval. Figure 3.14 shows the proposed sewer/wastewater system for the Specific Plan. Technical studies related to wastewater services are provided in Appendix N.

Storm Water Drainage. The project area is within the San Jacinto River watershed, which is part of the larger Santa Ana River watershed. The storm water runoff from the project generally flows in a southerly direction to the San Jacinto River at an average gradient of 1 to 2 percent. A topographic divide located west of Theodore Street (Street A) separates storm water flows to the San Jacinto River into two subareas. Runoff east of the divide flows through the San Jacinto Valley to the San Jacinto Wildlife Area and ultimately to the Gilman Hot Springs hydro-subarea. Runoff west of the divide flows to the Perris Valley Storm Drain and ultimately the Perris Valley hydro-subarea. Both hydro-subareas eventually flow to the San Jacinto River, approximately 10 miles south of the project site (Specific Plan Section 3.5.4).

The Riverside County Flood Control and Water Conservation District (RCFCWCD) is the responsible agency for the project area's regional flood control system. The westerly portion of the project site is located within the Moreno Master Drainage Plan (MMDP). An existing 12-foot by 8-foot reinforced concrete box (RCB) owned and maintained by RCFCWCD is located east of Redlands Boulevard. This facility collects storm water passing under SR-60 and outlets south of Eucalyptus Avenue where it flows through a spreading basin then across agricultural land. Farther south, the agricultural land drains to an RCFCWCD earthen channel at Redlands Boulevard, which flows to a greenbelt channel located south of Cactus Avenue and east of Redlands Boulevard, which ultimately drains to the Perris Valley Storm Channel.

There is no master plan of drainage on the east side of the project site. The existing drainage facilities consist of open ditches along Theodore Street that convey runoff from adjacent areas and lands northerly of SR-60. A series of existing drainage culverts crosses Gilman Springs Road conveying the off-site runoff from the Badlands through the project site. Four of these culverts drain into natural drainage courses which drain to the south. Based on the latest Flood Insurance Rate Map (FIRM) published by the Federal Emergency Management Agency (FEMA), the project site is not located within a 100-year floodplain.

Development according to the Specific Plan will result in the placement of impervious surfaces on the project site, which would substantially increase the potential for runoff from the site. Post-development flows are required to be equal or less than pre-development flows, so the on-site storm water flows will be routed through a new system of underground drainage lines to a series of on-site detention basins. While the increase in impervious surfaces attributable to the proposed project would contribute to a greater volume and higher velocity of storm water flows, the hydrology report for the project indicates that the proposed detention basins would be designed to accommodate runoff and maintain off-site flows at pre-project conditions. Drainage improvements will be phased as needed to ensure that the peak flows at downstream discharge points at the southerly project boundary will not exceed the peak flows for the existing condition (Specific Plan Section 3.4.4). Figure 3.15 shows the proposed drainage system for the Specific Plan area. The drainage study is included in Appendix J.

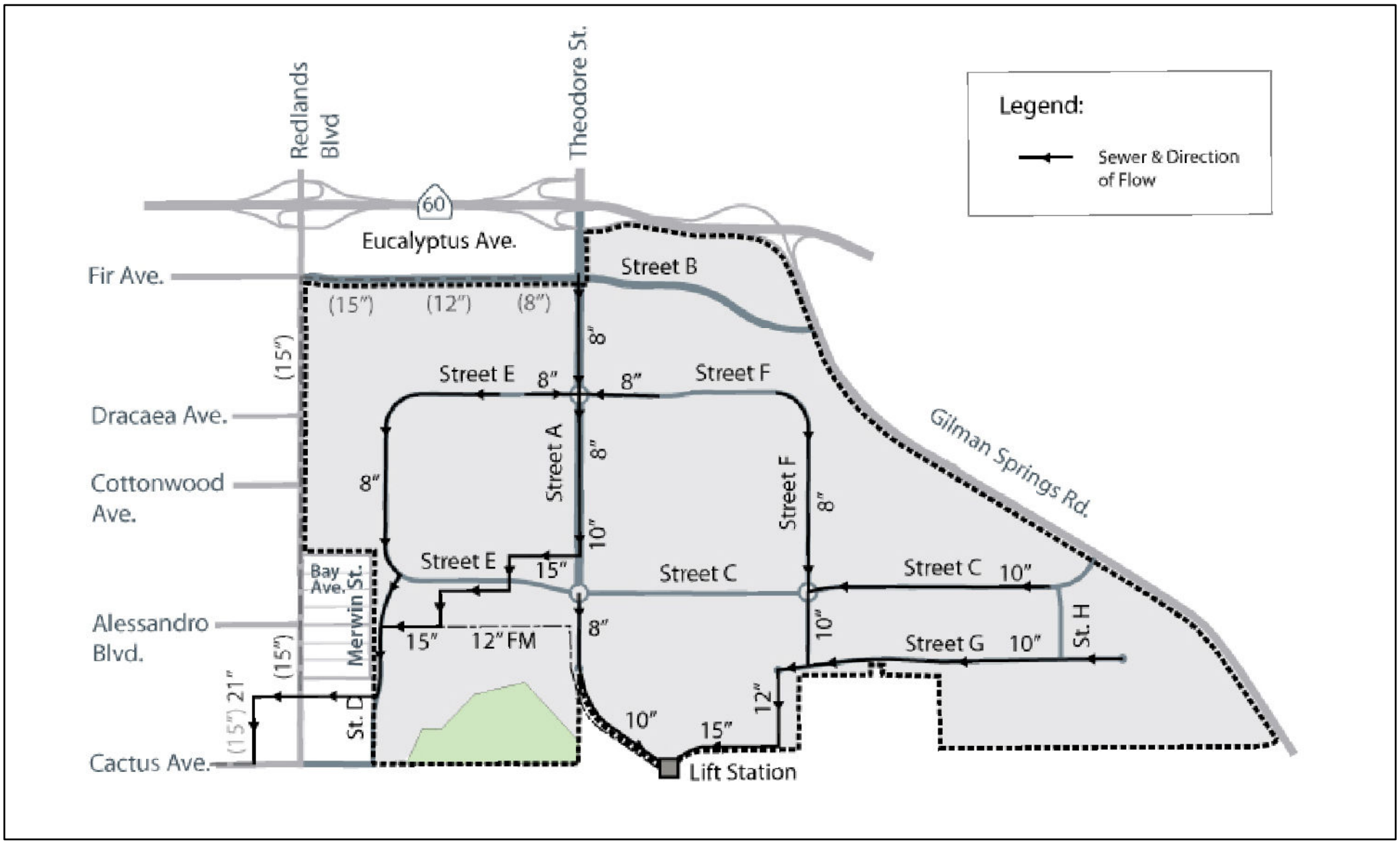

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FIGURE 3.14

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World Logistics Center Project
Environmental Impact Report

Wastewater System

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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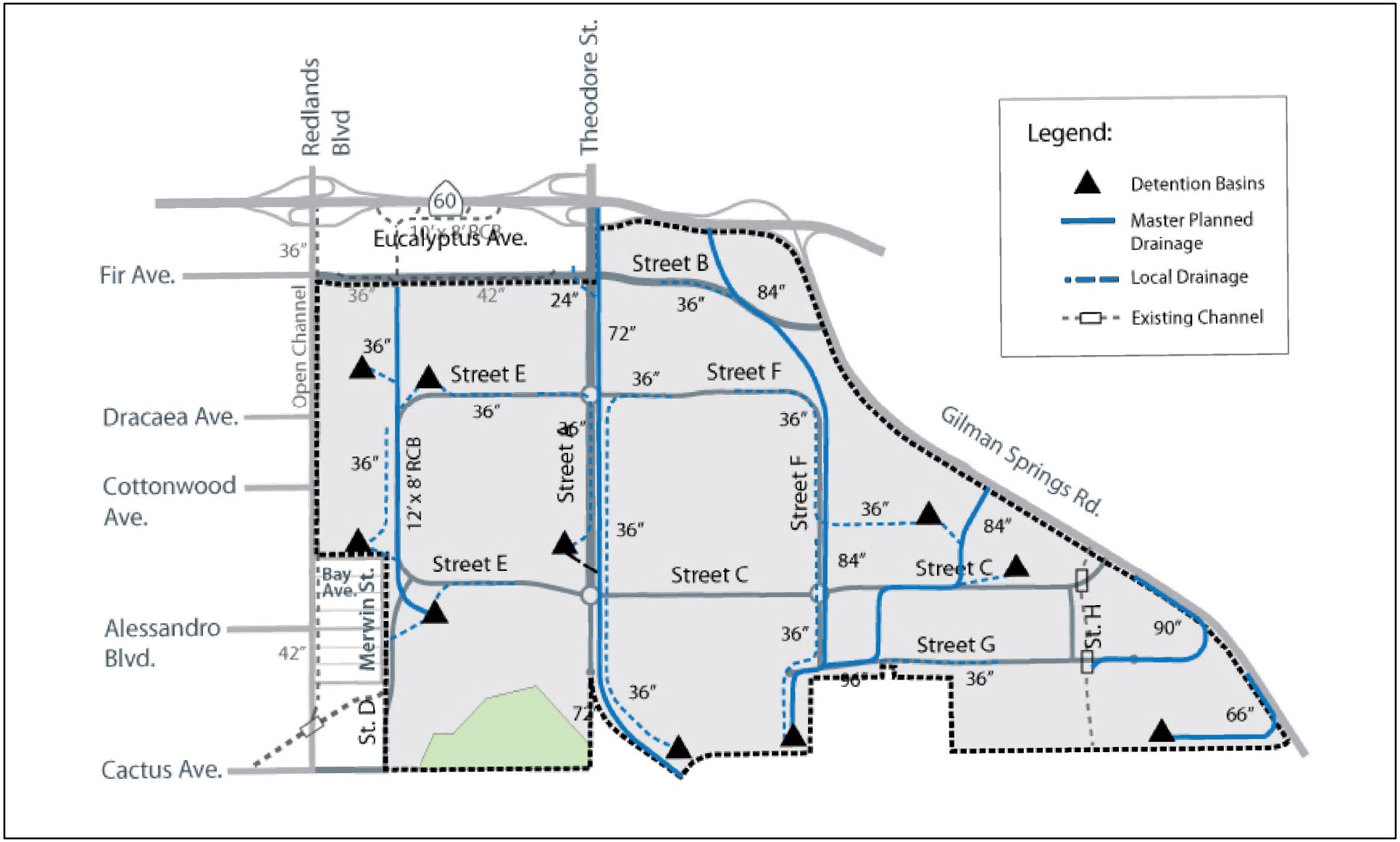

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FIGURE 3.15

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World Logistics Center Project
Environmental Impact Report

Master Drainage System

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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Drainage from east of Gilman Springs Road flows southwest and south out of the Badlands and flows under Gilman Springs Road through corrugated steel pipe culverts. These culverts are relatively small, and during times of high flow, runoff often causes repeated localized flooding along the roadway. When Gilman Springs Road is improved to its ultimate width by the County, improvements will include the installation of larger culverts where needed to eliminate flooding along the roadway.

Solid Waste. The Specific Plan encourages recycling and reducing waste generation. Examples of the recycling processes identified by the Specific Plan include:

- Support recycling programs to sort and store materials destined for landfills;
- Reuse and recycle construction and demolition waste as much as feasible during building construction;
- Encourage the City of Moreno Valley to support by either implementing or expanding recycling and composting programs for businesses;
- Extend the types of recycling services offered (e.g., to include food and green waste recycling);
- Provide public education and publicity about recycling services conducted at the World Logistics Center; and
- Promote recycling programs aimed at supporting sustainable certification programs such as LEED, CalGreen, or similar sustainability programs.

Energy. Moreno Valley Electric Utility (MVEU) is the electricity provider for the World Logistics Center. While it will not provide service within the Specific Plan area, Southern California Edison (SCE) has existing 12 kV and 115 kV overhead power lines throughout the project area. There are SCE 115 kV power lines along Gilman Springs Road, Eucalyptus Avenue east of Theodore Street, Theodore Street north of Eucalyptus Street, and along Brodiaea Avenue/Davis Road to the south. There are also SCE 12 kV power lines along Gilman Springs Road, Theodore Street, Alessandro Boulevard, Eucalyptus Avenue east of Theodore Street, and Redlands Boulevard. MVEU has an existing underground electrical system at the intersection of Dracaea Avenue and Redlands Boulevard. As the project builds out, the Moreno Beach Substation will be expanded to 112 MW and a new 60 MW substation will be constructed to serve the project. Many of the existing 115 kV and 12 kV lines will be relocated as the Specific Plan is built out. Electrical facilities are shown in Figure 3.16.

Important Note: The Specific Plan allows solar photovoltaic (PV) arrays to be installed on the project buildings to help offset the electrical power requirements of the proposed project (i.e., WLCSP buildings will be "solar ready"). It is possible the WLC project could become "energy neutral" and eventually generate all of the electricity needed for developed uses within the WLCSP project during daylight hours. If the project becomes energy neutral, some or all of the electrical utility improvements identified in the previous paragraph may not be needed, but there would still need to be a redundant supply system to supplement any solar systems during cloudy times or at night.

The SCGC is the natural gas provider for the project. An existing 4-inch medium pressure service line is located in Redlands Boulevard. Low-pressure facilities serve the residential area located west of Redlands Boulevard and southwest of Merwin Street and Bay Avenue. Throughout the project, natural gas is transmitted through existing SDG&E underground pipelines serving the Southern California region that range in size from 16 inches to 36 inches. Two 30-inch diameter transmission pipelines run in an east-west direction north and south of Alessandro Boulevard. Three transmission pipelines, 16, 24, and 36-inch diameters run in a north-south direction along Virginia Street, south of Alessandro Boulevard. The 36-inch diameter line also extends east from Virginia Street parallel with the 30-inch line that runs south of Alessandro Boulevard. Figure 3.17 shows planned natural gas facilities.

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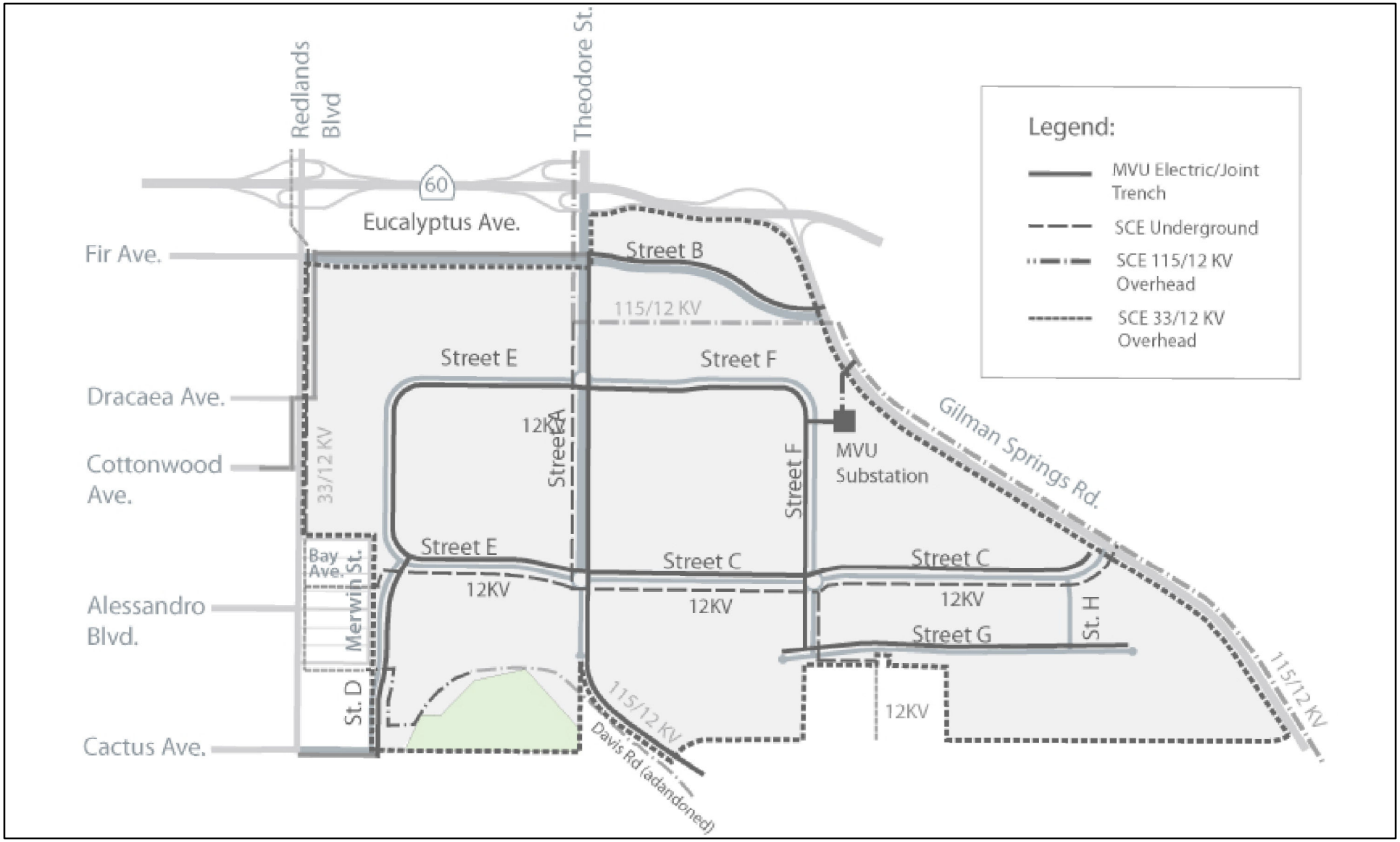

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FIGURE 3.16

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World Logistics Center Project
Environmental Impact Report

Electrical Facilities

SOURCE: World Logistics Center Specific Plan, Highlandfairview, March 20, 2012.

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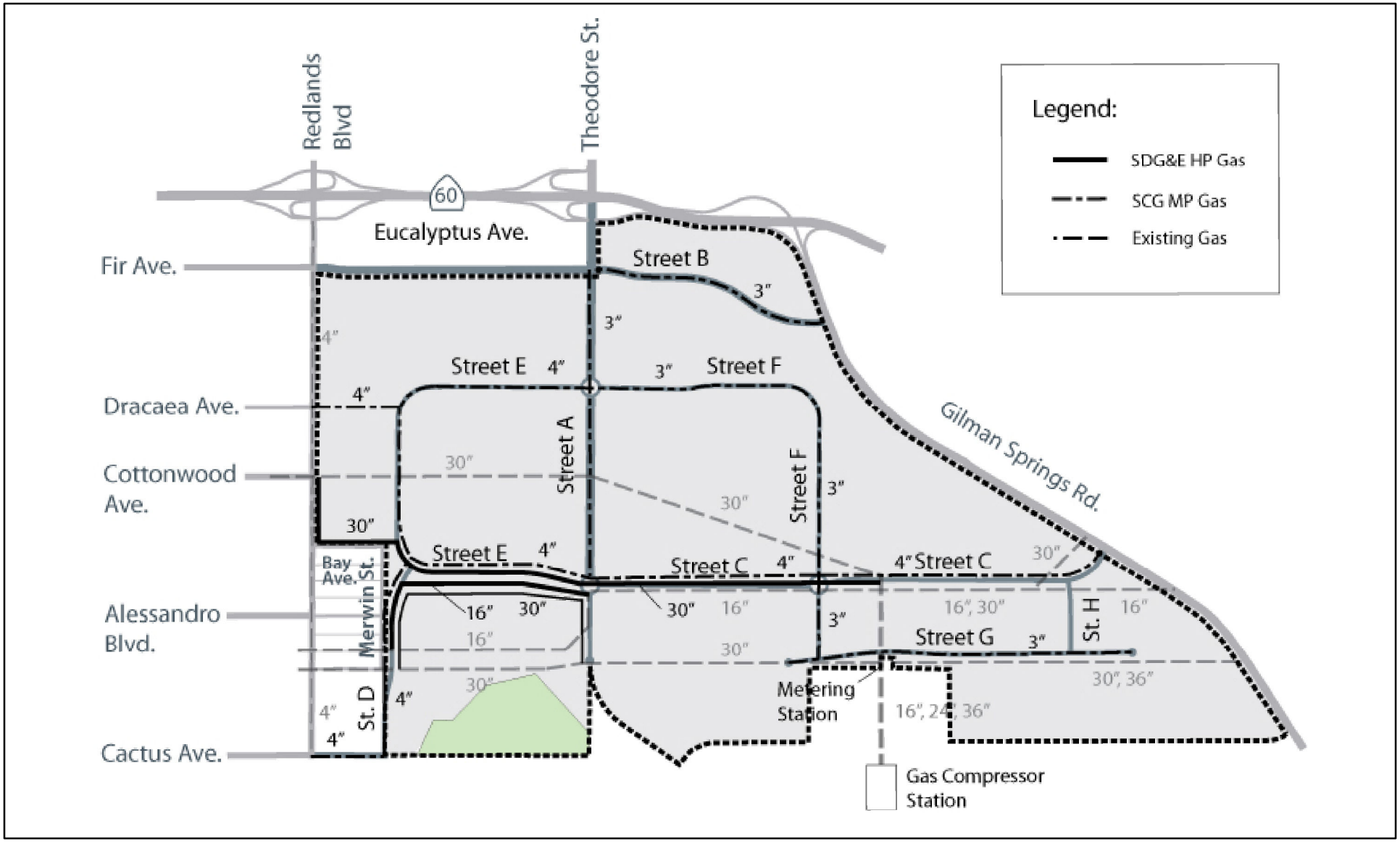

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FIGURE 3.17

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World Logistics Center Project
Environmental Impact Report

Natural Gas Facilities

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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SCGC transmission facilities within the Specific Plan area include a gas line blow-down facility and flow metering station at Alessandro Boulevard and Virginia Street. Farther south on Virginia Street, SDG&E operates the Moreno Compressor Station, which supplies gas to San Diego via 16, 30, and 36-inch transmission pipelines. In addition, Questar, a private utility company, has a 16-inch natural gas transmission line that runs in Alessandro Boulevard from Gilman Springs Road to Theodore Street, where it turns south to Maltby Avenue, and then turns west to Redlands Boulevard.

SCGC has indicated the 4-inch medium-pressure service line that runs in Redlands Boulevard will be extended into the area to service the development. Gas service will be installed in the public street right-of-way or easements as a joint trench with telephone, cable TV, and electrical services. In connection with the development of the property, relocation of some natural gas transmission lines into public street right-of-way or easements will be necessary. SDG&E's Moreno Compressor Station will remain in place.

3.4.6.4 Public Services

Fire protection services in the project area are provided by the Riverside County Fire Department under contract to the City of Moreno Valley. The Fire Department has an existing fire station located on Eucalyptus Avenue just east of Moreno Beach Boulevard. Response times to the project site from this station are approximately 5 minutes. The Fire Department has indicated it is considering future station locations near Redlands Boulevard. As development progresses, fire protection services within the Specific Plan area will continue to be evaluated through the plan development process, and additional facilities and/or services may be needed in the future.
Police service is provided to the project area by the Riverside County Sheriff's Department under contract to the City of Moreno Valley. At present, the City's main police station is at its design capacity, and additional capacity may be needed in the future. No new police facilities are planned on the project site at this time, but the applicant and the City are discussing the need for future facilities.

Park facilities and programs are provided by the City of Moreno Valley. There are no local parks in or adjacent to the project site at present and none are planned with the project. The Lake Perris State Recreation Area is located southwest of the project site.

School facilities and services are provided by the Moreno Valley Unified School District. No school sites are existing in or adjacent to the project site and none are planned.

Library facilities and services are provided to local residents by the City of Moreno Valley. No library facilities are proposed to be included in the Specific Plan area.

3.4.7 Sustainability

Site and building design within the Specific Plan area will incorporate many sustainability and green building concepts. Green building is the practice of increasing building efficiency through site planning, water and energy management, material use, control of indoor air quality, and the use of innovative design concepts. These practices help to improve building operational efficiency, conserve water, reduce waste, and lessen the heat island effect of development.

All buildings within the project will comply with the 2010 Title 24 California Building Code. Adopted in 1978 in response to the energy crisis of the 1970s and updated every five years by the California Energy Commission (CEC), California's Title 24 contains the strictest and most energy-efficient building code in the nation. The new 2010 Title 24 Building Codes are called California's "Green Building" codes because they create energy efficiencies of up to 30 percent in some categories above and beyond the energy efficiencies achieved under the previous versions of Title 24.

The CEC adopted the 2008 changes to the Building Energy Efficiency Standards for a number of compelling reasons as follows:

1. To provide California with an adequate, reasonably-priced, and environmentally-sound supply of energy.
2. To respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates California reduce its greenhouse gas emissions to 1990 levels by 2020.
3. To pursue California policy that energy efficiency is the resource of first choice for meeting California's energy needs.
4. To act on California's Integrated Energy Policy Report (IEPR) findings that Standards are the most cost-effective means to achieve energy efficiency, that the Building Energy Efficiency Standards will continue to be upgraded over time to reduce electricity and peak demand, and that the Standards will play a role in reducing energy related to meeting California's water needs and in reducing greenhouse gas emissions.
5. To meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards.

The Specific Plan requires sustainable development standards so that new development within the project area minimizes energy consumption, conserves water, and uses recycled or sustainable building materials, where feasible. It provides developers with a specific framework for identifying and implementing a variety of practicable and measurable green building design, construction, operations, and maintenance. All new development within the project area will be required to be designed to meet the CEC standards in effect at the time construction commences (WLCSP Section 1.2.2). In addition, buildings within the Specific Plan will be designed to be "solar ready" (i.e., allowthe installation of solar photovoltaic systems on the roof of each building)(WLCSP Section 1.2.2, *Green Building – Sustainable Development*).

The sustainability guidelines for the World Logistics Center serve the following functions to:

- Assist in meeting California's greenhouse gas reduction targets as set forth through Executive Order S-3-05 and Assembly Bill 32 (also known as the Global Warming Solutions Act);
- Assist in the region's development of a sustainable communities strategy pursuant to Senate Bill 375;
- Assist in meeting other state and local goals and requirements, including Assembly Bill 1385, The Complete Streets Act;
- Establish practical and innovative solutions for the developer, business, and residential community to improve resource efficiency and reduce consumption of energy, water, and raw materials; and
- Support waste management reduction identified in AB 341.

3.4.7.1 Building Design and Construction

The Specific Plan requires sophisticated construction techniques that will provide pollution prevention and control such as noise, air quality, erosion, and sediment controls. Both site planning and future building design will require best practices for use of recycled materials and products, such as recycled steel, and crushed concrete and pavement materials.

Low-emitting volatile organic compound (VOC) building materials will be required to be used on site. Project design will allow the incorporation of alternative energy sources such as rooftop solar systems

(i.e., “solar ready” buildings) or other technologies reasonably available at the time of development. Project design and construction techniques will be employed to reduce the heat island effect, which creates thermal gradient differences between developed and undeveloped areas. Such techniques will include the use of materials that have a low solar reflectance index such as white roofs and light-colored pavements.

All development within the Specific Plan will require the preparation of a waste management plan requiring the diversion of at least 50 percent of waste from landfill. This goal will be achieved through a comprehensive recycling and management program including storage and collection of recyclables, building and material reuse, and careful construction waste management.

The Specific Plan will incorporate the use of passive heating and cooling into the design or modification of the high-cube warehouse development (e.g., white building colors and roof insulation to minimize heat gain, and landscaping to help shade buildings).

3.4.7.2 Landscaping

The Specific Plan requires development to install xeriscape or drought-tolerant landscaping that requires minimal irrigation and to utilize on-site runoff into landscaped areas as much as possible for landscape irrigation.

3.4.7.3 Water Usage

Under the requirements of the Specific Plan, the project will employ water reduction and conservation principles, which will include advanced irrigation systems, drought-tolerant plants, the use of mulch, recycled and other permissible alternative sources of water, and turfless plantings with alternative landscaping materials such as rock and other materials that do not require potable water sources. The final design will be used to calculate the site’s water demand. The annual maximum allowable water budget (AMAWB) will be compared to the estimated annual water use (EAWU) to ensure that the design meets EMWD guidelines.

3.4.7.4 Storm Water Quality

Through implementation of the design standards in the Specific Plan, the project will incorporate storm water quality measures including infiltration basins, bioretention facilities, and extended detention basins to reduce pollutants in storm water (Specific Plan Section 4.9). Future development projects will be required to implement a Water Quality Management Plan (WQMP) in accordance with the National Pollutant Discharge Elimination System (NPDES) Permit Board Order R8-2010-0033. The current approved Riverside County WQMP for Urban Runoff addresses the Municipal Separate Storm Sewer Systems (MS4) NPDES permit. The most recent WQMP for the Santa Ana Region of Riverside County addresses the latest MS4 NPDES permit requirements. Projects identified as a “Priority Development Project” will be required to prepare a project-specific WQMP. The MS4 Permit mandates a Low Impact Development (LID) approach to storm water treatment and management of runoff discharges. Site-specific projects will be designed to minimize imperviousness, detain runoff, and infiltrate, reuse, or evapotranspirate runoff where feasible. LID design will be used to infiltrate, evapotranspirate, harvest and use, or treat runoff from impervious surfaces, in accordance with the *Design Handbook for Low Impact Development Practices*.

The project should also ensure that runoff does not create any hydrologic conditions of concern. The Regional Water Quality Control Board (RWQCB) continuously updates impairments as studies are completed. The most current version of impairment data should be reviewed prior to preparation of

the Preliminary and Final Project-Specific WQMP (WLC Specific Plan Section 4.9, *Water Quality Site Design*).

The WLC Specific Plan contains extensive site design, source control, and treatment control Best Management Practices (BMPs) that will be analyzed in detail in Section 4.9, *Hydrology and Water Quality* of this EIR.

3.4.8 Architectural Design Guidelines

Sections 4.1 and 5.2 of the Specific Plan contain the architectural and building design standards that will be applicable to all future off-site conditions and specific on-site development proposals. The design standards provide for attractive, functional, compatible contemporary designs, which can also minimize energy consumption and the production of greenhouse gases, helping to reduce the project's contribution to global climate change. These Specific Plan sections include typical building elevations, cross-sections, and photographic renderings that illustrate how future development will appear. The architectural guidelines also address project details such as building setbacks, walls, fences, building materials, and colors.

Section 5.2.3 of the Specific Plan establishes building height limitations throughout the project, as shown in previously referenced Figure 3.9. Building heights are limited to 60 feet at the perimeter of the project and 80 feet on the interior. For buildings over 60 feet in height only 20 percent of the building may exceed 60 feet. The WLC Specific Plan contains a provision that portions of buildings could be raised an additional 10 feet to accommodate interior facilities (i.e., elevator shafts) and design elements.

3.4.9 Landscaping Design Guidelines

Sections 4.2 and 5.3 of the Specific Plan provide landscaping guidelines for the project. The intent of these guidelines is to develop a landscape program that reduces the use of mechanical irrigation systems, maximizing the collection and use of rainfall to irrigate carefully designed landscape areas. The Specific Plan includes a plant palette specifically designed for the project site to consume significantly less water than conventional landscaping concepts. The Specific Plan contains an extensive palette of drought-tolerant plants.

The Specific Plan calls for a more substantial landscape treatment to be installed along the western boundary of the site, near existing residences, to provide an aesthetic buffer between the housing and the planned warehouse buildings and truck activity areas. For areas not along the western boundary, landscaped areas would be grouped by water needs and only utilize drip irrigation systems along Theodore Street and the perimeter of the project. Irrigation systems would be designed to irrigate at no more than 70 percent[1] of the plant groups' reference evapotranspiration rate (minimum required water for the plant groups' survival), and would be designed to minimize water runoff onto sidewalks or streets. The project will direct runoff to landscaped areas and employ techniques to promote percolation and water capture at the root zone, reducing the need for mechanical irrigation.

Section 5.3 of the WLCSP requires future development to consider the following water conservation measures: macro and micro climates, solar exposure, prevailing wind conditions; site analysis of, seasonal temperature patterns, soils and drainage, grades, and slopes; use of historical evapotranspiration rates and weather station (CIMIS) data; use of planting zones coordinated according to plant type, climatic exposure, soil condition and slope to facilitate use of zoned irrigation systems; use

[1] Per the California Code of Regulations, Title 23 Waters Division, Department of Water Resources, Ch. 2.7 Model Water Efficient Landscape Ordinance, the County of Riverside Water Efficient Landscape Requirements Ordinance No. 859, and the Eastern Municipal Water District (EMWD) 2010 Urban Water Management Plan, or current Urban Water Management Plan.

of low water or drought-tolerant plant species in landscape areas served by potable water; audit of water use and certification by a licensed landscape architect that the irrigation system was installed and operates as designed; use of reclaimed water systems if available and practical, use of best available irrigation technology to maximize efficient use of water, including moisture sensors, multi-program electronic timers, rain shutoff devices, remote control valves, drip systems, backflow preventers, pressure reducing valves and matched output sprinkler heads; use of gate valves to isolate and shut down mainline breaks; design to meet peak moisture demand of all plant materials within design zones, while avoiding flow rates that exceed infiltration rate of soil; design to prevent overspray or discharge onto roadways, non-landscaped areas or adjacent properties; and timing of irrigation cycles to operate at night when wind, evaporation and people activities are at a minimum.

3.4.10 Lighting Design Guidelines

Section 7.0 of the Specific Plan contains guidelines for site lighting within the Specific Plan. The regulations prohibit direct light spillage onto adjacent properties, especially the San Jacinto Wildlife Area to the south (Section 4.3), while providing sufficient light for nighttime activities and project security. The project will incorporate the design standards adopted by Ordinance 851 which established more strict controls on outdoor lighting.

3.4.11 Off-site Improvements

Development within the Specific Plan will require various infrastructure improvements, some of them located off site. Local roadways and intersections affected by project traffic will be improved as outlined in the project Traffic Impact Analysis (TIA). Electrical service will be extended from the Moreno Beach substation to the project. Electric power lines along Gilman Springs Road will be relocated when that road is widened. Providing potable water to the site will require the construction of three new reservoirs, one north of SR-60 off of Theodore Street, one east of Gilman Springs Road near the northeast corner of the site, and one west of the project site off of Cottonwood Avenue (see Figure 3.13). Street D will be extended off-site to the south to connect with the eastern end of Cactus Avenue (see Figure 3.16), and a four-inch gas line will be constructed within this street extension (see Figure 3.16). A 21-inch sewer line will be extended to the west from the southwest corner of the site (see Figure 3.17) from D Street. The existing County drainage channel near the southwest corner of the site will be improved to handle increased flows from project runoff. At such time as traffic demand dictates, the Theodore Street interchange on SR-60 will be reconstructed to accommodate project traffic. All of the off-site improvements needed to support development of the Specific Plan are shown in previously referenced Figure 3.7. This EIR examines the impacts of these off-site improvements on approximately 104 acres of off-site land that they affect.

3.4.12 Grading and Excavation

Approximately 42 million cubic yards (cy) of cut and fill will be required to rough/mass grade the entire project site, including remedial grading and overexcavation. Earthwork will balance on site within the Specific Plan, eliminating the need to import or export dirt for the project. See Figure 3.18 for the conceptual grading plan.

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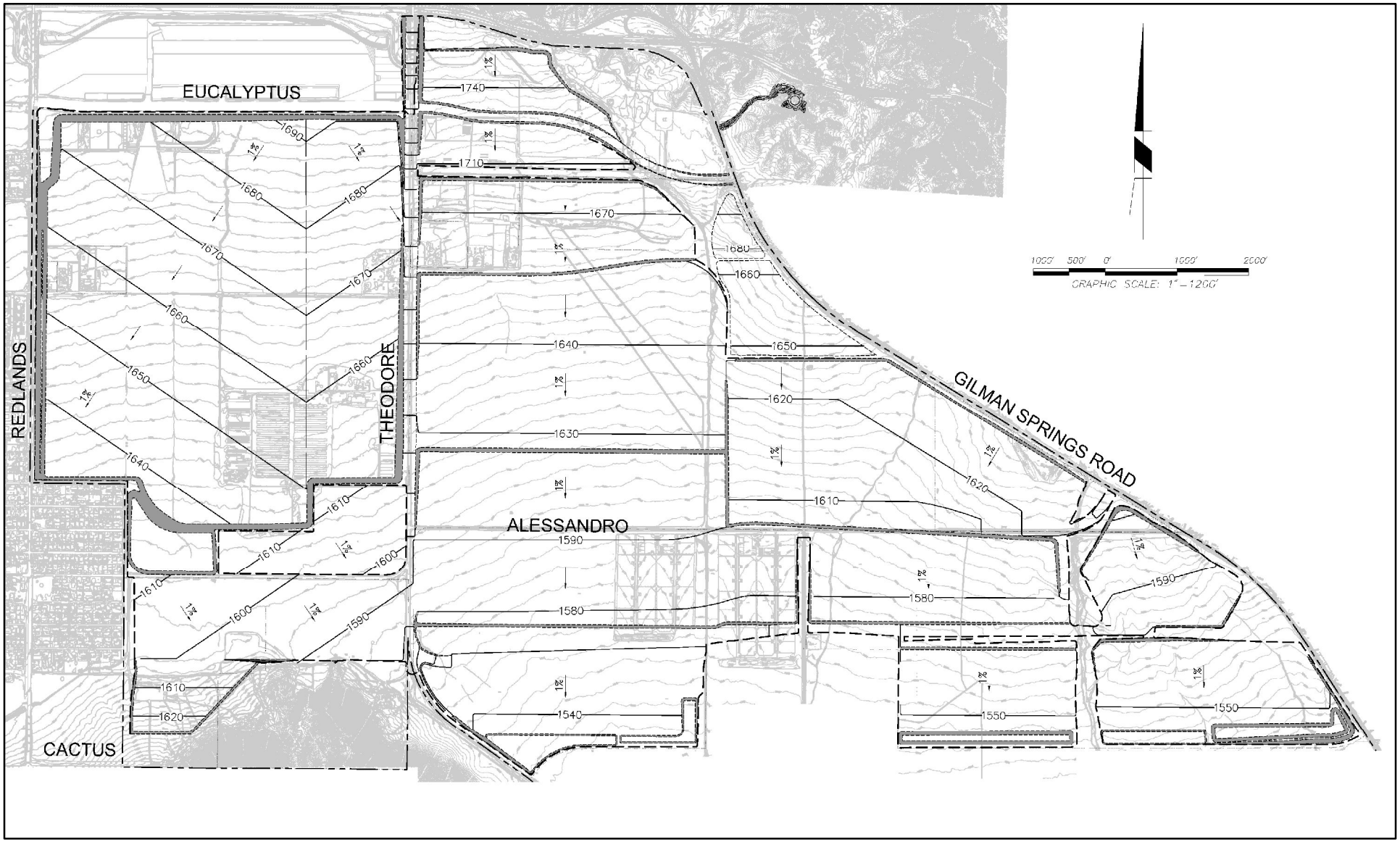

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FIGURE 3.18

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SOURCE: RBF Consulting, 2012

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World Logistics Center Project
Environmental Impact Report

Conceptual Grading Plan

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3.4.13 Phasing

Development of the Specific Plan is planned over a period of ten years, from 2013 through 2022. Under this projected development schedule, the project will absorb an average of approximately 4 million square feet of new development each year from 2013 to 2022, with actual development phasing based on future market conditions. Section 2.2 of the Specific Plan, *Project Phasing*, suggests that development will likely occur in two large phases, starting in the western portion of the site south of Eucalyptus Avenue This phasing concept is based on beginning construction where infrastructure presently exists and expanding southerly and easterly. Figure 3.19 shows the proposed phasing plan.

As stated in the Specific Plan, project phasing predictions are conceptual. The actual amount and timing of development will be dependent upon numerous factors, many of which are outside the control of the City or the developer, including interest by building users, private developers and local, regional, and national economic conditions. These and other factors acting together will ultimately determine the location and rate at which development within the project area occurs.

City adoption of the project will establish the framework for development of the area in accordance with the Specific Plan, which identifies the type and intensity of land uses permitted within the project. It is anticipated that development of the project would occur over time, as the result of the construction of multiple separate independent projects of varying sizes and configurations. Each of these future projects would be required to be consistent with the General Plan and zoning and would comply with all applicable regulations of the Specific Plan. Table 3.D provides an estimate of the rate at which the project area could be built out, consistent with the Specific Plan, and estimated levels of construction projected to occur during each phase of development. Table 3.D also includes the approximate amount of equipment anticipated to be used during construction of the project.

3.4.14 Construction Hours

Similar to the Highland Fairview Corporate Park, construction of warehousing buildings within the Specific Plan will occur on a 24 hour-a-day, 7 day-a-week basis. This is necessitated by the extensive use of poured concrete in the construction of building sites and the logistics buildings themselves. Major concrete pours are most efficiently and economically done in the cooler night and early morning hours. Additionally, the large number of concrete delivery trucks necessary for this construction has a minimal traffic impact in the nighttime hours.

The City's Municipal Code contains the following language regarding construction hours:

> ***Section 8.14.040*** *Hours of Construction. Any construction within the city shall only be as follows: Monday through Friday (except for holidays which occur on weekdays), six a.m. to eight p.m.; weekends and holidays (as observed by the city and described in Chapter 2.55 of this code), seven a.m. to eight p.m., unless written approval is obtained from the city building official or city engineer.*
>
> ***Section 8.21.050*** *Time of Grading Operations. Grading and equipment operations shall only be completed between the hours of seven a.m. and six p.m. Monday through Friday, excluding holidays and from eight a.m. to four p.m. on weekends and holidays. The city engineer may, however, permit grading or equipment operations before or after the allowable hours of operation if he or she determines that such operations are not detrimental to the health, safety, or welfare of residents or the general public. Permitted hours of operations may be shortened by the city engineer's finding of a previously unforeseen effect on the health, safety, or welfare of the surrounding community.*

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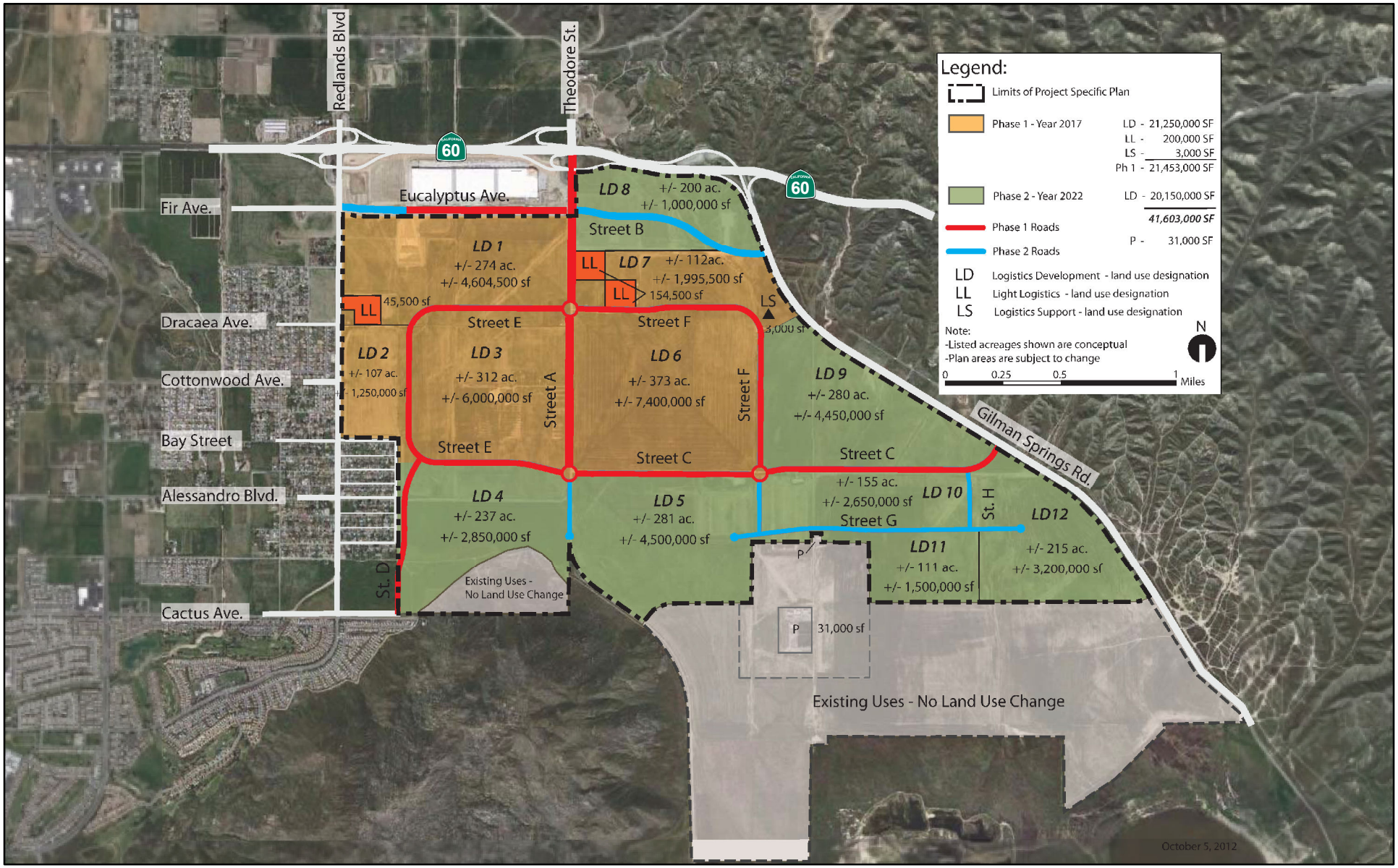

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FIGURE 3.19

World Logistics Center Project
Environmental Impact Report

Project Phasing

SOURCE: Highland Fairview, October 5, 2012.

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Table 3.D: Estimated Construction Equipment and Phasing (2013–2022)

Activity/Equipment	#	Duration (months)	Phase 1 (2013–2017)		Phase 2 (2018–2022)	
			Start	End	Start	End
Mass Grading						
Dozers (D9, D10)	6	24	January 2013	December 2013	January 2017	December 2017
Scraper (657)	60					
Compactor (834)	3					
Water Pull (truck)	6					
Motor Grader (14M)	2					
Service/Support Truck	10					
Finish Grading						
Dozer (D5, D6)	2	12	January 2013	January 2014	January 2017	May 2018
PW Scraper (623)	3					
Water Truck	2					
Motor Grader (14M)	2					
Service/Support Truck	4					
Building						
Backhoe (430)	30	102	April 2013	December 2016	April 2017	December 2021
Concrete Truck	50					
Screed Machine	3					
Crane	2					
Man Lift	20					
Generator (temp power)	20					
Material Delivery Trucks	20					
Forklift	20					
Water Truck	2					
Skip Loader (414)	10					
Service/Support Truck	80					
Utilities						
Excavator (324)	6	54	April 2013	June 2015	April 2017	June 2019
RT Wheel Loader (950)	6					
Water Truck	6					
Backhoe (430)	6					
Service/Support Truck	15					
Interchange						
Dozer (D9, D10)	1	18	—	—	January 2018	June 2019
PW Scraper (823)	1					
Excavator (324)	1					
Backhoe (430)	1					
Crane	1					
Concrete Truck	1					
Service/Support Truck	4					
Drill Rig	1					
Dump Truck	5					
RT Wheel Loader (950)	1					
Concrete Screed Mach.	1					
Skip Loader (414)	1					
Dozer (D5, D6)	1					
Motor Grader (14M)	1					

Table 3.D: Estimated Construction Equipment and Phasing (2013–2022)

Activity/Equipment	#	Duration (months)	Phase 1 (2013–2017)		Phase 2 (2018–2022)	
			Start	End	Start	End
Curbing						
Motor Grader (14M)	1	15	October 2013	July 2015	January 2018	July 2019
Skip Loader (414)	2					
Concrete Truck	3					
Service/Support Truck	5					
Paving						
Motor Grader (14M)	2	7	January 2014	December 2015	August 2018	December 2019
RT Wheel Loader (950)	1					
Skip Loader (414)	2					
PW Scraper (623)	2					
Water Truck	2					
Roller-Smooth Drum	2					
Bottom Dump Truck	8					
Paving Mach (AP10550)	2					
Service/Support Truck	5					
Landscaping						
Skip Loader/Backhoe	4	96	July 2013	December 2016	June 2017	December 2021
Water Truck	2					
Crane/Lift	1					
Trencher	4					
Service/Support Truck	6					

Source: Highland Fairview, March 6, 2012

If necessary, future developers within the WLCSP can apply to the City for extended hours of operation under the Municipal Code guidelines, as outlined in Condition of Approval #7 for the Highland Fairview Corporate Center (Skechers):

> *Construction and Demolition. No person shall operate or cause the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of eight p.m. and seven a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city engineer or designee.*

3.4.15 Specific Plan Implementation

Although financial and economic parameters of a project are not typically included in an EIR, the size and complexity of the Specific Plan project dictate that a certain amount of this information be included in the EIR to demonstrate that the project is feasible and that the City will not incur undue risk relative to the installation of public infrastructure and other facilities and services (Specific Plan Section 10.0).

Funding for the transportation, infrastructure, and other improvements identified in the Specific Plan would be provided by a variety of sources. For example, Highland Fairview would construct certain backbone roads at the outset of project development then future development would install road connections and on-site improvements. All projects would contribute to the City's Development Impact Fee (DIF) program to help fund future roadway improvements in the immediate surrounding City area. In addition, future development would contribute to the County's Transportation Uniform Mitigation Fee (TUMF) program to fund identified regional improvements such as the SR-60 ramps at

Redlands Boulevard. The Specific Plan contains a discussion of potential financing measures and mechanisms the City would need to enact, adopt, or participate in for the proposed infrastructure improvements

One of the available regional infrastructure funding mechanisms is the TUMF managed by the Western Riverside Council of Governments (WRCOG). The primary purpose of the TUMF program is to fund regional transportation improvements. The TUMF program has become a key way to ensure that growth does not create gridlock on regional and local thoroughfares. Under the TUMF program, Western Riverside County is divided into five zones, with the Specific Plan located in the "Central" zone. The TUMF is structured so that 48.7 percent of funds generated in each zone go back to that zone to be programmed for projects. Another 48.7 percent is allocated to regional inter-zone projects programmed by the Riverside County Transportation Commission (RCTC), and 2.6 percent is allocated for regional transit projects programmed by the RTA. TUMF-eligible roadways within the proposed project include Redlands Boulevard, Alessandro Boulevard, Gilman Springs Road, and freeway interchanges at Gilman Springs Road and Redlands Boulevard.

The City of Moreno Valley has implemented a Capital Improvement Program (CIP) that is closely linked to the City DIF program. According to the 2011–2012 CIP, the City has experienced a reduction in DIF as well as other development-related funding sources. The current CIP reflects the new projects that have been funded. DIF funding is collected for "Arterial Streets," "Interchange Improvements," and "Traffic Signals." The CIP describes approximately $1.66 billion in capital projects through build out of the City.

There are several identified CIP projects within the project area including traffic signals along Alessandro Boulevard at Redlands Boulevard, Sinclair Street, Theodore Street, Virginia Street, and Gilman Springs Road; Eucalyptus Avenue at Redlands Boulevard, Sinclair Street, Theodore Street, Virginia Street, and Gilman Springs Road; and SR-60 eastbound ramps at Theodore Street, and westbound ramps at both Theodore Street and Redlands Boulevard. Future street improvements within the project area include SR-60 interchanges at Redlands Boulevard and/or Theodore Street, and Gilman Springs Road; although these are included in the City CIP program, the funding sources are TUMF and private developer contributions. Other future CIP identified street improvements include Alessandro Boulevard through the project area, Eucalyptus Avenue, Gilman Springs Road (within the city limits), Theodore Street, and Virginia Street. Updates to the CIP program may include future streets within the WLC project.

3.5 GENERAL PLAN AMENDMENT

Approval of the project includes amendments to the following General Plan text and Elements:

1. **Community Development Element**
    a. Revise Land Use Map (Figure 2-2)
    b. Revise Section 2.1.1

        … several City of Moreno Valley facilities, including city hall, the public safety building and the animal shelter<u>. A major logistics center is planned southerly of SR-60 between Redlands Boulevard and Gilman Springs Road.</u> There are two full service hospitals … (page 2-1)

    c. Revise Section 2.1.3

        … intersection of Virginia Street and Gato del Sol. ~~The acquisitions encompasses about one third of the land within the Moreno Highlands Specific Plan.~~

~~Neither of the aforementioned land purchases are likely to be developed as envisioned in the original specific plan, and are likely to remain substantially vacant. In that the Moreno Highlands Specific Plan Development Agreement precludes the City from making unilateral changes to the specific plan land sue plan, no change were recommended for the Moreno Highland Specific Plan as part of the General Plan Update.~~

2. Parks, Recreation and Open Space Element

a. Revise Open Space Map (Figure 4-1)(page 4-2).

b. Revise Future Parkland Acquisition Areas map (Figure 4-2)(page 4-6).

c. Revise Master Plan of Trails (Figure 4-3)(page 4-13).

3. Circulation Element

a. Revise discussion on Industrial Development (Section 5.3.2.2).

Industrial and business park development is concentrated in the southern part of the City, located south of Iris Avenue and north of San Michele Road to the Perris city limits, and in the eastern part of the City, generally between Redlands Boulevard and Gilman Springs Road. This development … (page 5-7)

4. Safety Element

a. Revise section re: Fire and Emergency Services (Section 6.2).

b. Revise Fire Stations map (Figure 6-1)(page 6-8).

c. Revise Geologic Faults and Liquefaction map (Figure 6-3).

d. Revise discussion on Flood Hazards (Section 6.8).

e. Revise Flood Hazards map (Figure 6-4).

f. Revise Build-Out Noise Contours map (Figure 6-5).

5. Conservation Element

a. Revise Scenic Resources section (Section 7.7).

b. Revise Major Scenic Resources map (Figure 7-2)(page 7-13).

6. Goals and Objectives

a. Revise section on industrial uses to reference LD and LL categories.

b. Revise Objective 2.5.

Policy 2.5.2: The primary purpose of the areas designated Logistics Development is to provide for large, high-cube logistics warehouse uses of a minimum size of 500,000 square feet with a minimum clear height of 30 feet to accommodate modern, highly-automated warehouse facilities. The properties so designated should be subject to a Specific Plan to establish design standards and architectural guidelines to guide the development of these specialized buildings. Development intensity should not exceed a Floor Are Ratio of 1.0.

Policy ~~2.5.2~~ 2.5.3: Locate manufacturing and industrial uses to avoid adverse impacts on surrounding land uses.

Policy ~~2.5.3~~ 2.5.4: Screen manufacturing and industrial uses where necessary to reduce glare, noise, dust, vibrations, and unsightly views.

Policy ~~2.5.4~~ 2.5.5: Design industrial developments to discourage access through residential areas.

c. Revise Objective 2.8 to include non-residential land uses in description of "mixed-use" projects.

d. Revise Circulation Plan (Figure 9-1)(page 9-26).

e. Revise LOS Standards map (Figure 9-2)(page 9-28).

f. Revise Bikeway Plan map (Figure 9-4)(page 9-29).

g. Revise section on scenic vistas (Objective 7.7).

3.6 PROJECT OBJECTIVES

The purpose of the proposed project is to provide a new master-planned facility specializing in logistics warehouse distribution services. Section 1.2.1, *Development Goals*, of the WLC Specific Plan outlines the following overall objectives for the proposed WLC Specific Plan:

- Create substantial employment opportunities for the citizens of Moreno Valley and surrounding communities.
- Provide the land use designation and infrastructure plan necessary to meet current market demands and to support the City's Economic Development Action Plan.
- Create a major logistics center in Rancho Belago with good regional and freeway access.
- Establish design standards and development guidelines to ensure a consistent and attractive appearance throughout the entire project.
- Establish a master plan for the entire project area to ensure that the project is efficient and business-friendly, accommodating the next-generation of logistics buildings.
- Provide a major logistics center to accommodate the ever-expanding trade volumes at the Ports of Los Angeles and Long Beach.
- Create a project that will provide a balanced approach to the City's responsibilities of fiscal viability, economic expansion, and environmental integrity.
- Provide the infrastructure improvements required to meet project needs in an efficient and cost-effective manner.
- Encourage new development consistent with regional and municipal service capabilities.
- Significantly improve the City's jobs/housing balance and help reduce unemployment within the City.
- Provide thousands of construction job opportunities during the project's build-out phase.
- Provide appropriate transitions or setbacks between on-site and off-site uses.

3.7 REQUIRED DISCRETIONARY ACTIONS AND PERMITS

3.7.1 City of Moreno Valley – Current Approvals

This Program EIR is intended to inform the City of Moreno Valley decision-makers and the general public of the environmental consequences of the proposed project. Entitlements being analyzed in this EIR include a General Plan Amendment, adoption of a Specific Plan, a Zone Change, a Development Agreement, a Tentative Parcel Map, and annexation of an 85-acre parcel along Gilman Springs Road. The City of Moreno Valley is the Lead Agency for the proposed project, but discretionary actions may also be required by other agencies (see Section 3.6.3).

The following discretionary actions are anticipated to be taken by the City of Moreno Valley as part of the proposed project:

3.7.1.1 Environmental Impact Report

Before taking action on the project, the City must certify that the EIR prepared for the project is adequate and represents the independent judgment of the City as the Lead Agency under CEQA.

3.7.1.2 General Plan Amendment

The General Plan Amendment proposes a revision to the City General Plan land use designations for 3,814 acres and creates a new General Plan land use category for "Logistics Warehousing." The General Plan Amendment also includes amendments to several other elements, including the Community Development Element, the Parks, Recreation and Open Space Element, the Circulation Element, the Environmental Safety Element, and the Conservation Element to make them consistent with the proposed project (see previous Section 3.5, *General Plan Amendment*).

3.7.1.3 WLC Specific Plan

The proposed project includes a Specific Plan to implement the amended General Plan and to set forth comprehensive land use regulations governing the development of the proposed project. The World Logistics Center Specific Plan is a master plan for a 2,710-acre site for the development of up to 41.6 million square feet of modern high-cube logistics and related warehouse distribution facilities defined as Logistics Development and Light Logistics. The Specific Plan establishes the master plan of development for the project area, including development standards and use regulations, a master plan for circulation and infrastructure, architectural, landscape and design guidelines and sustainability goals, all of which will be applicable to all development within the area covered by the Specific Plan.

3.7.1.4 Change of Zone

The Change of Zone will establish the World Logistics Center Specific Plan, which will replace most of the Moreno Highlands Specific Plan and rezone several other contiguous properties. The new Specific Plan will become the regulatory land use document for the entire 2,710-acre Specific Plan area. The 910-acre CDFW property and the 174-acre SDG&E property will not be included in the Specific Plan but will be rezoned to Open Space to reflect the long-range plans for the properties. The 20 acres of land owned by SDG&E and SCGC that are used for natural gas facilities will be zoned for Public Utility use.

3.7.1.5 Development Agreement

The project includes a Development Agreement between the project applicant, Highland Fairview, and the City of Moreno Valley in order to provide certainty for the future development of the project for those parcels owned by Highland Fairview.

3.7.1.6 Tentative Parcel Map

A Tentative Parcel Map (for financing purposes only) proposes the subdivision of a portion of the project site into large parcels. This map is for financing purposes only and does not create any

development rights for the subdivided properties. Subsequent subdivision applications will be required prior to the development of any buildings on the site.

3.7.1.7 Annexation

The project includes the completion of the annexation process for an 85-acre parcel located on the north side of Alessandro Boulevard at Gilman Springs Road. The County has already taken the first step to make this parcel part of the City by including it in the City's Sphere of Influence in 1985. The proposed project includes pre-annexation General Plan land use designations and zoning for this parcel. This EIR will be the environmental documentation used by the Local Agency Formation Commission to complete the annexation process. This project proposes to incorporate this property into the World Logistics Center Specific Plan.

3.7.2 City of Moreno Valley – Future Approvals

Upon submittal of any site-specific development proposal within or related to the Specific Plan project, the City must determine whether the environmental effects of the proposal are within the levels of environmental effects analyzed in this programmatic EIR. In order to make this determination, the City may require the completion of an initial study (*CEQA Guidelines*, Appendix G Checklist). For each development proposal, the City will make one of the following determinations, as set forth under CEQA:

3.7.2.1 Categorical Exemptions (CE)

The City would adopt a categorical exemption under the following circumstances.

1) An assessment of the proposed action relative to the certified Program EIR determined there was no possibility of a significant environmental impact and the proposed action (utility improvements within rights-of-way, etc.) had already been evaluated in the EIR.

3.7.2.2 Negative Declaration (ND)

The City would adopt a negative declaration under the following circumstances.

2) If the initial study leads to the conclusion that the proposed project would have no significant environmental effects; or
3) If the initial study leads to the conclusion that the project may have potentially significant environmental effects, but all such effects are within levels that were fully reviewed, disclosed, and/or mitigated within this programmatic EIR.

Upon making a negative declaration, no further environmental analysis would be required.

3.7.2.3 Mitigated Negative Declaration (MND)

The City would adopt a mitigated negative declaration if the initial study leads to all of the following conclusions:

1) The proposed project could have a significant environmental effect; and
2) This potentially significant environmental effect may exceed levels that were fully reviewed, disclosed and/or mitigated within this programmatic EIR; and

3) The City, through a review of any associated studies that may accompany the completion of the initial study, concludes that these potentially significant effects can be fully mitigated with mitigation measures in addition to those identified in this programmatic EIR.

Upon making a mitigated negative declaration, no further environmental analysis would be required.

3.7.2.4 Supplemental EIR

A Supplemental EIR would be needed if the City concluded that the proposed project could have significant environmental effects exceeding the levels that were fully reviewed, disclosed, and/or mitigated within this program EIR and that further study is needed to determine if any feasible mitigation measures may be reasonable or prudent to address these environmental effects. Any Supplemental EIR(s) would only cover the environmental topic areas in which potentially significant impacts were identified in the initial study.

The initial study process outlined above will also help the City in determining if any proposed project within the project area qualifies for a partial or full exemption from any further environmental analysis. Specifically, some proposed projects may qualify for a statutory or categorical exemption, as outlined in Articles 18 and 19 of the *CEQA Guidelines*. Other provisions of California law limit the extent of further environmental review required in the case where a city has adopted a specific plan and certified an associated EIR, as would be the case for this project. Notwithstanding, the law also provides that in the event of changed circumstances in the project area or the identification of impacts not previously considered or analyzed, subsequent environmental review (such as a mitigated negative declaration or supplemental EIR may be required.

3.7.2.4 Subsequent EIR

CEQA Section 15162 requires a Subsequent EIR "If changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration or EIR, the Lead Agency shall prepare a subsequent EIR if required under subsection (a). Otherwise, the Lead Agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation." Any changes to the Specific Plan will be subject to the criteria listed below. As required by Section 15162(a), a proposed change in a project will require preparation of a subsequent EIR if:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or a negative declaration due to an involvement of new significant environmental effects, or a substantial increase in the severity of previously identified significant effects; or
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects, or a substantial increase in the severity of the previously identified significant effects; or
3. New information of substantial importance, which was not known and could have not been known with the exercise of reasonable diligence at the time the previous EIR was certified, shows:
    a. The project will have one or more significant effects not discussed in the previous EIR;
    b. The significant effects previously examined will be substantially more severe than identified in the previous EIR;
    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measures or alternatives; or

d. Mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measures or alternatives.

If none of the above conditions is met, the preparation of a subsequent EIR is not required.

3.7.2.5 Addendum to WLC EIR

An Addendum to a previously approved EIR may be required if there are minor changes or additions to the previously analyzed project. An Addendum is used:

- To evaluate whether or not there are any new or more severe significant environmental effects associated with the proposed project;
- To review whether there is new information or circumstances that would require preparation of additional environmental documentation in the form of a subsequent or supplemental EIR, or if an Addendum is appropriate; and
- To evaluate the proposed project's potential environmental impacts in the context of the questions posed in CEQA Section 15162(a).

3.7.3 Actions by Others

Although the City of Moreno Valley is the Lead Agency for the proposed project, a number of other Federal, State, or special purpose agencies may consult this EIR for their own decision-making and actions now or in the future. The following is a list of anticipated discretionary or non-discretionary actions by other agencies, however, it is not exhaustive and may include other agencies and processes in the future as appropriate:

- ***County of Riverside***
  - Local Agency Formation Commission (LAFCO): Annexation of 85-acre parcel.
  - Flood Control and Water Conservation District: Amend Storm Drain Master Plan.
- ***Other Affected Agencies***
  - Western Riverside Council of Governments: TUMF Contributions.
  - Eastern Municipal Water District: Water Service Agreements.
- ***State of California***
  - Regional Water Quality Control Board: Water Quality Permitting.
  - Department of Transportation (Caltrans): Encroachment Permits for SR-60.
  - California Department of Fish and Wildlife: Streambed Alteration Agreements.
- ***Federal Agencies***
  - U.S. Army Corps of Engineers: Clean Water Act Permitting.

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4.0 ENVIRONMENTAL IMPACT EVALUATION

As stated previously, there are 16 environmental issue areas that are analyzed in this EIR with respect to the proposed project. These issues are:

4.1 Aesthetics
4.2 Agriculture and Forestry Resources
4.3 Air Quality
4.4 Biological Resources
4.5 Cultural Resources
4.6 Geology and Soils
4.7 Greenhouse Gas Emissions, Energy Conservation, and Global Climate Change
4.8 Hazards and Hazardous Materials
4.9 Hydrology and Water Quality
4.10 Land Use and Planning
4.11 Mineral Resources
4.12 Noise
4.13 Population, Housing, and Employment
4.14 Public Services
4.15 Transportation and Traffic
4.16 Utilities and Service Systems

Within each subsection described in Section 4.0, the following information is presented relative to each environmental issue described:

- Description of the existing setting as it relates to the specific environmental issue;
- A summary of policies and regulations relevant to the specific environmental issue;
- Identification of the thresholds of significance;
- Evaluation of project-specific impacts and a determination of significance based on identified threshold levels;
- Describe design features of the Specific Plan that will help reduce potential impacts;
- Identification of mitigation measures;
- A determination of the level of significance after mitigation measures are implemented; and
- Cumulative impacts.

The environmental analysis provided in Sections 4.1 through 4.16 focuses on changes in the existing physical environment and identifies direct and indirect significant impacts associated with the proposed project. The cumulative impacts for each of the proposed project components are analyzed within the discussion of each component for each threshold.

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4.1 AESTHETICS

This section describes the existing aesthetic condition of the project area and analyzes potential impacts of the proposed WLC project relative to views, and light and glare based on the development characteristics outlined in the WLC Specific Plan. Although there are no specific building locations or designs proposed at this time, the Specific Plan contains sufficient detail as to the general appearance and locations of buildings to evaluate the potential aesthetic impacts of development.

As a program-level CEQA document, this analysis will be based on the characteristics of buildings that can be built under the WLCSP. This analysis will look at the height, glare and lighting, visual impact, and viewshed impacts of the type of buildings authorized by the design standards and criteria set forth in Section 5.0 of the WLCSP. This section of the WLCSP creates comprehensive design and aesthetic guidelines. Section 4.3 of the Specific Plan presents various line-of-sight cross-sections and photographic renderings showing views of various locations around the project site, which are illustrative of the massing and types of buildings authorized by the WLCSP.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements that affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

Information on visual characteristics, both on the site and in the vicinity of the project site, is presented in this section. Potential impacts to aesthetic visual resources and viewshed impacts resulting from the development of the proposed WLC project are based on analyses of site photographs, site reconnaissance, project data from the WLC Specific Plan, line-of-sight cross sections, and photographic renderings. The determinations in this section of the EIR are based, in part, on the City of Moreno Valley General Plan polices related to views and open space.

For the purposes of the following analyses, two general aesthetic terms are defined: scenic vistas and viewsheds.

- **Scenic Vistas.** A scenic vista can be categorized as either containing a panoramic view[1] or a focal view. Panoramic views are typically associated with publicly-accessible vantage points that provide a sweeping geographic orientation not commonly available (e.g., skylines, valleys, mountain ranges, or large bodies of water). Focal views are typically associated with views of natural landforms, public art/signs, and visually important structures, such as historic buildings. Aesthetic components of a scenic vista include three components: scenic quality, sensitivity level, and view access.
- **Viewsheds.** A viewshed is typically defined as the natural environment that is visible from one or more viewing points. CEQA documents most often define viewshed as what portions of the project viewers can see from surrounding areas. A viewshed can be divided into three distinct components: the foreground, midground, and background.

4.1.1 Existing Setting

The approximately 3,814-acre project site is located in Rancho Belago, the eastern portion of the City, and is situated on a gently sloping valley floor directly south of State Route 60 (SR-60) with the Badlands area to the east and northeast, the Mount Russell Range to the southwest, and Mystic Lake and the San Jacinto Wildlife Area to the southeast.

4.1.1.1 On-Site Conditions

Situated within northeastern Moreno Valley, the project site gently slopes to the south and elevations on-site range from 1,760 feet above mean sea level (amsl) near the northeast corner down to 1,480 feet amsl at the southeast corner. The site is largely vacant and supports mainly dry farm agriculture with little ornamental landscaping, lighting, or signage located within the project limits. At present, there are seven rural residences and associated farm structures in three areas on site: one on the east side of Redlands Boulevard in the west-central portion of the site and the others on either side of Theodore Street in the north-central portion of the site. The project site itself contains no scenic resources, although the large areas of agricultural fields do represent a kind of visual "open space" as vacant land and allow existing residences in the area to have unobstructed panoramic views. The site has significant views and scenic vistas of Mount Russell to the south, the Badlands to the north and east, and the San Jacinto Wildlife Area to the south.

4.1.1.2 Adjacent Land Uses

Land uses adjacent to the project site include the Skechers logistics building to the northwest, and several suburban residential neighborhoods along Redlands Boulevard south of Cottonwood Avenue, and the "Old Moreno" commercial area at the intersection of Redlands Boulevard and Alessandro Boulevard. The closest residences are within 40 feet of the project property along Bay Street and Merwin Street. An additional residential neighborhood is located several hundred feet west of Redlands Boulevard, south of Eucalyptus Avenue. North of SR-60, there are several rural residences located between Redlands Boulevard and Theodore Street (refer to previously referenced Figure 3.3, *Existing Land Uses*). Much of the surrounding land is vacant and supports agriculture or open space (e.g., Badlands and Mount Russell). It should be noted that the General Plan makes reference to the

[1] A panoramic view consists of visual access to a large geographic area, for which the field of view can be wide and extend into the distance.

"rural northeast portion of the City," which refers to the land north of SR-60, not south of the freeway (J. Terrell, personal communication, November 2012).

4.1.1.3 Existing Viewsheds and Scenic Vistas

As illustrated in Figure 4.1.1, the proposed project site represents a large undeveloped area situated between the Badlands (northeast and east), the San Jacinto Wildlife Area (south), the Lake Perris Recreational Area (southwest), and the existing urbanized area to the west. Views across the site from SR-60 and from Gilman Springs Road are of vacant agricultural land forming the foreground, midground, and background. In the far background from these two roadways are Mystic Lake and the uplands surrounding Lake Perris. The major scenic resources for the project area, as documented in Figure 7-2 of the General Plan Conservation Element, are the Russell Mountains to the southwest, the Badlands to the east and northeast, Moreno Peak to the west, and the Reche Mountains to the far northwest. The existing agricultural fields provide a pleasant low relief foreground over which to view the three surrounding upland areas described above. The Conservation Element does not include the existing agricultural fields as a major scenic resource, although it does acknowledge that "Expanses of open land are found throughout the eastern portion of the study area. These tracts of land allow for uninterrupted scenic vistas from State Route 60, Gilman Springs Road, and other roadways and provide views of the San Jacinto Valley and the ephemeral Mystic Lake" (General Plan page 7-12).

Section 5.11, *Aesthetics*, in the City's General Plan EIR, indicates the major scenic resources within the Moreno Valley study area are visible from SR-60, a City-designated local scenic road. As SR-60 travels through the eastern part of Moreno Valley, it approaches and eventually passes through the Badlands area. Characterized by steep and eroded hillsides, the Badlands provide a range of hills that act as a visual backdrop to the valley. Similarly, views afforded while traveling west through Rancho Belago, the eastern part of the City, include views of the Badlands to the north and south, and Mystic Lake and the Mount Russell Range to the far south. These resources are highlighted in General Plan EIR Figure 5.11-1, *Major Scenic Resources*. Table 4.1.A provides a summary of the existing viewsheds to and from the project site. Because of these resources, travelers on SR-60 and Gilman Springs Road are considered scenic routes since these visual resources are readily visible from these roadways.

Table 4.1.A: Existing Viewsheds

Vantage Point	Characteristics of Views		
	Foreground	**Midground**	**Background**
Looking north from the SJWA* land toward the project site	Agricultural fields that are part of SJWA property	Agricultural fields on project site and SDG&E** facility	SR-60 with Badlands rising above
Looking east from existing residential uses along Redlands Boulevard toward the project site	Agricultural fields of the project site and olive wind row along east side of Redlands Boulevard	Agricultural fields of the project site and Gilman Springs Road	Gilman Springs Road with Badlands rising above, and portions of Mount San Gorgonio visible above the Badlands (on a clear day)
Looking south from SR-60 toward the project site	Agricultural fields and related equipment on the project site	Agricultural fields of the project site and the northern SJWA property	Mystic Lake, SJWA, and Mount Russell Range surrounding the Lake Perris State Recreational Area
Looking west from Gilman Springs Road and the Badlands toward the project site	Agricultural fields and related equipment on the project site	Agricultural fields of the project site	Skechers building, scattered rural residential on the project site, and suburban residential at southwest portion of project site

* San Jacinto Wildlife Area.
** San Diego Gas & Electric Natural Gas Compressor Plant.
Source: LSA Associates, Inc. Site Survey, March 2012.

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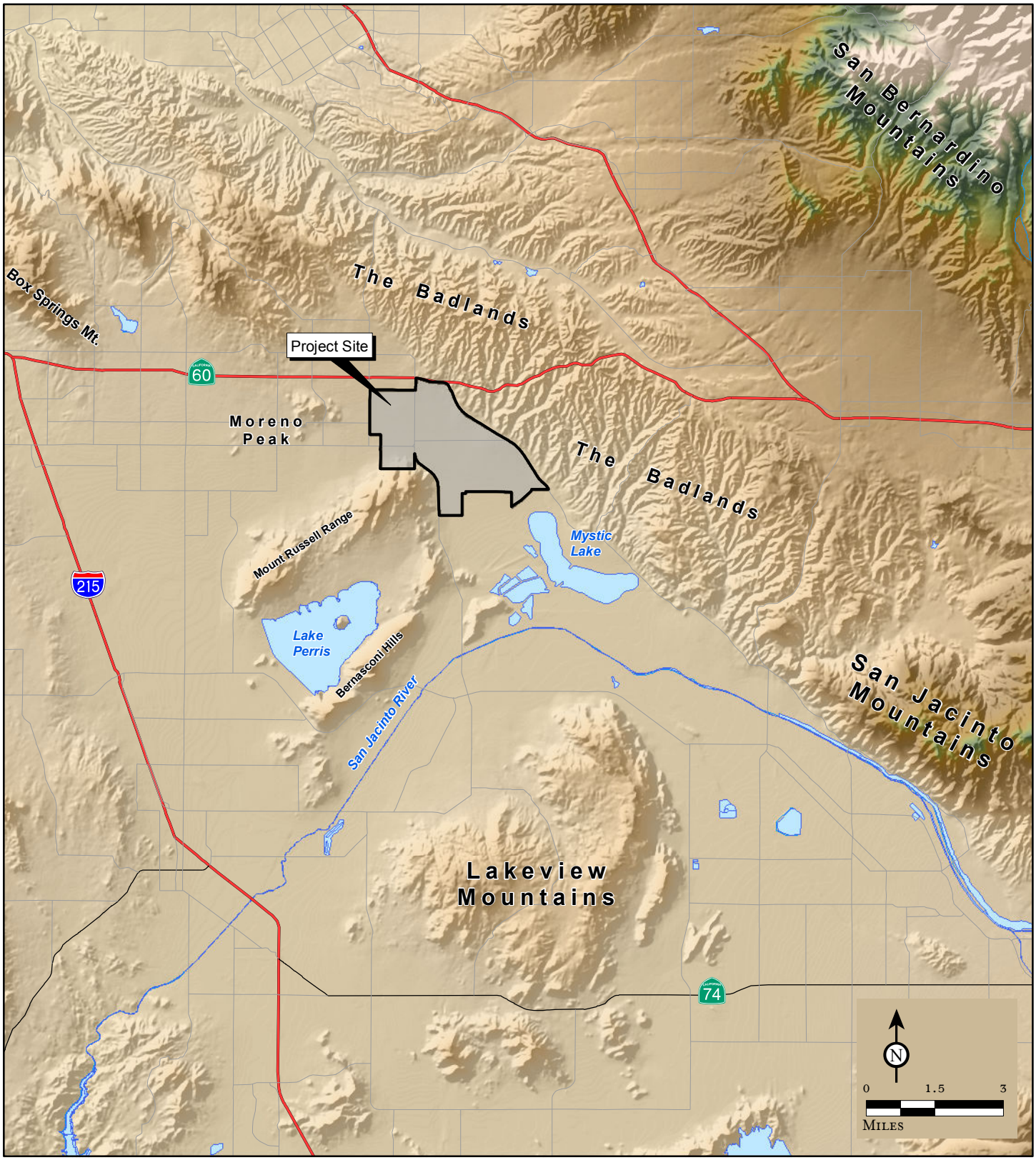

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Feet

FIGURE 4.1.1

World Logistics Center Project
Environmental Impact Report

Natural Landforms

SOURCE: ESRI, USGS DEM.

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The Conservation Element of the General Plan also states that, "The City of Moreno Valley has the opportunity to designate scenic routes as the basis for preserving outstanding scenic views. Special attention to the location and design of buildings, landscaping, and other features should be made to protect and enhance views from scenic roadways" (General Plan page 7-14). These statements indicate the City acknowledges the eventual conversion of the extensive agricultural fields and their replacement by buildings, but it emphasizes the importance to locate and design the buildings to maintain existing scenic views (i.e., the surrounding uplands).

Views from the Project Site. Views to the north from the project site include the new Skechers logistics building, SR-60 and the Badlands to the northeast. To the east and southeast, the rugged topography of the Badlands dominate the view. To the south, the view is of the San Jacinto Wildlife Area with partial views of Mystic Lake. To the southwest, views of Mount Russell and the Mount Russell Range predominate, with suburban residential uses visible to the far southwest and west. These views are experienced by travelers on Redlands Boulevard, Theodore Street, and Alessandro Boulevard, and residents of the rural residences on the project site. These represent significant visual resources and SR-60 and Gilman Springs Road are scenic routes because they have unobstructed views of these resources.

Views toward and across the Project Site. Views of the project site from the area north of SR-60 are limited by the SR-60 roadway and existing development. The skyline is dominated by views of the Badlands and of the Mount Russell Range. Views across the site from the northwest are from existing and/or planned non-residential uses. Current views of the site from these areas are of vacant agricultural land and the few scattered residences, and the Skechers building near the northwest corner of the project site.

Foreground and midground views for the residences along the west and southwest boundaries of the project site are presently of vacant agricultural land, a windrow of olive trees along Redlands Boulevard, scattered palm trees, and scattered rural residences on site. Background views from these areas are of the Badlands, sweeping from the northeast to southeast. The Mount Russell Range dominates the southeasterly view from this area. Mystic Lake and the surrounding SJWA lands are not visible. These areas are also not visible from houses farther north along Redlands Boulevard as they are not elevated enough to see all the way to Mystic Lake, although there may be some limited views in that direction from second-story windows facing east that are not blocked by other residences.

Users of the SJWA south of the site have views of the existing agricultural lands on the project site. Finally, residents in the few homes on the east side of Gilman Springs Road have views of the agricultural lands on the project site.

Mount Russell, the Badlands, the SJWA, and Mystic Lake represent significant visual resources, and SR-60 and Gilman Springs Road are considered scenic routes because they have relatively unobstructed views of these resources.

This EIR analyzes the viewshed impacts of the project on (i) the residences along the west and southwest portions of the project site; (ii) the motoring public on SR-60 and Gilman Springs Road (designated scenic routes), Redlands Boulevard, Theodore Street, and Alessandro Boulevard; (iii) residences north of SR-60; and (iv) existing residences within the project area.

Figures 4.1.2 and 4.1.3 present a photographic key map and representative views of the project site.

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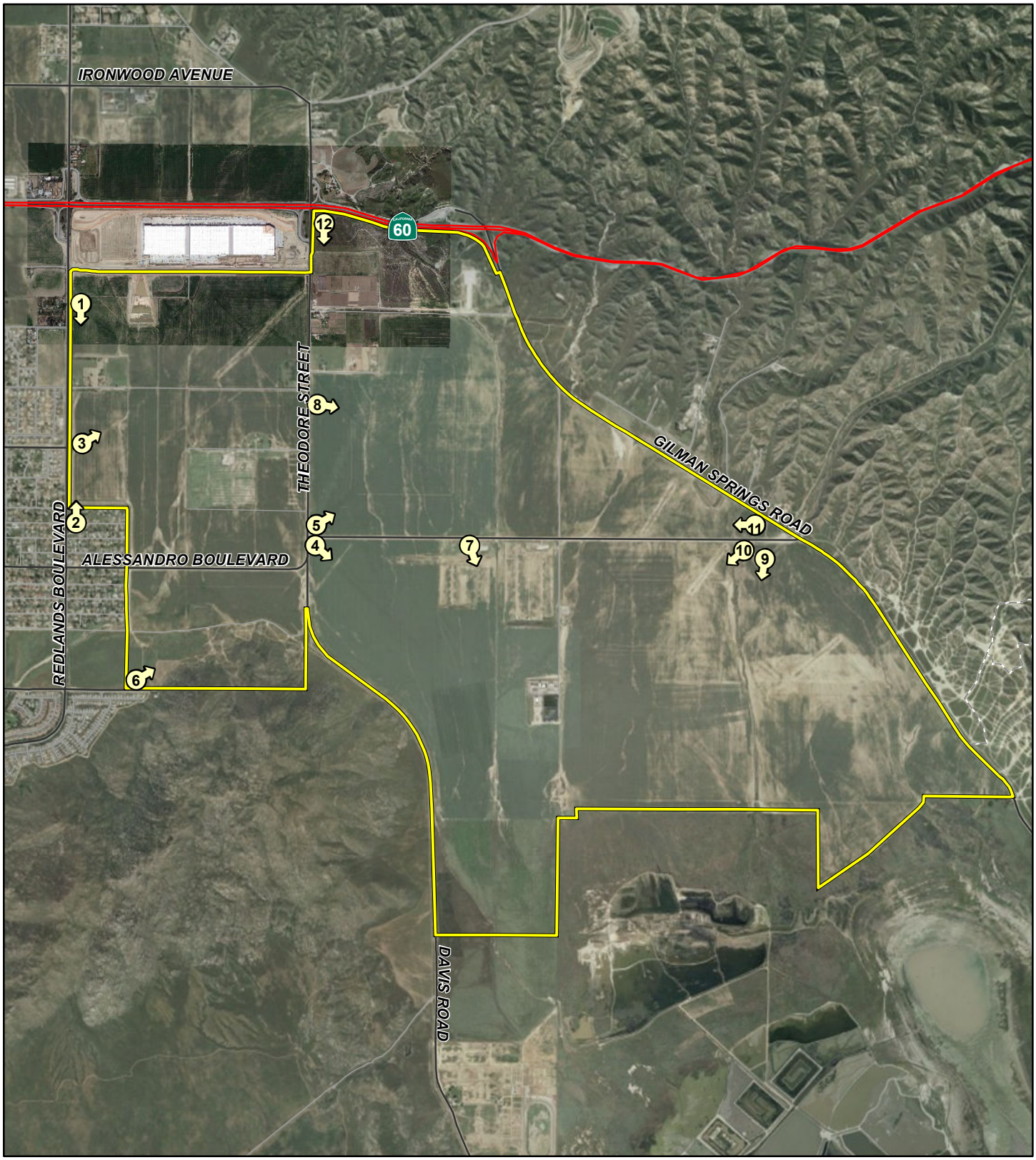

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FIGURE 4.1.2

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0 1,500 3,000

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ProjectBoundary

1 Photograph Location and Direction Taken

World Logistics Center Project
Environmental Impact Report

Site Photograph Locations

SOURCE: ESRI World Imagery & Bing Aerial, 2010; Google Earth, 2011.

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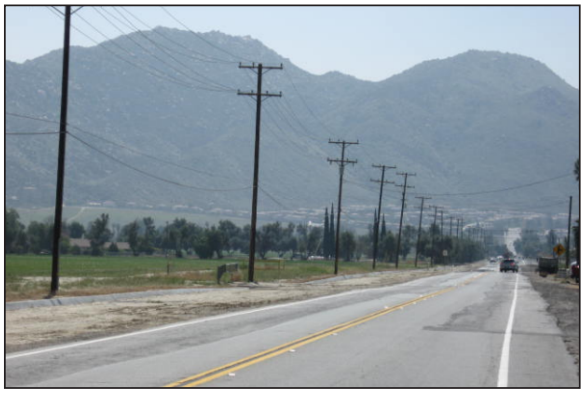

PHOTOGRAPH 1: *View looking south along Redlands Boulevard from Eucalyptus Avenue.*

PHOTOGRAPH 2: *View looking north along Redlands Boulevard from Alessandro Boulevard.*

PHOTOGRAPH 3: *View looking northeast across western portion of site near Redlands Boulevard and Cottonwood Avenue.*

PHOTOGRAPH 4: *View looking southeast from Theodore Street and Alessandro Boulevard.*

PHOTOGRAPH 5: *View looking northeast from Theodore Street and Alessandro Boulevard.*

PHOTOGRAPH 6: *View looking northeast from southwest corner of site.*

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FIGURE 4.1.3A

World Logistics Center Project
Environmental Impact Report
Site Photographs

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PHOTOGRAPH 7: *View of SDG & E Natural Gas Compressor facility (central portion of site).*

PHOTOGRAPH 8: *View of agricultural fields (typical) in central and eastern portions of site.*

PHOTOGRAPH 9: *View looking southwest toward Mystic Lake from near Gilman Springs Road.*

PHOTOGRAPH 10: *View looking southwest toward Lake Perris area from near Gilman Springs Road (SDG & E facility at right).*

PHOTOGRAPH 11: *View looking west along Alessandro Boulevard from near Gilman Springs Road.*

PHOTOGRAPH 12: *View looking south along Theodore Street from the SR-60 Freeway bridge.*

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FIGURE 4.1.3B

World Logistics Center Project
Environmental Impact Report
Site Photographs

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4.1.1.4 Lighting and Visibility

The majority of the project area is currently very dark, with little or no ambient nighttime lighting other than from scattered rural residences and the SDG&E compressor facility. There is street lighting and general lighting along the western boundary of the site (i.e., along Redlands Boulevard) and from the Skechers warehouse building. The only other lighting comes from SR-60 along the northern boundary of the site. At present, Gilman Springs Road has no streetlights. Assuming "worst-case" conditions, current ambient light levels in the central and southern portions of the project site are assumed to be at or near zero foot-candles per square foot; this is the same unit of measurement used by professionals when referring to sky glow and nighttime light levels.

4.1.1.5 NOP/Scoping Comments

Many residents commented during the public scoping process that they were concerned about what the project would look like and about night lighting since the area is presently undeveloped and has no significant source of night lighting. Several commenters raised issues with future "night sky" impacts on the area.

4.1.2 Existing Policies and Regulations

4.1.2.1 City of Moreno Valley General Plan Policies

The following policies and goals pertain to aesthetics and are applicable to the proposed project:

Community Development

Objective 2.5 Promote a mix of industrial uses which provide a sound and diversified economic base and ample employment opportunities for the citizens of Moreno Valley with the establishment of industrial activities that have good access to the regional transportation system, accommodate the personal needs of workers and business visitors, and which meets the service needs of local businesses.

Policy 2.5.1 The primary purpose of areas designated Business Park/Industrial is to provide for manufacturing, research and development, warehousing and distribution, as well as office and support commercial activities. The zoning regulations shall identify the particular uses permitted on each parcel of land. Development intensity should not exceed a Floor Area Ratio (FAR) of 1.00 and the average FAR should be significantly less.

Policy 2.5.2 Locate manufacturing and industrial uses to avoid adverse impacts on surrounding land uses.

Policy 2.5.3 Screen manufacturing and industrial uses where necessary to reduce glare, noise, dust, vibrations, and unsightly views.

Policy 2.5.4 Design industrial developments to discourage access through residential areas.

Objective 2.10 Ensure that all development within the City of Moreno Valley is of high quality, yields a pleasant living and working environment for existing and future residents, and attracts business as the result of consistent exemplary design.

Policy 2.10.1 Encourage a design theme for each new development that is compatible with surrounding existing and planned developments.

Policy 2.10.2 Screen trash storage and loading areas, ground and roof mounted mechanical equipment, and outdoor storage areas from public view as appropriate.

Policy 2.10.3 Require exterior elevations of buildings to have architectural treatments that enhance their appearance.

(a) A design theme, with compatible materials and styles, should be evident within a development project.

(b) Secondary accent materials, colors, and lighting should be used to highlight building features.

(c) Variations in roofline and setbacks (projections and recesses) should be used to break up the building mass.

(d) Industrial buildings shall include architectural treatments on visible façades that are aesthetically pleasing.

Policy 2.10.4 Landscaping and open spaces should be provided as an integral part of project design to enhance building design, public views, and interior spaces, provide buffers and transitions as needed, and facilitate energy and resource conservation.

Policy 2.10.5 Development projects adjacent to freeways shall provide landscaped buffer strips along the ultimate freeway right-of-way.

Policy 2.10.6 Buildings should be designed with a plan for adequate signage. Signs should be highly compatible with the building and site design relative to size, color, material, and placement.

Policy 2.10.7 On-site lighting should not cause nuisance levels or glare on adjacent properties.

Policy 2.10.8 Lighting should improve the visual identification of structures.

Policy 2.10.9 Fences and walls should incorporate landscape elements and changes in materials or textures to deter graffiti and add visual interest.

Policy 2.10.10 Minimize the use and visibility of reverse frontage walls along streets and freeways by treatments such as landscaping, berming, and "side-on" cul-de-sacs.

Policy 2.10.11 Screen and buffer non-residential projects from adjacent residential property and other sensitive land uses when necessary to minimize noise, glare, and other adverse effects on adjacent uses.

Policy 2.10.12 Screen parking areas from streets to the extent consistent with surveillance needs (e.g., mounding, landscaping, low profile walls, and/or grade separations).

Policy 2.10.13 Provide landscaping in automobile parking areas to reduce solar heat and glare.

Conservation Element

Objective 7.7 Where practicable, preserve significant visual features, significant views, and vistas.

Policy 7.7.3 Implement reasonable controls on the size, number, and design of signs to minimize degradation of visual quality.

Policy 7.7.4 Gilman Springs Road, Moreno Beach Drive, and State Route 60 shall be designated as local scenic roads.

Policy 7.7.5 Require development along scenic roadways to be visually attractive and to allow for scenic views of the surrounding mountains and Mystic Lake.

4.1.2.2 City of Moreno Valley Municipal Code

On September 11, 2012, the City Council adopted Ordinance 851, which amended various sections of the City Municipal Code, including Section 9.08.100 *Lighting* to address citywide night lighting

standards. Among other things, it requires non-residential lighting to be fully shielded and directed away from surrounding residential uses. It also restricts non-residential lighting to not exceed 0.25 foot-candle of light measured from within five feet of any property line.

4.1.3 Methodology

Any evaluation of visual impacts is necessarily subjective; however, community aesthetic values can be used to evaluate changes in views within a particular community. These values are found in General Plan policies, zoning ordinances, and, where specific policies are absent, general design theory and visual analysis methods can be incorporated to evaluate aesthetic impacts. For the purposes of CEQA compliance, this analysis of visual impacts will focus on changes in the visual character of the project site that would result from the development of the proposed on-site uses, including the visual compatibility of on-site and adjacent uses, changes in vistas and viewsheds where visual changes would be evident, and the introduction of sources of light and glare. Impacts to the existing environment of the project site are to be determined by the contrast between the site's visual setting before and after proposed development. In this analysis, emphasis has been placed on the transformation of the existing undeveloped conditions into urbanized uses. Although few standards exist to singularly define perceptions of aesthetic value, the degree of visual change can be measured and described in terms of visibility and visual contrast, dominance, and magnitude. Visual elevations and line-of-sight cross-sections from various vantage points around the project site are provided in Figure 4.1.4, while computerized photographic renderings showing views of the site from different vantage points around the site are provided in Figure 4.1.5.

Current residences southwest of the project site, as well as travelers along SR-60 and Gilman Springs Road would be considered sensitive to the visual and aesthetic alteration of the project site. Where possible, the potential aesthetic impacts of the proposed project will be evaluated to determine if or the degree to which the project is consistent with applicable General Plan objectives and policies.

4.1.4 Thresholds of Significance

Appendix G of the *CEQA Guidelines* recognizes the following significance thresholds related to aesthetics. Based on these significance thresholds, a project would have a significant impact on aesthetic resources if it would result in:

- A substantial adverse effect on a scenic vista;
- Substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway;
- Substantial degradation of the existing visual character or quality of the site and its surroundings; and/or
- A new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

4.1.5 Less than Significant Impacts

Due to the size and location of the project, and due to the fundamental and permanent alteration of the aesthetic characteristics of the site, all aesthetic impacts were determined to be potentially significant.

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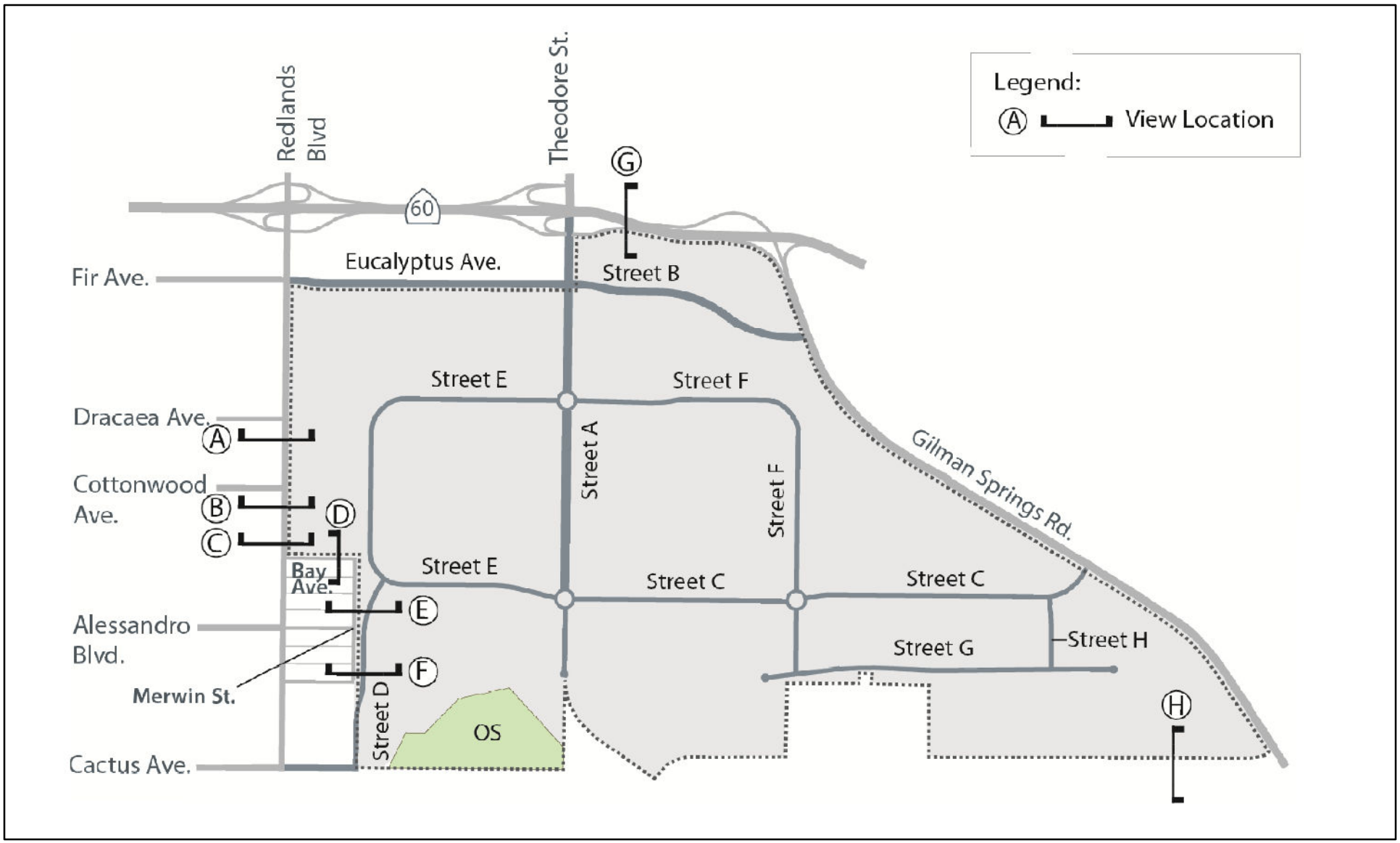

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FIGURE 4.1.4

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0 1,300 2,600

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World Logistics Center Project
Environmental Impact Report

SOURCE: World Logistics Center Specific Plan, Highlandfairview, 2012.

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Cross Section and Line of Sight Key Map

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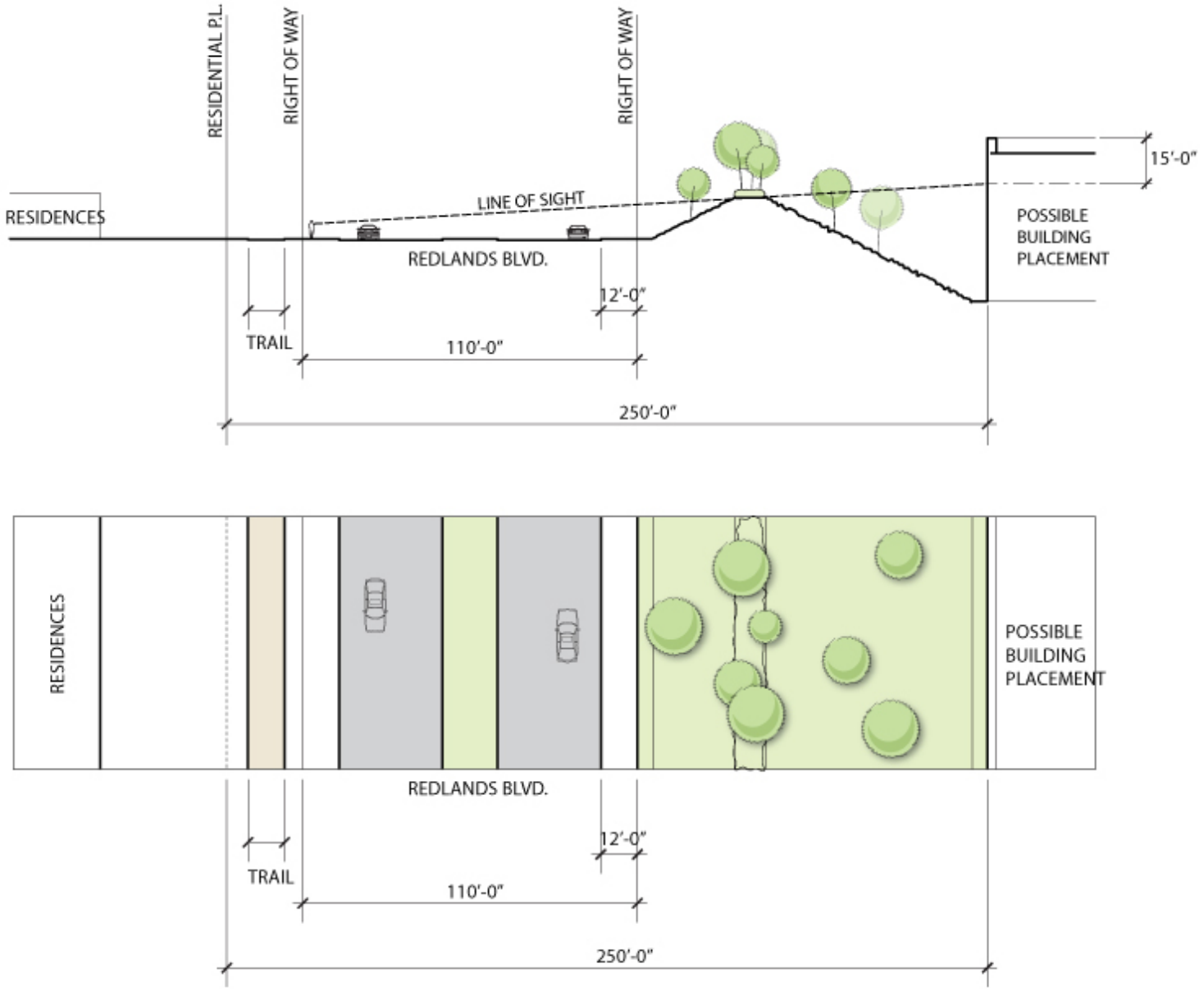

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FIGURE 4.1.4A

World Logistics Center Project
Environmental Impact Report

Cross Sections and Line-of-Sight Diagrams
Redlands Boulevard, Section A

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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A-23 Redlands Blvd. Section B

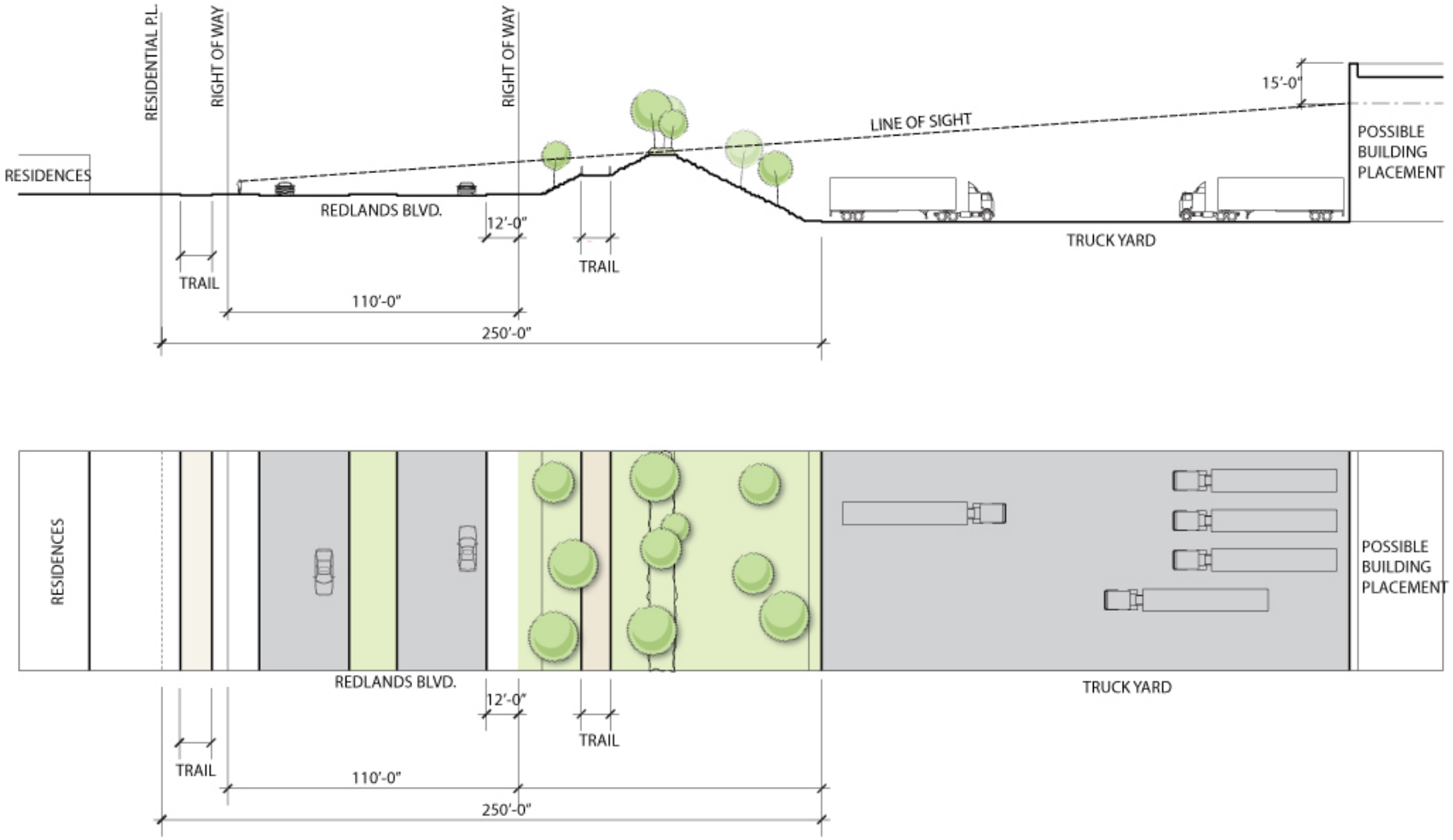

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FIGURE 4.1.4B

World Logistics Center Project
Environmental Impact Report

Cross Sections and Line-of-Sight Diagrams
Redlands Boulevard, Section B

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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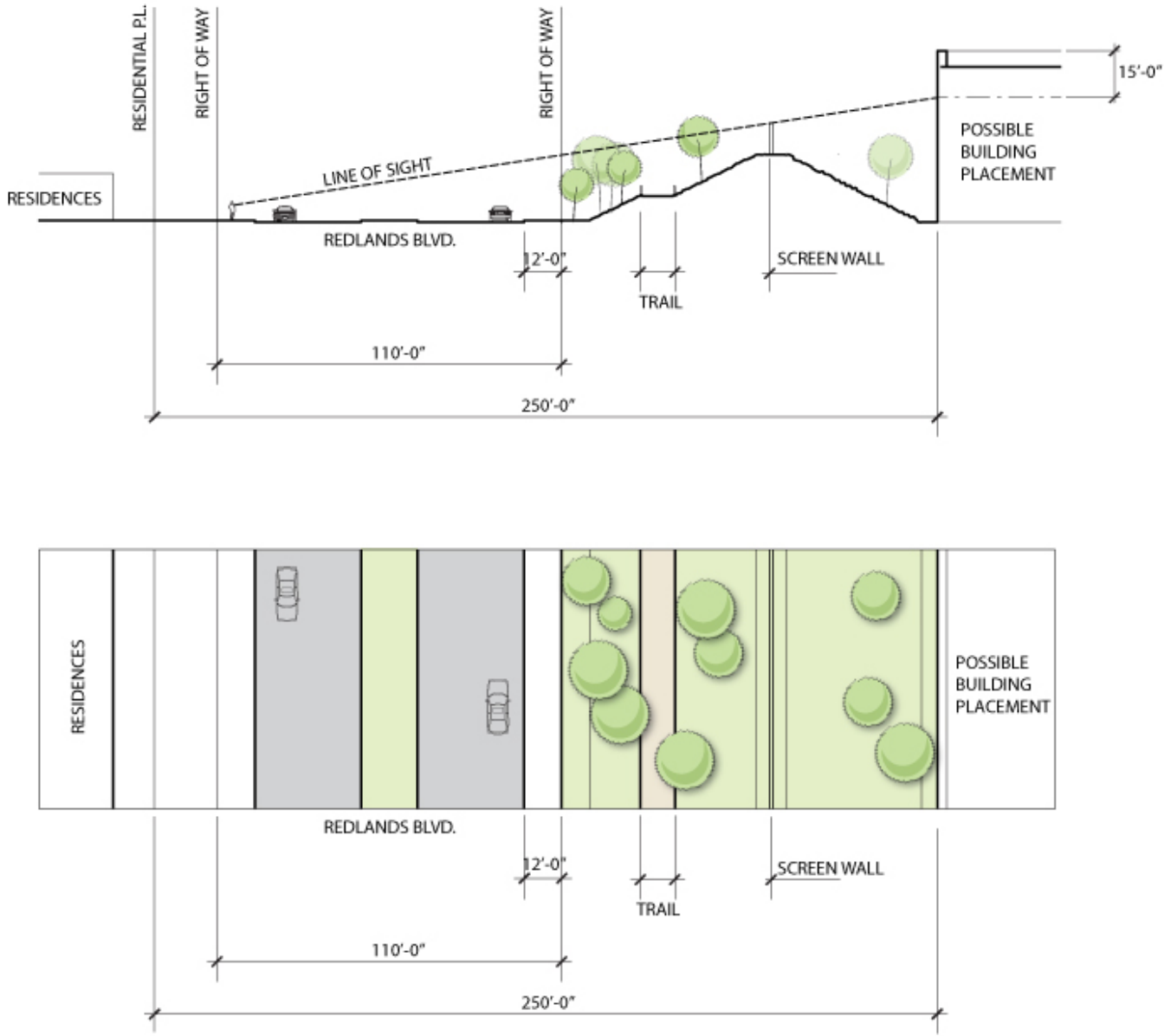

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FIGURE 4.1.4C

World Logistics Center Project
Environmental Impact Report

Cross Sections and Line-of-Sight Diagrams
Redlands Boulevard, Section C

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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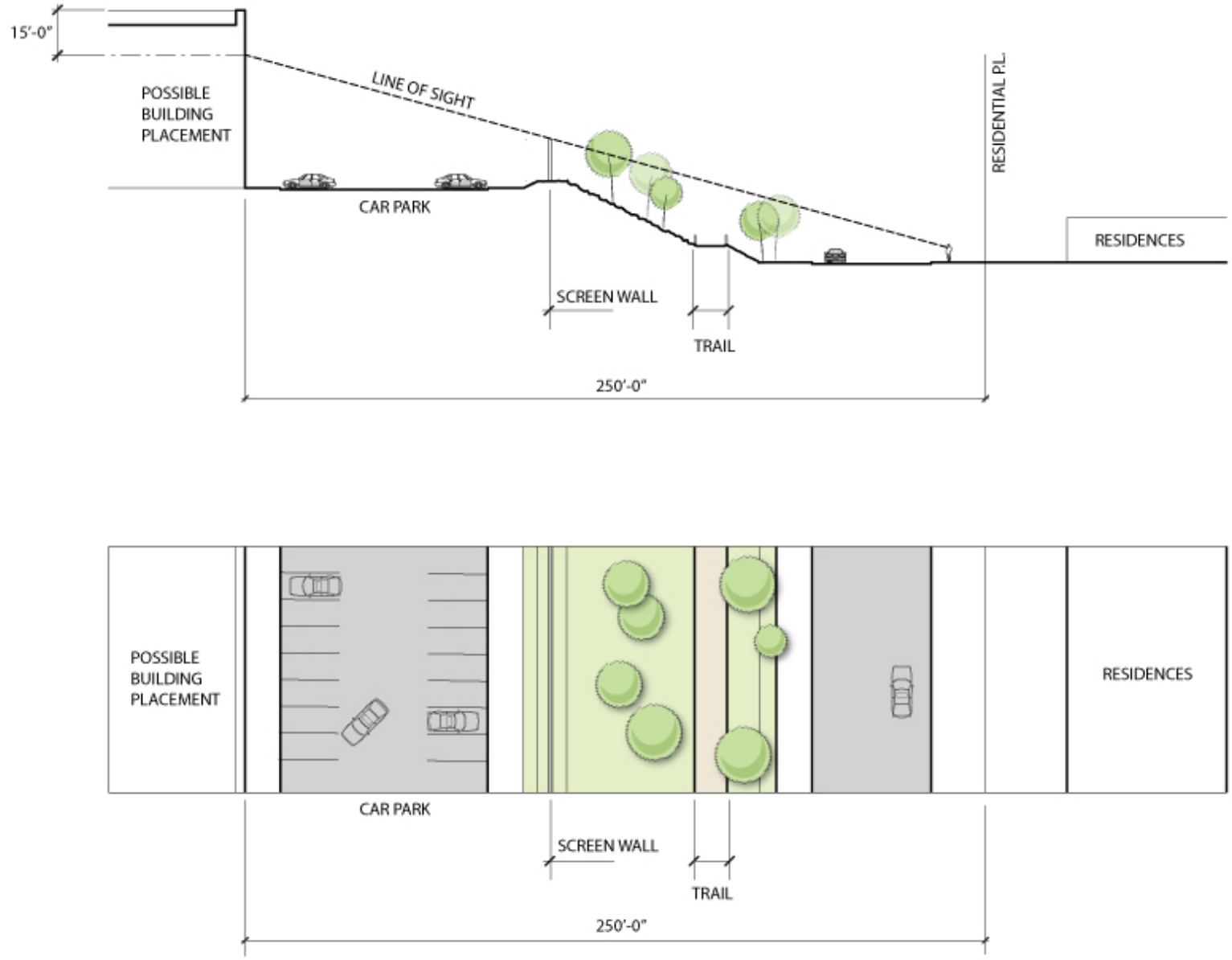

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FIGURE 4.1.4D

World Logistics Center Project
Environmental Impact Report

Cross Sections and Line-of-Sight Diagrams
Bay Street, Section D

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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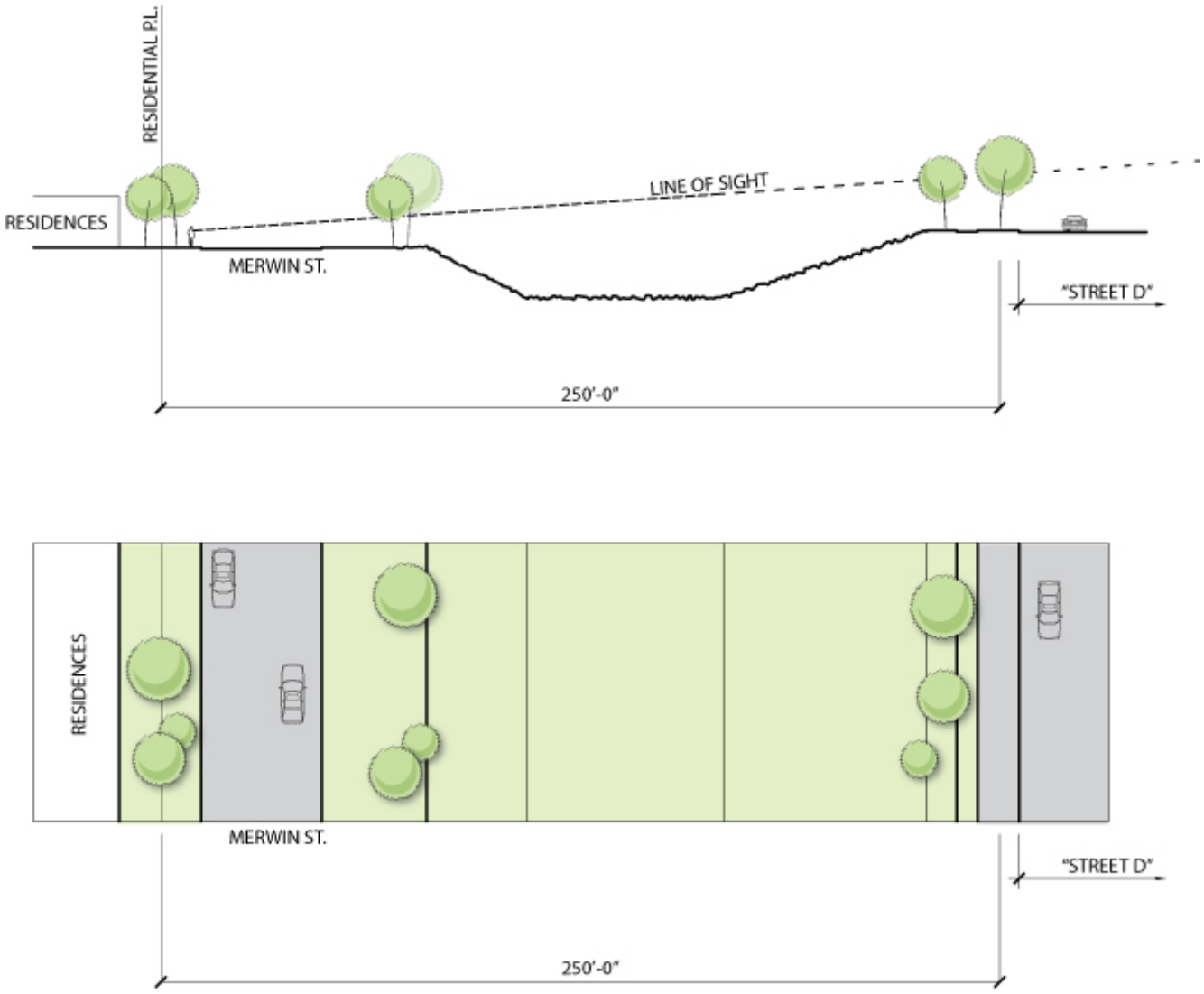

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FIGURE 4.1.4E

World Logistics Center Project
Environmental Impact Report

Cross Sections and Line-of-Sight Diagrams
Merwin Street, Section E

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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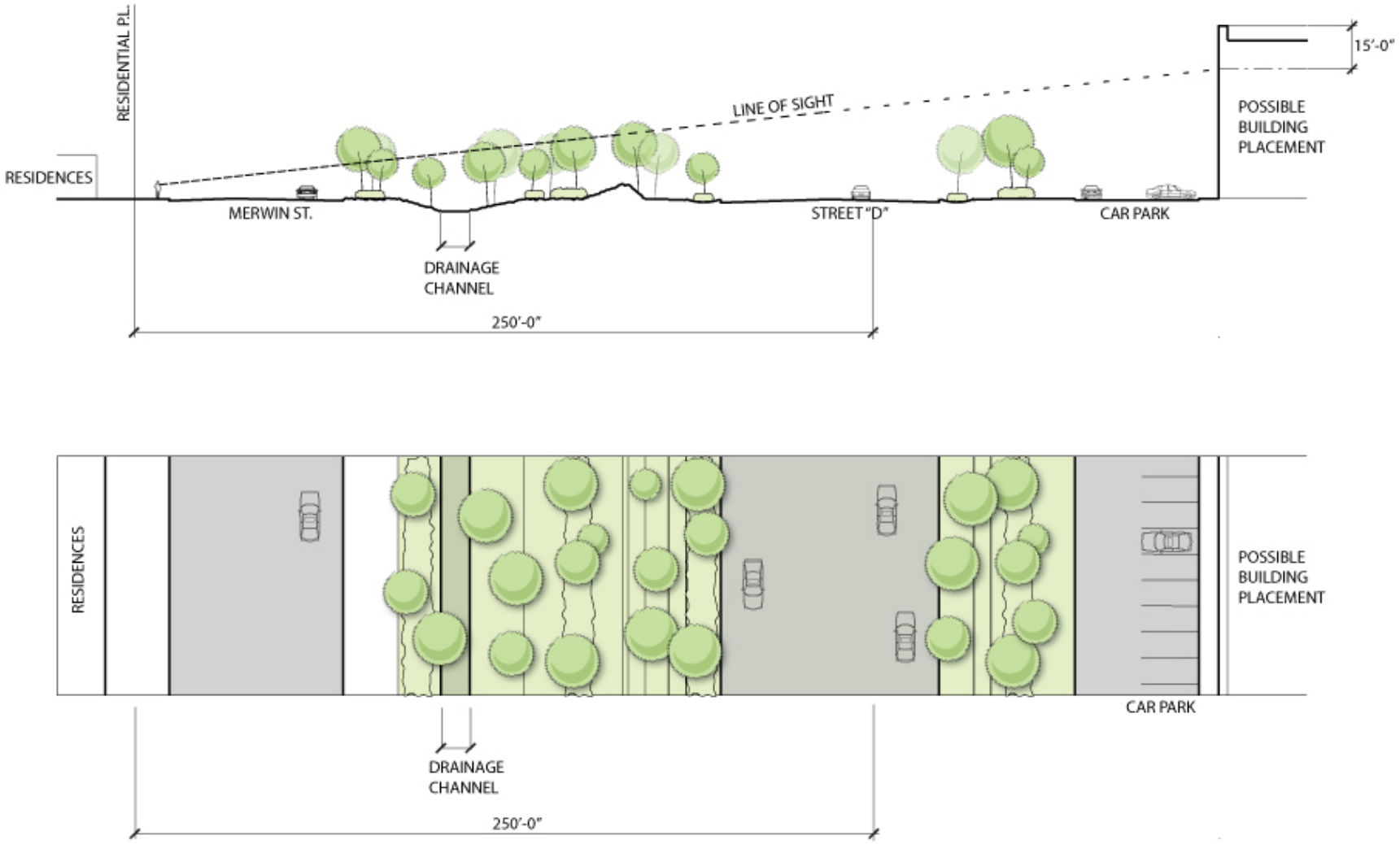

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FIGURE 4.1.4F

World Logistics Center Project
Environmental Impact Report

Cross Sections and Line-of-Sight Diagrams
Merwin Street, Section F

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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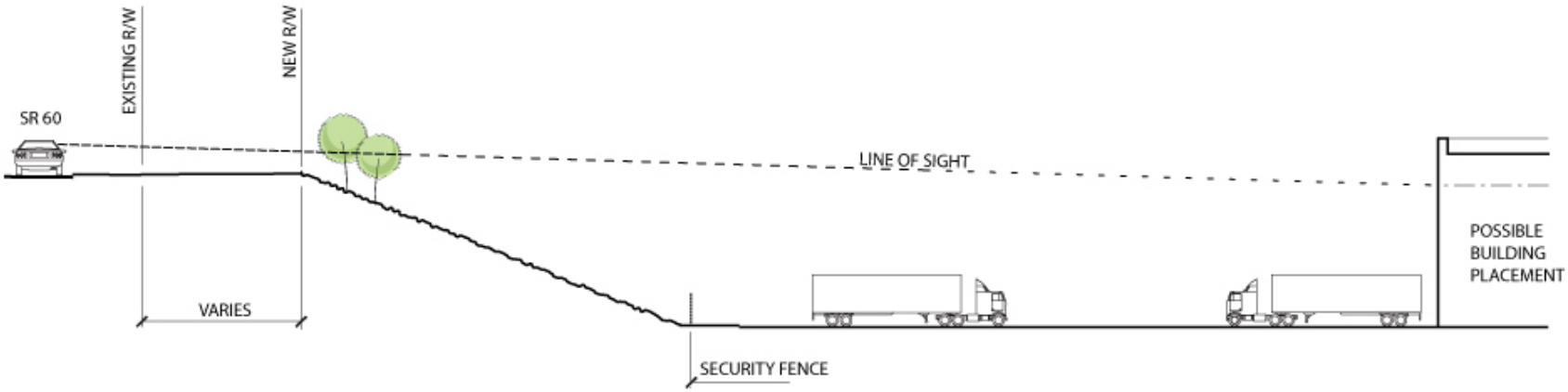

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FIGURE 4.1.4G

World Logistics Center Project
Environmental Impact Report

Cross Sections and Line-of-Sight Diagrams
SR-60 Between Theodore and Gilman Springs Road, Section G

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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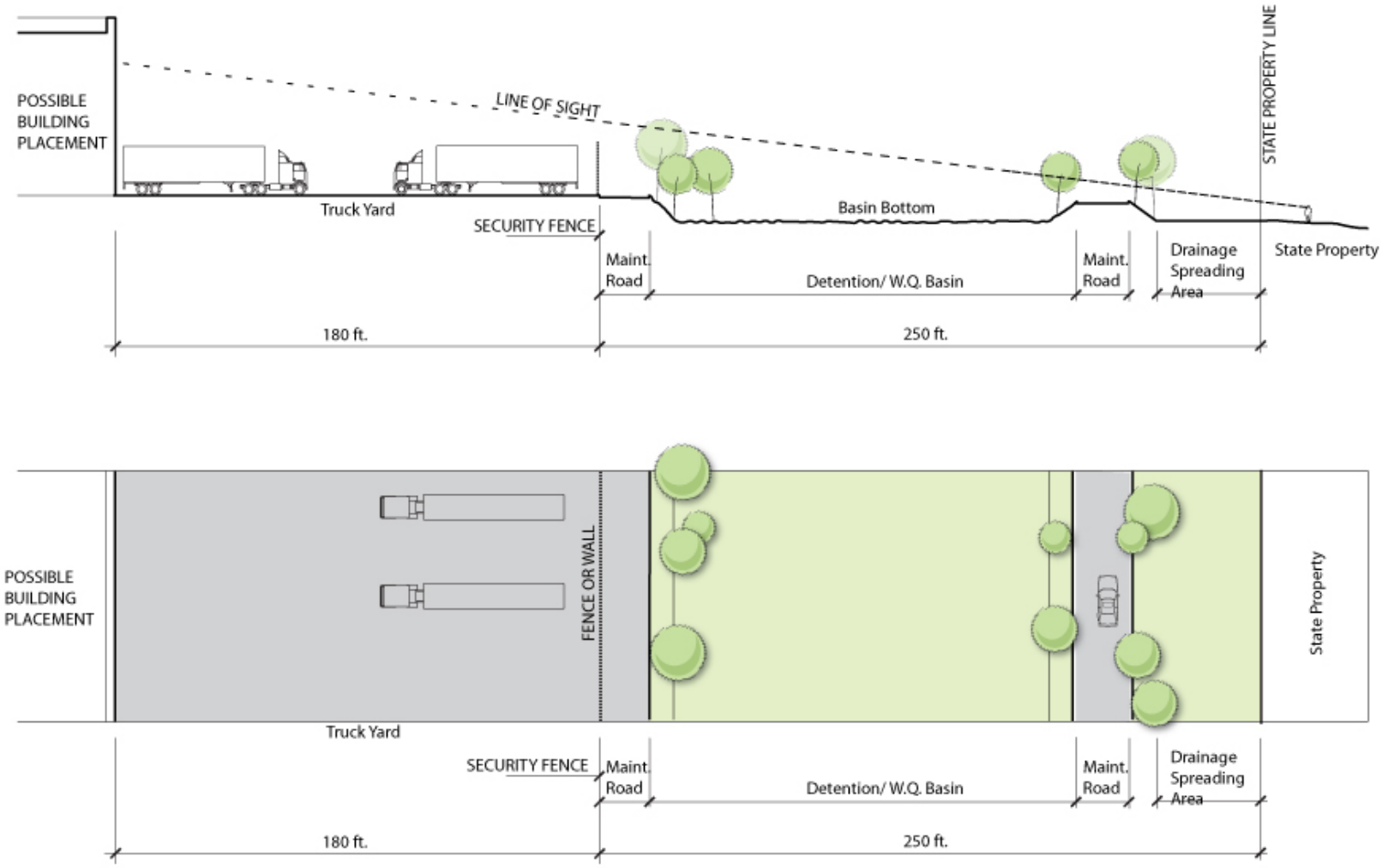

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FIGURE 4.1.4H

World Logistics Center Project
Environmental Impact Report

Cross Sections and Line-of-Sight Diagrams
Southern Boundary, Section H

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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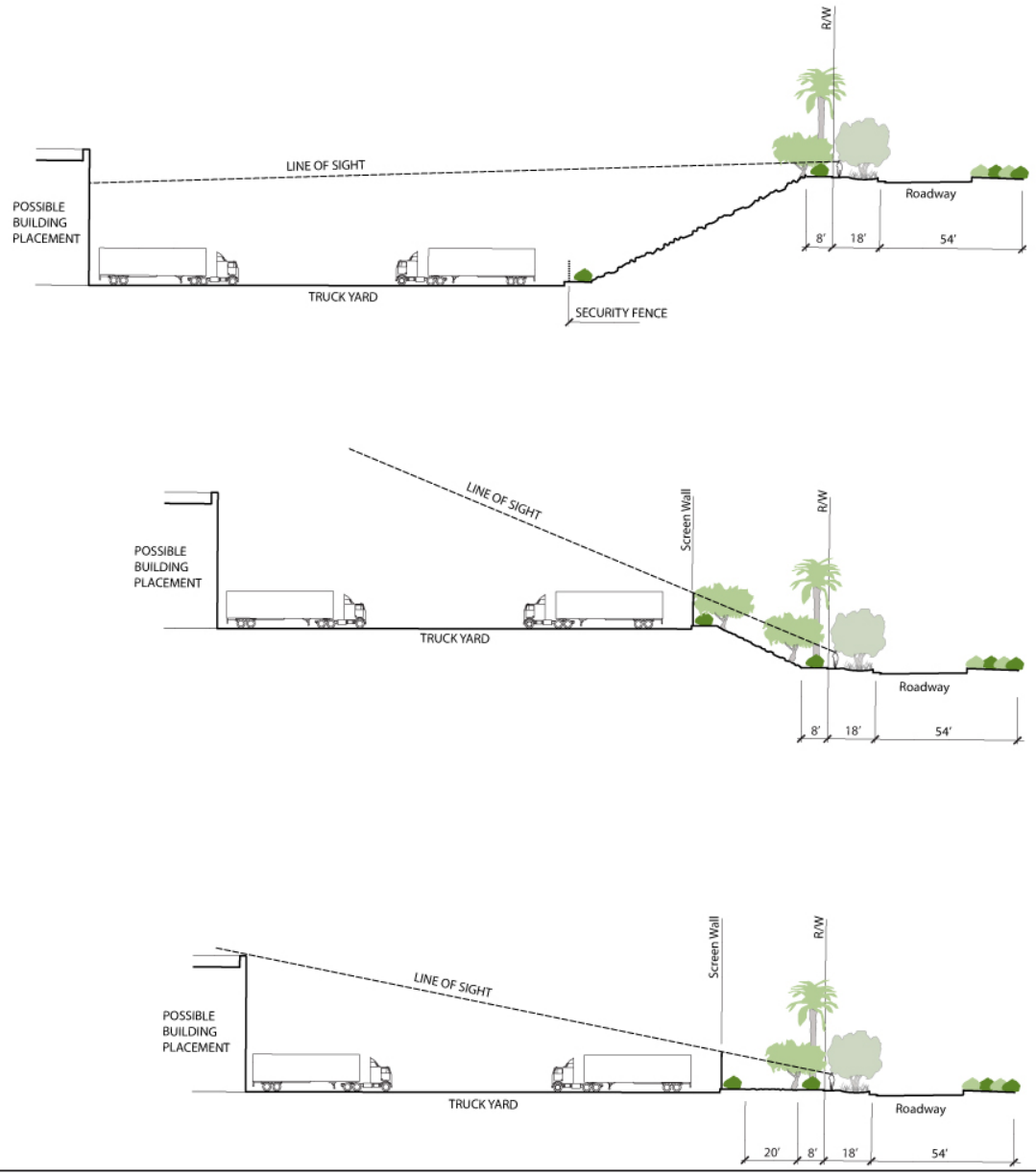

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FIGURE 4.1.4I

World Logistics Center Project
Environmental Impact Report

Cross Sections and Line-of-Sight Diagrams
All Interior Roadways, Sections I, J and K

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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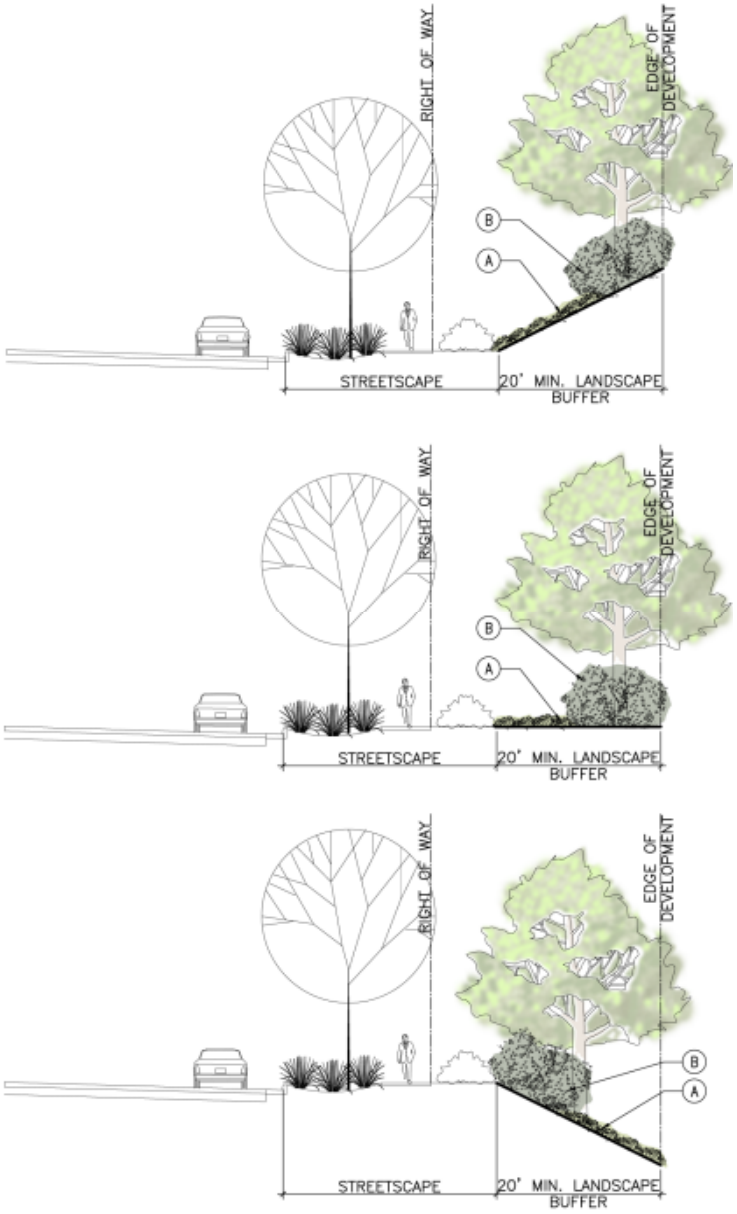

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FIGURE 4.1.4J

World Logistics Center Project
Environmental Impact Report

Cross Sections and Line-of-Sight Diagrams
Slope Planting Guideline

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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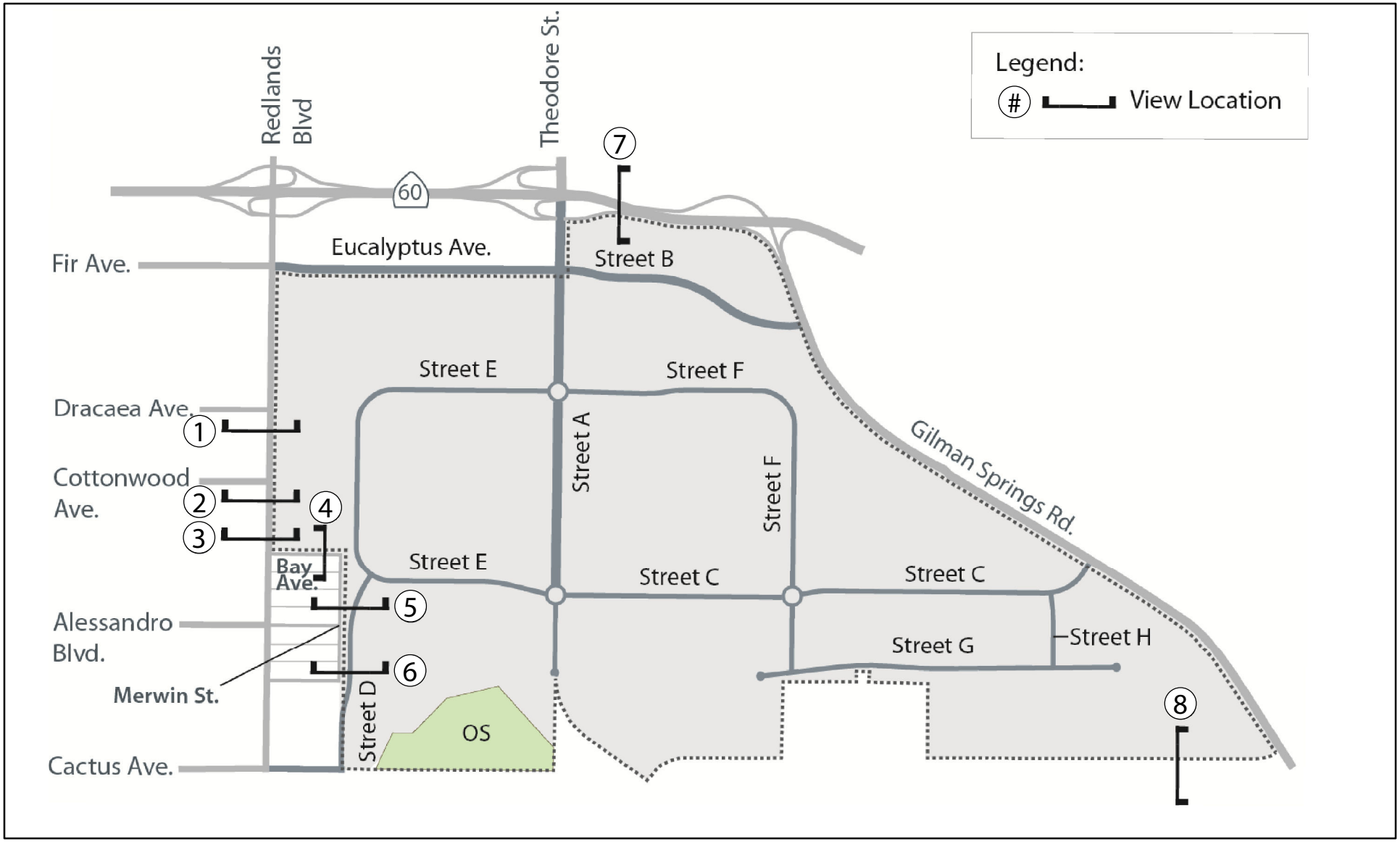

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FIGURE 4.1.5A

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0 1,280 2,560

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World Logistics Center Project
Environmental Impact Report

Visual Simulation Key Map

SOURCE: World Logistics Center Specific Plan, Highlandfairview, 2012.

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VIEW 1: *View of Site 1 vegetation at installation.*

VIEW 1: *View of Site 1 vegetation at maturity.*

LSA

FIGURE 4.1.5B

World Logistics Center Project
Environmental Impact Report

Computerized Photographic Renderings

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VIEW 2: *View of Site 2 vegetation at installation.*

VIEW 2: *View of Site 2 vegetation at maturity.*

LSA

FIGURE 4.1.5C

World Logistics Center Project
Environmental Impact Report

Computerized Photographic Renderings

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VIEW 3: *View of Site 3 vegetation at installation.*

VIEW 3: *View of Site 3 vegetation at maturity.*

LSA

FIGURE 4.1.5D

World Logistics Center Project
Environmental Impact Report

Computerized Photographic Renderings

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VIEW 4: *View of Site 4 vegetation at installation.*

VIEW 4: *View of Site 4 vegetation at maturity.*

LSA

FIGURE 4.1.5E

World Logistics Center Project
Environmental Impact Report

Computerized Photographic Renderings

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VIEW 5: *View of Site 5 vegetation at installation.*

VIEW 5: *View of Site 5 vegetation at maturity.*

LSA

FIGURE 4.1.5F

World Logistics Center Project
Environmental Impact Report

Computerized Photographic Renderings

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VIEW 6: *View of Site 6 vegetation at installation.*

VIEW 6: *View of Site 6 vegetation at maturity.*

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FIGURE 4.1.5G

World Logistics Center Project
Environmental Impact Report

Computerized Photographic Renderings

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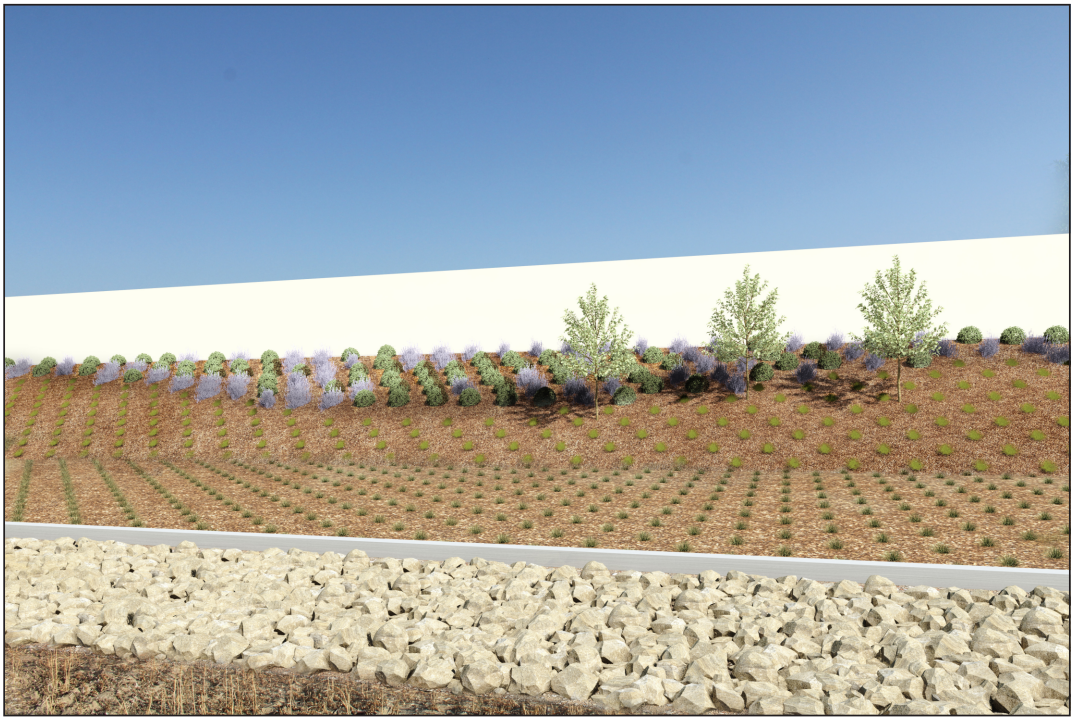

VIEW 7-1: *View of Site 7 Option 1 vegetation at installation.*

VIEW 7-1: *View of Site 7 Option 1 vegetation at maturity.*

LSA

FIGURE 4.1.5H

World Logistics Center Project
Environmental Impact Report

Computerized Photographic Renderings

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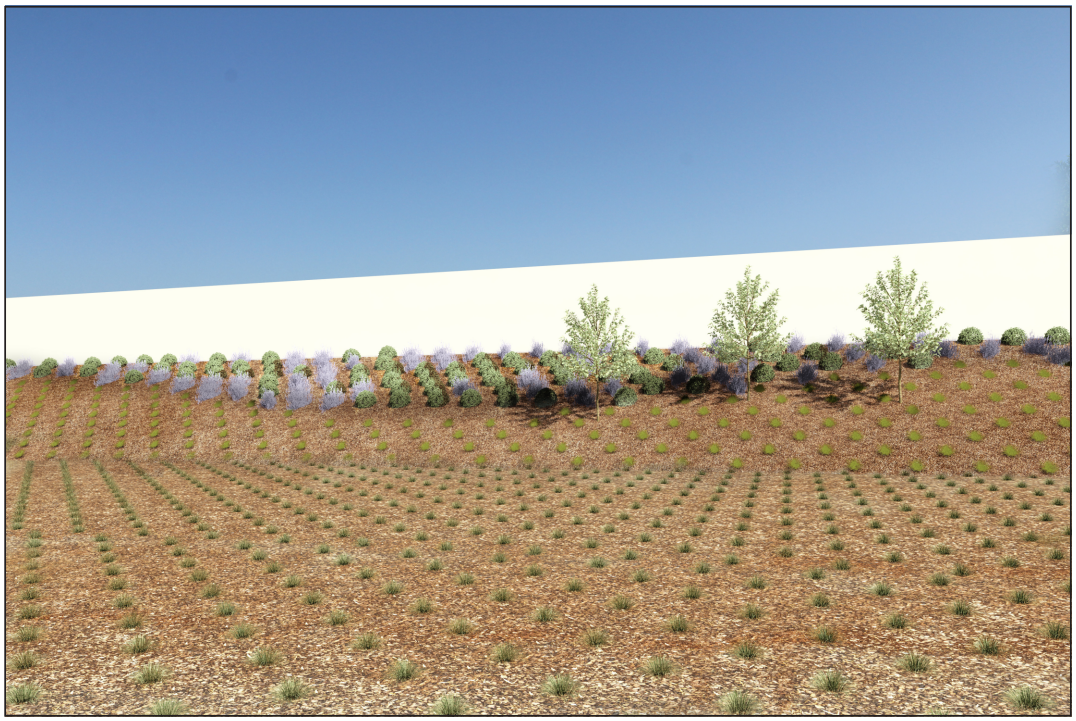
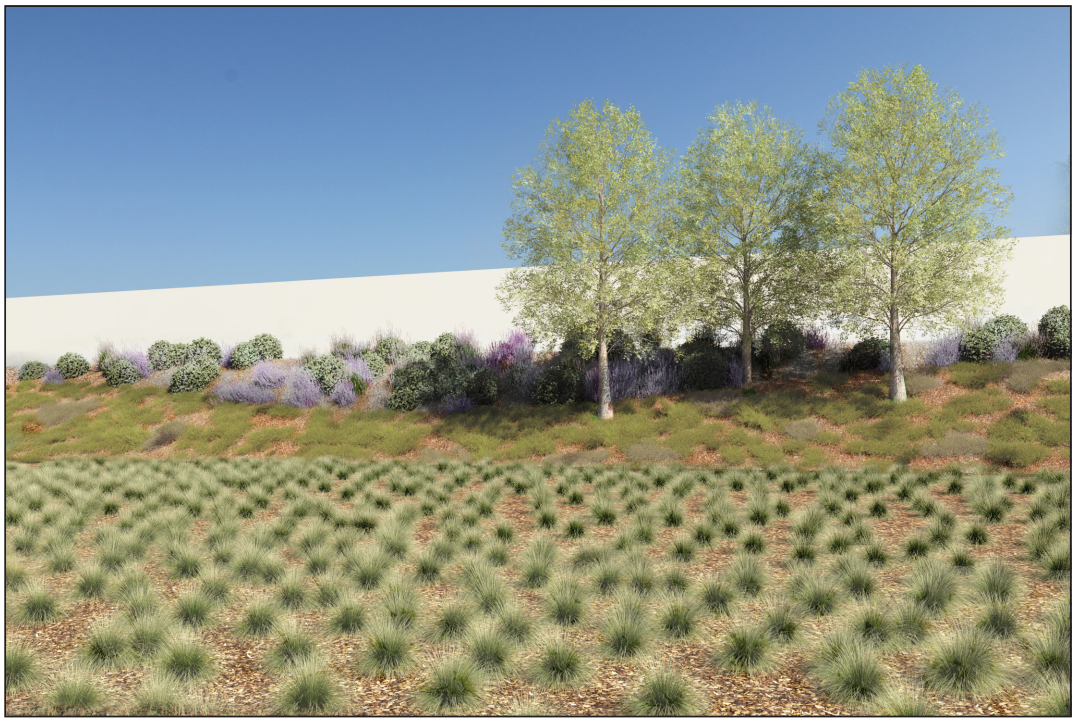


VIEW 7-2: *View of Site 7 Option 2 vegetation at installation.*



VIEW 7-2: *View of Site 7 Option 2 vegetation at maturity.*

LSA

FIGURE 4.1.5I

World Logistics Center Project
Environmental Impact Report

Computerized Photographic Renderings

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VIEW 8: *View of Site 8 vegetation at installation.*

VIEW 8: *View of Site 8 vegetation at maturity.*

LSA

FIGURE 4.1.5J

World Logistics Center Project
Environmental Impact Report

Computerized Photographic Renderings

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4.1.6 Significant Impacts

4.1.6.1 Scenic Vistas

Impact 4.1.6.1: *The proposed project would have a substantial significant effect on a scenic vista.*

Threshold	Would the proposed project have a substantial adverse effect on a scenic vista?

The proposed project could have a substantial adverse effect on one or more scenic vistas, notably views of the Badlands, Mount Russell and the Mount Russell Range, and Mystic Lake/San Jacinto Wildlife Area. For the proposed project, the nearest sensitive permanent visual receptors would be the existing single-family residences to the west and southwest along Redlands Boulevard. In addition, the views of the motoring public along SR-60, Gilman Springs Road, Redlands Boulevard, Theodore Street, and Alessandro Boulevard would be significantly affected as well. At present, the Skechers building blocks views of the site for travelers on SR-60 who are immediately north of the Skechers building.

One of the development goals of the Specific Plan is to have all of the buildings along the perimeter of the site, including SR-60 and Gilman Springs Road, be no taller than the existing Skechers building (i.e., approximately 55 feet above a ground elevation of 1,740 feet amsl). This means, as the site elevation decreases to the south, taller buildings theoretically could be built as long as they do not exceed 1,795 feet elevation (i.e., height above sea level, not building height above ground). This would result in seeing only the buildings adjacent to the freeway for eastbound travelers on SR-60, but it would adversely affect views from other locations around the WLC Specific Plan site regardless of the height comparison to the Skechers building. The motoring public heading westbound on SR-60 would experience impacts to their views of Mystic Lake and Mount Russell.

Away from the perimeter of the site, the Specific Plan allows warehouse buildings that may reach a height of 80 feet. These buildings would have a maximum altitude of 1,795 feet. The potential heights of project buildings, and possible viewshed impacts of future development under the Specific Plan, are shown in previously referenced Figure 4.1.5, which provides computerized photographic renderings of the proposed project building and landscaping.

The project will allow a maximum of 60-foot tall warehouse buildings along the west, north, and south perimeters of the site, and 80-foot buildings on the “interior” portions of the site and along the eastern perimeter (i.e., Gilman Springs Road). Ground elevations range from 10 to 30 feet lower than Gilman Springs Road, which will help reduce visual impacts of warehouse buildings in the eastern portion of the site. The existing Skechers building at the northwest corner of the site can be seen from almost anywhere on the project site at present, and from surrounding off-site areas. Other warehouse buildings within the project will be at least that prominent when they are built.

The WLCSP contains architectural and design guidelines that will encourage the construction of attractive warehouse buildings and surrounding grounds. This is supported by the examples of building designs, materials, colors, and landscaping illustrations in the Specific Plan. The general development, setback, architectural design, and landscaping guidelines of the WLCSP require future development to provide attractive warehouse buildings with native plants and trees to help screen views of the lower portions of the buildings.

The Skechers building is mainly white, and the WLCSP indicates that future warehouse buildings on site will also be white or light colored to minimize energy consumption, provide architectural compatibility, and reflect heat to minimize the urban “heat island” effect (see also Section 6.0, Sustainability). Based on current views of the Skechers building, these new buildings will also be visible from various off-site locations (e.g., north of SR-60 and east of Gilman Springs Road). However, white or light-colored buildings, like Skechers, may be more visible at longer distances compared to darker or earth-toned buildings.

General View Impacts from Existing Residences. The Specific Plan establishes a minimum setback of 250 feet along the west boundary of the project site between sensitive receptors (i.e., houses) and buildings or parking/circulation areas within the WLCSP. The Specific Plan also includes specific landscaping and other design criteria for this buffer (see WLCSP Section 4.2, *Offsite Landscaping*). It should be noted that the width of the adjacent street outside of the WLC project boundaries (e.g., Redlands Boulevard, Bay Avenue, and Merwin Street) is included in the 250-foot buffer distance.

The line-of-sight exhibits and the photographic renderings help predict how the WLCSP project will appear as buildings are constructed. Section 4.2 of the WLCSP includes typical cross-sections that show the 250-foot setback as measured from the west right-of-way line of Redlands Boulevard and Merwin Street, and the south right-of-way line of Bay Avenue. Not counting the existing street widths, the new landscaping setback/berm areas along the west side of the WLCSP will be approximately 150 feet wide (e.g., from the east side of Redlands Boulevard to the nearest truck activity area). These setbacks, and the proposed landscaping within the setback areas, are shown in previously referenced Figures 4.1.4 and 4.1.5. Section 5.3 of the Specific Plan describes and illustrates how the landscaping will appear both upon installation and at maturity (photographic renderings of these conditions are also shown in Section 4.2, *Offsite Design Standards – Landscaping*).

With development of the proposed project, buildings, associated parking lots, and landscaping will be built on the project site. This will change existing views from virtually every point in and around the project site. Foreground and midground views would consist of trees, ornamental landscaping, and new warehouse buildings. Most background views will be affected as well with limited distant views of the Badlands, Mount San Jacinto, and Mount Russell remaining from some adjacent properties and roadways. Although the warehouse buildings and the single-family residences would be separated by some distance, the proposed project will result in the reduction or elimination of existing background views.

Views from SR-60. The existing Skechers building can be used as a visual reference relative to future views involving the WLCSP. The average floor elevation of the Skechers facility is 1,740 feet amsl. Assuming an average building height of 55 feet, the Skechers building is at an elevation of 1,795 feet amsl compared to the elevation of SR-60 at 1,760 feet amsl adjacent to the Skechers building. This means a person driving on SR-60 cannot see the WLCSP property, Mount Russell, or Mystic Lake while adjacent to the Skechers building.

Travelers in both directions on SR-60 will have views of the project site until the northernmost portion of the site is developed. As the site develops, the buildings would replace existing flat agricultural fields with industrial buildings, which may block foreground and midground views of travelers in both directions, depending on their locations. There are no site plans at present to show exact building locations or heights, so the determination of impacts must be based on the characteristics of buildings allowed under the Specific Plan. Buildings adjacent to the freeway would be approximately 60 feet in height, while buildings away from the northern perimeter (i.e., the south side of SR-60) could be up to 80 feet tall. If all of the future buildings along the south side of SR-60 block views to the same degree as the Skechers building, this would be a significant visual impact as it would eliminate views of Mount Russell, Mystic Lake, and the Badlands south of SR-60 along Gilman Springs Road.

The height and location of buildings along this portion of the project will have to be designed to allow background views between and over them (i.e., so the mountains and Mystic Lake are not fully or largely obscured by buildings in the future). The conceptual landscape plans for the proposed project show trees will be planted along the south side of SR-60 to soften views of future buildings, but these will not fully obscure views of the buildings or parking areas, as the buildings may be taller than the trees will grow, and the buildings will extend farther into the midground and background views for many travelers. Even with the landscaping proposed by the WLC Specific Plan, development of this

area will eventually replace the existing flat agricultural fields with tall industrial warehouse buildings that may completely or partially block views of the lower slopes of Mount Russell, the Badlands, and Mystic Lake. If future buildings were to block views of these major scenic resources substantially (per GP Figure 7-2), the WLC project would result in significant visual impacts along SR-60. The simulated view from SR-60 is shown in Figure 4.1.5I (View 7).

Views from Gilman Springs Road. Travelers in both directions on Gilman Springs Road will have extensive views across the project site until the easternmost portion of the site is developed. As the site develops, the buildings would replace existing flat agricultural fields with industrial buildings. Buildings constructed in the eastern portion of the site may block foreground and midground views for travelers in both directions, depending on the location of the building and the traveler. There are no site plans at present to show exact building locations or individual building size/mass or heights, so the determination of impacts must be based on the characteristics of buildings allowed under the Specific Plan. Buildings adjacent to the roadway would be approximately 60 feet in height, while buildings away from the eastern perimeter (i.e., the west side of Gilman Springs Road) could be up to 80 feet tall. If all of the future buildings along the west side of Gilman Springs Road block views to the same degree as the Skechers building, this would be a significant visual impact as it would eliminate views of Mount Russell to the west and views of Mystic Lake to the south. The height and location of buildings along this portion of the project will have to be designed to allow background views between and over them (i.e., so the mountains and Mystic Lake are not fully or largely obscured by buildings in the future). The conceptual landscape plans for the proposed project show trees will be planted along the west side of Gilman Springs Road to soften views of future buildings, but these will not fully obscure views of the buildings or parking areas, as the buildings may be taller than the trees will grow, and the buildings will extend farther into the midground and background views for many travelers. Even with the landscaping proposed by the WLC Specific Plan, development of this area will eventually replace the existing flat agricultural fields with tall industrial warehouse buildings, which may completely or partially block views of the lower slopes of Mount Russell and Mystic Lake. If future buildings block views of these major scenic resources substantially (per GP Figure 7-2), the WLC project would result in significant visual impacts along Gilman Springs Road. The simulated view from this vantage point is shown in Figure 4.1.5J (View 8).

On-site Views. As the WLC project is developed, views from the various rural residences on site will become increasingly blocked, depending on the relative locations and heights of buildings. Over time, these views will be blocked by new logistics warehouse buildings.

In addition to the cross-sections in the WLCSP, LPA Architects created photographic renderings at ten locations to illustrate existing and future views from various vantage points around the WLC site. The following analysis of views is organized by the corresponding rendering(s). These renderings used actual photographs of the sites and superimposed a rendering of potential future buildings within the WLCSP, consistent with Specific Plan development guidelines. These renderings represent possible architectural treatments under the WLCSP design guidelines.

Views from Residences Southwest of the Site. As the project develops, views of the project site from existing residences southwest of the site will fundamentally change from vacant agricultural land to an urbanized logistics campus with major warehouse buildings, roadways, landscaping, and signage. The change in views would be softened somewhat by landscaping, which will be subject to the architectural and landscaping design guidelines outlined in the Specific Plan. All building proposals will be subject to a discretionary plan review process by the City with the opportunity for the public input and comment.

The WLCSP restricts building heights to 60 feet along the perimeter of the project and 80 feet for non-perimeter buildings. The WLCSP also allows for the building office entrances and corners to be slightly higher than the main portions of buildings. By comparison, single-family residences southwest of the proposed project have an approximate maximum height of 18 feet for single-story homes and 30 feet for two-story homes. It should be noted that there is an existing windrow of olive trees along the east side of Redlands Boulevard between Cottonwood Avenue north to 700 feet north of Dracaea Avenue (almost 1,800 feet or a third of a mile in total). This windrow would help soften views of the WLCSP site from the homes west of the windrow for as long as the windrow remains in place.

The WLCSP requires that a landscaped berm be installed along the Redlands Boulevard right-of-way to soften project views from residential areas to the west. The Specific Plan requires that all truck accessways and loading areas be at least 250 feet from residential properties along Redlands Boulevard, Bay Avenue, and Merwin Street. The Specific Plan includes renderings of potential future buildings, which illustrate that future buildings will be largely screened by the landscaped berm and landscaping. While the Specific Plan requires the use of native, drought-tolerant species throughout the project site, the areas adjacent to residential uses along Redlands Boulevard, Bay Avenue, and Merwin Street will receive a more extensive landscape treatment (WLCSP Section 4.2). However, landscaping will take a number of years to mature to a height that would soften views from residential areas. Even with the setbacks, berms, walls, and landscaping required by the WLC Specific Plan, the proposed development will fundamentally change views generally available to the public in this area (i.e., area residents driving or walking along Redlands Boulevard, Bay Avenue, and Merwin Street). This is a significant impact and requires mitigation. The photographic renderings for the project show proposed landscaping upon installation and at maturity (assumed to be approximately 15 years) for each rendered location.

Views from the South. The existing view from the San Jacinto Wildlife Area north toward the Badlands will eventually be blocked by future buildings, resulting in visual impacts from this area. Buildings in this area will be limited in height to 60 feet, and the 250-foot landscaped buffer will set back the buildings from the SJWA boundary.

Views from the East. Permanent views from existing residences east of Gilman Springs Road will fundamentally change. The views they now have of the agricultural fields on the project site will eventually be replaced by a view of an urbanized area consisting of warehouse buildings, parking areas, streets, and ornamental landscaping. The proposed buildings will not block views of the Mount Russell Range to the southwest but may block or partially block views of the Mystic Lake area.

Transient/Motorist Views along Gilman Springs Road. Transient views for travelers on Gilman Springs Road will fundamentally change over time, as future buildings within the WLCSP will be visible to travelers in both directions, replacing existing views of agricultural fields. Eventually buildings within the Specific Plan may block or partially block views of the lower slopes of the Mount Russell Range, as well as views of Mystic Lake for southbound drivers. This is a potentially significant impact requiring mitigation.

Transient/Motorist Views along SR-60. Transient views for travelers on SR-60 will fundamentally change over time, as future logistics buildings will be visible as development occurs in the project area, replacing existing views of agricultural fields. Eventually buildings within the Specific Plan may block or partially block views of the lower slopes of the Badlands and the lower slopes of the Mount Russell Range, as well as views of Mystic Lake, depending on the driver's location and viewing angle. When buildings are eventually built adjacent to the south side of SR-60, views across the valley floor and farther south toward Mystic Lake, may be completely blocked.

Views from the North. Permanent views for residences north of SR-60 will change, and the upper portions of some of the future logistics buildings closest to SR-60 may be visible above the freeway. For residences that are elevated, views across the freeway may be more extensive and residents may see more of the WLC project as it develops. The proposed buildings are not expected to block views of the Mount Russell Range to the south or the Badlands to the southeast, but may eventually completely or partially block distant views of the vacant agricultural land and of Mystic Lake.

Views related to Off-site Improvements. Most project-related infrastructure improvements will not change existing views except for the future Theodore Street/SR-60 interchange improvements. When this interchange is rebuilt, views from some homes northwest of the intersection (i.e., looking southeast) may be incrementally affected by a larger, possibly higher bridge structure, depending on the ultimate design.

Construction of three off-site reservoir tanks will affect views of neighbors living near the new tanks. A new 1860 Zone tank southeast of SR-60/Gilman Springs Road and a new Zone 1967 tank just east of Theodore Street/Ironwood Avenue may be visible to some residents living northwest of Theodore Street/SR-60. In addition, a new 1764 Zone tank off of Cottonwood Avenue west of Redlands Boulevard may be visible to some residents living off of or driving along Cottonwood Avenue (see previously referenced Figure 3.13, *Water System*). However, views of a water tank are incremental and generally consistent with suburban areas, so these changes in views would not be considered significant.

General Plan Policies. These anticipated visual changes, while substantial, are generally consistent with General Plan Objective 7.7 in the Conservation Element regarding visual resources, which states, “Where practicable, preserve significant visual features, significant views, and vistas.” Based on the analysis in the preceding section, the WLCSP can preserve significant visual features, significant views, and vistas if the size and location of buildings developed under the WLCSP can be controlled so as to not substantially block views of Mount Russell, the Badlands, and Mystic Lake. The views from all areas surrounding the WLC site will fundamentally change as development occurs, but views of major scenic resources (i.e., Mount Russell, the Badlands, and Mystic Lake) may be largely preserved through careful limitations on the height and location of future buildings. The WLCSP outlines how future development will be made visually attractive and, through careful limitations on the height and location of future buildings and scenic views of the surrounding mountains and Mystic Lake can be preserved through mitigation.

Impact Summary: Scenic Vistas. The implementation of the proposed project will obstruct and/or substantially affect scenic views for residents living within, or in the vicinity of, the project, and for travelers on SR-60, Gilman Springs Road, Redlands Boulevard, Theodore Street, and Alessandro Boulevard. Many of the views of the motoring public while on local roadways will fundamentally change; instead of views of open agricultural land, these residents and motorists will view new logistics buildings and the associated parking areas, roadways, infrastructure, and landscaping. Therefore, the project will have a significant visual impact. The degree to which these buildings may block views of major scenic resources (i.e., Mount Russell, the Badlands, and Mystic Lake) will depend on the location and heights of buildings. This impact requires mitigation; however, this change in views, while substantial, is anticipated in the City’s General Plan, which allows development within the project area. At present, the General Plan allows development of a mixed-use residential community (i.e., Moreno Highlands Specific Plan), which would mainly be one-story and two-story buildings (approximate maximum height 35 feet). The WLCSP proposes to instead develop the site with logistics warehouse buildings (maximum height 60–80 feet), so this change in itself would represent a significant visual impact. In addition, the eventual change in views from existing (baseline) conditions is substantial and is considered a significant visual impact on scenic vistas.

Project or Specific Plan Design Features. The WLC Specific Plan contains design guidelines for architecture and landscaping within the site, which will guide the design of all project buildings toward attractive and visually appealing treatments. Section 2.0 of the Specific Plan indicates that warehouse uses will occur throughout the site, except for the 75 acres at the southwest corner of the site designated for Open Space (OS). Section 5.0 of the Specific Plan outlines the design standards to be applied to development within the project site, including Site Plan Guidelines (5.1), Architecture (5.2), Landscaping (5.3), and Lighting (5.4).

Specific Plan Section 5.1 indicates the project will utilize "Sustainable Design" to reduce pollution and conserve natural resources by considering renewable energy systems, minimize the use of potable water, use atriums, skylights and internal courtyards to provide daylighting, orient buildings to screen loading and service areas, collect rainwater to irrigate drought-tolerant landscaping, provide landscaped outdoor plazas or entries, screen all truck yards from public view, etc.

Specific Plan Section 5.2 indicates building designs should "employ clean, simple, geometric forms and coordinated massing that produce overall unity, scale, and interest." They should have appropriate façades, fenestration, glazing materials, roofs, colors, etc. Appropriate building design includes visible vertical support, visible structural base, functional, straightforward elements, columns integrated into the façade, and proper structural scale. The visual examples of what are appropriate and what are not also helps the reader to understand how the future buildings will appear.

Mitigation Measures. The sizes, heights, and general locations of buildings on the site are limited by the standards and guidelines contained in the Specific Plan. The following mitigation measures are recommended to reduce project impacts related to the potential loss of public viewsheds:

4.1.6.1A Prior to the issuance of any discretionary permit for development along the western boundary of the WLCSP, a minimum 250-foot setback shall be verified from closest residential property line along Redlands Boulevard, Bay Avenue, and Merwin Street to any truck access area of the WLC project. The setback area shall include berms, planted walls, and landscaping sufficient to provide effective visual screening between new development and existing residences upon maturity of the landscaping materials. Prior to development of the portion of the WLC Specific Plan property adjacent to Redlands Boulevard, the existing olive trees shall remain in place as long as practical to help screen views of the project site. This measure shall be implemented to the satisfaction of the City Planning Division.

4.1.6.1B Prior to the issuance of any discretionary permit for development under the WLCSP adjacent to Redlands Boulevard, Bay Avenue, and Merwin Street, the developer shall provide a plot plan or site plan, landscaping plan, and visual rendering(s) consistent with the WLCSP that accurately illustrate the appearance of the proposed development. The renderings shall be sufficient to demonstrate that views of the buildings and trucks will be effectively screened from view by existing residents upon maturity of planned landscaping. The location and number of view presentations shall be at the discretion of the City Planning Division.

Level of Significance after Mitigation. After implementation of the proposed mitigation measure(s), adverse effects on scenic vistas would remain significant and unavoidable due to the fundamental change in public views for residents within and surrounding the project site, for travelers on SR-60, Gilman Springs Road, Redlands Boulevard, Theodore Street, and Alessandro Boulevard, and for users of the San Jacinto Wildlife Area.

4.1.6.2 Scenic Resources and Scenic Highways

Impact 4.1.6.2: *The proposed project would have a significant impact on the views of scenic resources for motorists traveling on SR-60 and Gilman Springs Road.*

Threshold	Would the proposed project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway and/or local scenic road?

The California Department of Transportation (Caltrans) Scenic Highway Program does not identify any State-designated scenic highways[1] near the project site[2]. However, the City of Moreno Valley identifies SR-60 and Gilman Springs Road as local scenic roads.[3] According to the City's General Plan EIR, major scenic resources within the Moreno Valley study area are visible from SR-60, and Gilman Springs Road, both City-designated local scenic roadways. It should be noted that Moreno Beach Drive, the other City-designated scenic route (per GP policy 7.7.4), is approximately one mile west of the project site. The proposed project would not be visible from Moreno Beach Drive, so it will not be analyzed further in this document. According to the City's General Plan, the built environment is equally important as natural landforms in terms of scenic values (e.g., buildings, landscaping, and signs).

Section 4.1.6.1 of this EIR determined that the proposed project could have a substantial adverse impact on one or more scenic vistas, including views of the Mount Russell Range and the Badlands for both residents and travelers on SR-60 and Gilman Springs Road.

The project is not required to provide a formal Visual Impact Assessment (VIA) to Caltrans since SR-60 is not a state-designated scenic highway; however, a cursory application of typical VIA requirements is useful in evaluating potential visual impacts of the project relative to travelers on SR-60 just north of the site. According to the Caltrans Handbook, a VIA is typically considered for projects that have the potential to change the "visual" environment. The level of assessment for the VIA can range from "no formal analysis" to a "complex analysis" and is determined by many factors such as numbers of viewer groups affected; existence of scenic resources; degree and totality of the proposed changes in the visual environment; local concerns or project controversy; and cumulative impacts along the transportation corridor.

In order to establish the need and level of study for a VIA, a preliminary evaluation is performed to determine if the project will cause any physical changes to the environment. This preliminary evaluation includes activities such as conducting a site visit to inventory the scenic resources of the project site, estimating potential changes to that character, and identifying viewer groups and public concerns or opposition to the proposal.

The following analysis of visual impacts of the project was conducted with the VIA criteria in mind. Even though a Caltrans VIA was not prepared, the following evaluation of potential impacts to visual resources is based on guidance from the following resource documents:

- Federal Highway Administration (FHWA) Technical Advisory T6640.8;
- FHWA Guidance HI-88-054: Visual Impact Assessment for Highway Projects;
- Title 23 U.S.C. 109 (h); and

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1 A State Scenic Highway is defined as any freeway, highway, road, or other public right-of-way, that traverses an area of exceptional scenic quality.

2 *Eligible and Officially Designated Routes,* California Department of Transportation Scenic Highway Program, http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm, website accessed April 4, 2012.

3 *Conservation Element, Figure 7-2 Major Scenic Resources,* City of Moreno Valley General Plan, adopted July 11, 2006.

- FHWA DOT-FH-11-9694: Visual Impact Assessment for Highway Projects, as published by the American Society of Landscape Architects.

Table 4.1.B provides the thresholds for a qualitative analysis as to what would be considered a minor, moderate, or major visual intrusion along scenic highways.

Table 4.1.B: Visual Intrusion Criteria

Type of Intrusion	Characteristics
Minor	Widely dispersed buildings; natural landscape dominates; wide setbacks and buildings screened from roadway; exterior colors and materials are compatible with environment; or buildings have cultural or historical significance.
Moderate	Increased number of buildings, but complementary to the landscape; smaller setbacks and lack of roadway screening; buildings do not degrade or obstruct scenic view.
Major	Dense and continuous development; highly reflective surfaces; buildings poorly maintained; visible blight; development along ridgelines; or buildings degrade or obstruct scenic view.

Source: *Scenic Highway Guidelines,* California Department of Transportation, March 1996; http://www.dot.ca.gov/hq/LandArch/scenic/guidelines/scenic_hwy_guidelines.pdf, site accessed April 27, 2012. Page 23.

The following analysis is generally based on the visual intrusion criteria from the Caltrans Guidelines for the Official Designation of Scenic Highways. These criteria, as identified in Table 4.1.B, provide for a qualitative analysis as to what would be considered a minor, moderate, or major visual intrusion along scenic highways. Existing views for motorists traveling eastbound and westbound on SR-60 consist of agricultural fields in the foreground and midground, and the Mount Russell Range and Badlands in the background. As previously identified in Figures 4.1.4 and 4.1.5, development of the proposed project would significantly alter the existing view by introducing large industrial buildings adjacent to the freeway. Existing eastbound and westbound views on SR-60 and Gilman Springs Road would be fundamentally altered with the future development of the proposed project. Views of the project buildings would occur for up to 112 seconds or almost two minutes when motorists are traveling at normal freeway speeds (approximately 9,000 feet or 1.7 miles @ 55 mph, Redlands Boulevard to Gilman Springs Road). Views would be even longer during rush hour or times of congestion when freeway speeds are below 55 mph, and shorter higher freeway speeds.

According to Figure 5-3 in the WLCSP (Building Height Plan, and Figure 3.9 in the Project Description of this EIR), the perimeter portions of the site will have buildings with heights up to 60 feet, and some of the buildings south of Street C (southeastern portion of the site but not adjacent to the San Jacinto Wildlife Area), would have heights of up to 80 feet. Since the Skechers building (roof height approximately 1,790 feet amsl) is already visible throughout the project site and from off-site areas to the east, south, and southwest, it is likely that most new buildings will be visible from these areas or possibly even farther away, depending on building heights and locations. The use of light colors and reflective surfaces such as glass and polished metal near office entrances and building corners, such as required in the WLC Specific Plan design guidelines, will enhance the visibility of these buildings.

The proposed sound walls and ornamental landscaping would soften the visual impacts of future buildings, but the proposed project would likely result in at least a partial obstruction of a portion of the Mount Russell Range for motorists traveling on SR-60, so the proposed buildings may obstruct the view of a major scenic feature from a City-designated scenic route. The proposed project meets criteria in both the moderate and major visual intrusion categories. Therefore, it is anticipated that the WLC Specific Plan design guidelines may create a major visual intrusion (i.e., significant impact) for motorists traveling on SR-60 and Gilman Springs Road.

General Plan Policies. These anticipated visual changes, while substantial, are generally consistent with the General Plan policies in the Conservation Element regarding visual resources and scenic routes, as outlined in Section 4.1.2.2 and excerpted below:

Objective 7.7 Where practicable, preserve significant visual features, significant views, and vistas.

Policy 7.7.4 Gilman Springs Road, Moreno Beach Drive, and State Route 60 shall be designated as local scenic roads.

Policy 7.7.5 Require development along scenic roadways to be visually attractive and to allow for scenic views of the surrounding mountains and Mystic Lake.

Based on the analysis in the preceding section, the WLCSP can preserve significant visual features, significant views, and vistas if the size and location of buildings developed under the WLCSP can be controlled so as to not substantially block views of Mount Russell, the Badlands, and Mystic Lake. The views from SR-60 and Gilman Springs Road will fundamentally change, but their views of major scenic resources (i.e., Mount Russell, the Badlands, and Mystic Lake) may be preserved through careful limitations on the height and location of future buildings. The WLCSP outlines how future development along SR-60 and Gilman Springs Road will be made visually attractive and can maintain some view corridors of the surrounding mountains and Mystic Lake through careful limitations on the height and location of future buildings. These are considered significant visual impacts on local scenic roads that will require mitigation.

Project or Specific Plan Design Features. As outlined in the previous section, the WLCSP contains architectural and design guidelines that require the construction of attractive warehouse buildings and surrounding grounds. The WLCSP provides examples of building designs, materials, colors, and landscaping that would be allowed (or not allowed) within the Specific Plan. Section 5.0 of the Specific Plan outlines the design standards to be applied to development within the project site, including Site Plan Guidelines (5.1), Architecture (5.2), Landscaping (5.3), and Lighting (5.4).

Specific Plan Section 5.1 indicates the project will utilize “Sustainable Design” to reduce pollution and conserve natural resources by considering renewable energy systems, minimize the use of potable water, use atriums, skylights and internal courtyards to provide daylighting, orient buildings to screen loading and service areas, collect rainwater to irrigate drought-tolerant landscaping, provide landscaped outdoor plazas or entries, screen all truck yards from public view, etc.

Specific Plan Section 5.2 indicates building designs should “employ clean, simple, geometric forms and coordinated massing that produce overall unity, scale, and interest.” They should have appropriate façades, fenestration, glazing materials, roofs, colors, etc. Appropriate building design includes visible vertical support, visible structural base, functional, straightforward elements, columns integrated into the façade, and proper structural scale. The visual examples of what are appropriate and what are not also helps the reader to understand how the future buildings will appear.

However, even with the extensive design features of the Specific Plan, the resulting change in views from SR-60 and Gilman Springs Road will be significant, and mitigation is required.

Mitigation Measures. Construction of future logistics warehousing according to the development standards and design guidelines of the WLC Specific Plan will help soften building façades, and the installation of ornamental landscaping will help buffer the visual appearance of the buildings from SR-60, but the obstruction of local views will still be significant. Implementation of **Mitigation Measures 4.1.6.1A** through **4.1.6.1B** will help reduce these impacts, but not to less than significant levels.

Level of Significance after Mitigation. Even with implementation of **Mitigation Measures 4.1.6.1A** through **4.1.6.1B**, the loss of views from SR-60 and Gilman Springs Road will remain a significant and unavoidable visual impact, but one that is nonetheless consistent with the City's applicable General Plan policies.

4.1.6.3 Existing Visual Character and Surroundings

Impact 4.1.6.3: *The proposed project will significantly degrade the existing visual character of the project site from open space to an urbanized setting by introducing large high cube logistics warehouse buildings.*

Threshold	Would the proposed project substantially degrade the existing visual character or quality of the site and its surroundings?

Visual impacts associated with changes to the general character of the project site (e.g., loss of open space), the components of the visual settings (e.g., landscaping and architectural elements), and the visual compatibility between proposed site uses and adjacent land uses would occur. The significance of visual impacts is inherently subjective as individuals respond differently to changes in the visual characteristics of an area. The project site is currently undeveloped with existing agricultural fields throughout the site. Development of the proposed industrial uses on the project site would include approximately 41.6 million square feet of warehouse distribution uses with associated parking areas, ornamental landscaping, and roadway and infrastructure on approximately 2,635 acres. Maximum building heights will range from 60 to 80 feet depending on location within the project (i.e., buildings around the perimeter of the project will be 60 feet in height) and will substantially change the views of both nearby residents and motorists on adjacent roadways.

The proposed project would also change views for travelers on the adjacent portion of SR-60 and Gilman Springs Road by introducing large industrial buildings in place of agricultural vacant land. The proposed buildings closest to the freeway would most likely have an average height of approximately 55 to 60 feet, although the maximum height may be increased by 10 feet, which would exceed the existing height of the adjacent freeway by approximately 30 feet.

Development of the proposed project would substantially and fundamentally change the existing character of the project site from open space to an urbanized setting with many large logistics buildings. The change in the character of the site would constitute a significant alteration of the existing visual character of the WLC project site, regardless of the architectural treatment and landscaping of the site. These impacts would be especially significant for residents of the existing residences on the project site, depending on the timing, location, and size of development in the future.

The proposed WLCSP includes a variety of architectural elements including façade accents such as corner treatments and roof trim. The project also provides variation in wall planes that serve to avoid an institutional appearance and break up the bulk of the buildings. This variation would create shadow lines at various times of the day.

The proposed warehouse buildings and ornamental landscaping would replace the widespread agricultural fields and scattered landscaping plants on the site. Landscaping would be provided in accordance with the Specific Plan Landscaping Guidelines.

The City recently approved an amendment to the Municipal Code requiring a 250-foot setback between industrial uses (i.e., the closest building and/or parking areas) and residential uses (i.e., Municipal Code Section 9.06). The Specific Plan design guidelines require specific setback distances. These required setbacks are shown in Section 4.2, *Offsite Landscaping*, of the Specific Plan. This section also includes a number of line-of-sight cross-sections and landscaping plans for the setbacks

along the west side of the project. These setbacks provide a minimum 250 feet from existing residences to new proposed buildings or truck activity areas, consistent with the intent of Municipal Code Section 9.06.

In summary, the proposed setbacks, landscaping, berms, and walls outlined in the Specific Plan appear sufficient to provide adequate visual screening between proposed warehouse buildings and the existing residential uses. However, mitigation is required to ensure the actual design and appearance of setback areas will effectively screen new development from existing residences and neighboring roadways.

Consistency with General Plan Policies. Sections 4.1.6.1 and 4.1.6.2 evaluated the WLC project relative to the General Plan objectives and policies in the Conservation Element. Table 4.1.C compares the WLCSP project to the General Plan objectives and policies in the Community Development Element:

Table 4.1.C: WLCSP Consistency with Community Development Element

General Plan Objective or Policy	Evaluation of WLCSP Consistency
Objective 2.5: Promote a mix of industrial uses which provide a sound and diversified economic base and ample employment opportunities for the citizens of Moreno Valley with the establishment of industrial activities that have good access to the regional transportation system, accommodate the personal needs of workers and business visitors, and which meets the service needs of local businesses.	**Consistent.** The WLCSP provides high cube logistics industrial uses near SR-60.
Policy 2.5.1: The primary purpose of areas designated Business Park/Industrial is to provide for manufacturing, research and development, warehousing and distribution, as well as office and support commercial activities. The zoning regulations shall identify the particular uses permitted on each parcel of land. Development intensity should not exceed a Floor Area Ratio (FAR) of 1.00 and the average FAR should be significantly less.	**Consistent.** The WLCSP provides warehousing that is at FAR 0.5, which is much less than the maximum allowed.
Policy 2.5.2: Locate manufacturing and industrial uses to avoid adverse impacts on surrounding land uses.	**Consistent.** The WLCSP provides setbacks and visual screening from neighboring residential and open space uses, and precludes project traffic through these areas as well.
Policy 2.5.3: Screen manufacturing and industrial uses where necessary to reduce glare, noise, dust, vibrations, and unsightly views.	**Consistent.** The WLCSP shows that the proposed warehouse buildings will be set back and screened from existing off-site residential uses.
Policy 2.5.4: Design industrial developments to discourage access through residential areas.	**Consistent.** WLCSP precludes project truck traffic through residential areas to the west and southwest, as outlined in the WLCSP circulation plan (see DEIR Figure 3.10).
Objective 2.10: Ensure that all development within the City of Moreno Valley is of high quality, yields a pleasant living and working environment for existing and future residents, and attracts business as the result of consistent exemplary design.	**Consistent.** The WLCSP provides high quality architectural and landscaping themes for the proposed buildings and grounds within the project.

Table 4.1.C: WLCSP Consistency with Community Development Element

General Plan Objective or Policy	Evaluation of WLCSP Consistency
Policy 2.10.1: Encourage a design theme for each new development that is compatible with surrounding existing and planned developments.	**Consistent.** The WLCSP encompasses 2,710 acres in the last remaining large vacant land in the City. It will create a new logistics center with unique design themes. This development will be set back and visually screened to make it compatible with other development within the project and screened from adjacent residential uses.
Policy 2.10.2: Screen trash storage and loading areas, ground and roof-mounted mechanical equipment, and outdoor storage areas from public view as appropriate.	**Consistent.** The WLCSP provides design and development guidelines that achieve these requirements.
Policy 2.10.3: Require exterior elevations of buildings to have architectural treatments that enhance their appearance. (a) A design theme, with compatible materials and styles should be evident within a development project. (b) Secondary accent materials, colors, and lighting should be used to highlight building features. (c) Variations in roofline and setbacks (projections and recesses) should be used to break up the building mass. (d) Industrial buildings shall include architectural treatments on visible façades that are aesthetically pleasing.	**Consistent.** The WLCSP contains detailed development and architectural design guidelines intended to provide high quality logistics warehousing development on the project site. The WLCSP design guidelines include secondary accents, roofline variations, setbacks, and façade treatments, consistent with this policy.
Policy 2.10.4: Landscaping and open spaces should be provided as an integral part of project design to enhance building design, public views, and interior spaces, provide buffers and transitions as needed, and facilitate energy and resource conservation.	**Consistent.** The WLCSP emphasizes landscaping and energy conservation or sustainability concepts as an integral part of project design. The entire southern boundary and the southwest corner of the project will be permanent open space.
Policy 2.10.5: Development projects adjacent to freeways shall provide landscaped buffer strips along the ultimate freeway right-of-way.	**Consistent.** The WLCSP provides extensive landscaping along the south side of SR-60.
Policy 2.10.6: Buildings should be designed with a plan for adequate signage. Signs should be highly compatible with the building and site design relative to size, color, material, and placement.	**Consistent.** The WLCSP includes a section on signage to provide a comprehensive plan for signage throughout the project area.
Policy 2.10.7: On-site lighting should not cause nuisance levels or glare on adjacent properties.	**Consistent with Mitigation.** The WLCSP contains lighting guidelines for future development, but ambient light level impacts will need to be calculated and, if necessary, mitigated through the City's site plan review process for each specific building proposed.
Policy 2.10.8: Lighting should improve the visual identification of structures.	**Consistent.** The WLCSP includes a section on signage with lighting for a comprehensive plan throughout the project area.
Policy 2.10.9: Fences and walls should incorporate landscape elements and changes in materials or textures to deter graffiti and add visual interest.	**Consistent.** The WLCSP design guidelines require that fences and walls incorporate landscaping and materials designed to reduce graffiti.
Policy 2.10.10: Minimize the use and visibility of reverse frontage walls along streets and freeways by treatments such as landscaping, berming, and "side-on" cul-de-sacs.	**Consistent.** The WLCSP design guidelines do not allow reverse frontage walls. The SR-60 freeway frontage along the north side of the project will be fully landscaped.
Policy 2.10.11: Screen and buffer non-residential projects from adjacent residential property and other sensitive land uses when necessary to minimize noise, glare, and other adverse effects on adjacent uses.	**Consistent.** The WLCSP provides a physical and visual setback to screen new warehouse buildings from existing residential buildings.

Table 4.1.C: WLCSP Consistency with Community Development Element

General Plan Objective or Policy	Evaluation of WLCSP Consistency
Policy 2.10.12: Screen parking areas from streets to the extent consistent with surveillance needs (e.g., mounding, landscaping, low profile walls, and/or grade separations).	**Consistent.** The WLCSP requires parking areas to be screened consistent with surveillance needs.
Policy 2.10.13: Provide landscaping in automobile parking areas to reduce solar heat and glare.	**Consistent.** The WLCSP landscaping plan provides for planting vegetation in parking areas that will help provide shade and reduce glare.

Due to the size and nature of the project, development of the WLCSP will eventually degrade the existing visual character of the area to a significant degree.

Project or Specific Plan Design Features. As outlined in previous sections, the WLCSP contains architectural and design guidelines that will encourage the construction of attractive warehouse buildings and surrounding grounds. The WLCSP provides examples of building designs, materials, colors, and landscaping that would be allowed (or not allowed) within the Specific Plan.

Mitigation Measures. Incorporation of the proposed design guidelines, landscaping guidelines, and **Mitigation Measures 4.1.6.1A and 4.1.6.1B** will help soften the visual appearance of the buildings from SR-60, Gilman Springs Road, and nearby residences. However, the fundamental change in visual character of the area will still be significant. Even with compliance with the City's General Plan and Municipal Code development guidelines for industrial development, including the 250-foot setback between industrial and residential land uses, the anticipated fundamental change in views expected in this area will be significant. Due to the heights and mass of buildings needed to accommodate the proposed land uses, no feasible mitigation is available that would reduce these potential impacts to less than significant levels. However, the following measure will help reduce the project's visual impacts on adjacent residential development:

4.1.6.3A Prior to the issuance of any discretionary permit for development under the WLCSP, the developer shall provide a site plan, landscaping plan, and visual rendering(s) consistent with the WLCSP that demonstrate changes in views of Mount Russell, the Badlands, and/or Mystic Lake for travelers along SR-60 or Gilman Springs Road, as appropriate. The renderings shall be sufficient to demonstrate typical views based on proposed site and landscaping plans, but the location and number of view presentations shall be at the discretion of the City Planning Division. These views shall be simulated from a height of six feet from the edge of the roadway travel lane closest to the visual resource.

Level of Significance after Mitigation. Even with implementation of **Mitigation Measures 4.1.6.1A** through **4.1.6.1B** and **4.1.6.3A**, the substantial change in visual character of the project site and surrounding area from development of the proposed project will cause aesthetic impacts to remain significant and unavoidable.

4.1.6.4 Light and Glare

Impact 4.1.6.4: *The proposed project will introduce a significant new source of light and glare into the project area.*

Threshold	Would the proposed project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Currently, there are few sources of light or glare on the project site and there is little or no impact on adjacent properties. Existing sources of light and glare in the surrounding area include the new Skechers building to the northwest of the project site, SR-60 traffic, streetlights, exterior lighting from the nearby residences, and vehicle headlights from motorists on Gilman Springs Road, Redlands Boulevard, Theodore Street, and Alessandro Boulevard.

Development of the project site would introduce numerous new sources of light and glare into the area in the form of street lighting, parking lots, and security lighting for the buildings and nighttime traffic.

The WLCSP requires that all site lighting be oriented downward so as to not project direct light rays upward into the sky or onto adjacent properties. The development of the project will cause a significant increase in light and glare in the area. This new lighting will incrementally affect nighttime conditions in the area.

The WLC Specific Plan requires energy-efficient lighting in most cases, but does allow mercury or incandescent lighting under some conditions (i.e., limited walkway or entryway applications). In addition, the lighting guidelines of the Specific Plan require high-pressure sodium or light-emitting diodes (LEDs) that produce a very “white” color of light, which allows for accurate color rendition (e.g., compared to low-pressure sodium, which produces an orange-tinged light that skews color rendition).

Exterior surfaces of the concrete tilt-up structure would be finished with a combination of architectural coatings, trim, and/or other building materials such as concrete and brushed metal. The proposed project will incrementally increase the amount of daytime glare in the project area by introducing windows and metal fixtures into the area. All development in the City, which includes light generated from warehouse buildings and parking lots, is required to adhere to lighting requirements contained in the City’s Municipal Code (Section 9.08.100 Lighting), which states that any outdoor lighting associated with nonresidential uses shall be shielded and directed away from the surrounding residential uses. Such lighting shall not exceed one-quarter (0.25) foot-candle at property lines and shall not blink, flash, oscillate, or be of unusually high intensity or brightness. Lighting in parking areas and drive aisles must be at least 1.0 foot candle and cannot exceed a maximum of 8.0 foot candles.

Adherence to the City’s Zoning Code would help reduce potential building or parking lighting impacts, but the location of industrial uses adjacent to residential uses would not reduce potential lighting impacts on adjacent residential uses to less than significant levels.

The WLC Specific Plan also allows for the installation of roof-mounted solar panels on future warehouse buildings (i.e., the WLCSP will provide “solar ready” buildings) and these panels may produce unintended glare to the southeast, south, and southwest of the site, depending on the angle of the sun, the number and location of panels, and the degree to which the building parapet blocks views of the panels from surrounding land uses. Without additional information, this impact is determined to be potentially significant and requires mitigation.

Consistency with General Plan Policies. The only General Plan policy that specifically addresses lighting is Policy 2.10.7, which states, **"**On-site lighting should not cause nuisance levels or glare on adjacent properties." Due to the amount of new development proposed, the project's impact relative to nuisance lighting and glare is potentially significant, even with implementation of the development and lighting design guidelines in the WLCSP. Therefore, mitigation is required.

Consistency with Municipal Code Requirements. The recent changes to the Municipal Code from Ordinance 851 will help control lighting impacts of the proposed project relative to adjacent residential properties. All development within the Specific Plan adjacent to residences along Redlands Boulevard, Bay Avenue, and Merwin Street will be required to demonstrate compliance with the off-site light spillage requirements of Section 9.08.100 of the Municipal Code.

Project or Specific Plan Design Features. The WLCSP contains lighting standards and design guidelines that will require the minimal use of lighting for building visibility and safety at night. The WLCSP provides examples of lighting that would be allowed (or not allowed) within the Specific Plan. However, Section 5.4.1 of the Specific Plan states that, "… lighting in the vicinity of the San Jacinto Wildlife Area shall be designed to confine all direct light rays to the project site and preclude the visibility of direct light rays from the wildlife area" (WLCSP page 126).

In addition, the Specific Plan includes the following guidelines regarding lighting (WLCSP page 127):

5.4.2.2 All exterior on-site lighting must be shielded and confined within site boundaries. No direct rays or glare are permitted to shine onto public streets or adjacent lots.

5.4.2.3 Lighting fixtures are to be of clean, contemporary design.

5.4.2.4 Lighting must meet all requirements of the City of Moreno Valley.

5.4.2.5 Tilted wall fixtures (i.e., light fixtures which are not 90 degrees from vertical) are not permitted. Lights mounted to the roof parapet are not permitted. Wall-mounted light fixtures used to illuminate vehicular parking lots are not permitted.

5.4.2.6 Wall-mounted utility lights that cause off-site glare are not permitted. "Shoebox" lights are preferred.

Mitigation Measures. Even with compliance with the City's General Plan, Municipal Code, and the Specific Plan's development guidelines for lighting and building materials, the anticipated lighting and glare changes in this area will be potentially significant, especially adjacent to the San Jacinto Wildlife Area. Implementation of **Mitigation Measures 4.1.6.1A** through **4.1.6.1B** will help reduce related visual impacts, while **Mitigation Measures 4.1.6.4A** through **4.1.6.4C,** below, will help reduce light and glare associated with the new buildings near the SJWA. The project will also have to comply with the lighting requirements of Mount Palomar Zone B.

In addition, the following measures are recommended to help ensure that potential lighting impacts of the project will remain at less than significant levels:

4.1.6.4A Each project proposed to be developed under the WLCSP adjacent to residential development shall provide a photometric plot of its proposed exterior lighting prior to the issuance of building permits. This plot shall demonstrate that it is consistent with the requirements of Section 9.08.100 of the City Municipal Code, to the satisfaction of the City's Planning Division. The lighting study shall indicate the expected increase in ambient night light levels at the property lines of adjacent residential uses (i.e., in the southwestern and western portions of the project site). The study shall demonstrate

that the proposed lighting fixtures and/or visual screening do not exceed City standards regarding ambient light level impacts.

4.1.6.4B Prior to the issuance of any building permits for development under the WLCSP, the developer shall provide an analysis of any solar panels to be installed on the roof of the new building. The analysis shall demonstrate that, under "worst case" annual conditions, glare from the proposed panels will not leave the confines of the roof, based on building roof parapet design, and affect adjacent residential uses or public travelers along perimeter roadways. Design or construction modifications necessary to meet these requirements shall be implemented to the satisfaction of the City Planning Division.

4.1.6.4C Prior to the issuance of any building permit for development under the WLCSP, low-pressure sodium (LPS) lighting shall be installed on the south sides of any building adjacent to the San Jacinto Wildlife Area (SJWA) to minimize "white" light spillage into the SJWA. This measure shall be implemented to the satisfaction of the City Planning Division based on consultation with the SJWA manager.

Level of Significance after Mitigation. Light and glare impacts of the proposed project can be reduced to less than significant levels by compliance with the lighting requirements of the City Municipal Code and implementation of **Mitigation Measures 4.1.6.4A** through **4.1.6.4C.**

4.1.7 Cumulative Impacts

Significant Cumulative Impact: The proposed project, in combination with other projects in the eastern portion of the City and along SR-60 and Gilman Springs Road, would have a cumulatively significant and unavoidable impact related to views, scenic resources, night lighting, and glare in this portion of the City.

The development of the proposed project would partially obstruct views of surrounding mountain vistas from various vantage points in and around the project area. Partial view opportunities would continue to be available over future buildings, along roadways, between development areas, etc. Development of lands within the City, particularly along SR-60, would result in the cumulative conversion from open space to urbanized land uses. The proposed project would continue the development of logistics uses along the south side of SR-60 east of the City's Auto Center. The proposed project, in conjunction with other cumulative projects, would be developed in a manner consistent with existing development trends in the City. Since other projects in the area will include similar distribution uses, it can be anticipated that such uses would have a similar design and massing as the proposed project. Since the proposed project would affect views of the surrounding mountains, it is reasonable to conclude that similar warehouse distribution uses would also obstruct views of the surrounding mountains. However, the analysis in Section 4.1.6.1 determined these visual impacts, though substantial, were consistent with applicable General Plan policies (Policy 7.7.4 in the Conservation Element). Based on this analysis, the proposed project, in combination with other cumulative projects in the surrounding area, will have a cumulatively significant and unavoidable impact related to aesthetics (i.e., views, scenic resources, and lighting) in this portion of the City.

The proposed, existing, and future development within the planning area will increase the amount of light and glare in the area. The cumulative lighting-related impacts of this new development would be reduced through the adherence to applicable City Municipal Code lighting standards. However, this project, in combination with the Auto Center and other approved high cube logistics development in this portion of the City, will result in cumulatively considerable light and glare impacts, and the proposed project will make a significant contribution to that cumulative impact.

4.2 AGRICULTURAL AND FORESTRY RESOURCES

This section discusses possible agricultural and forestry resource impacts attributable to the proposed project. It describes existing agricultural resources and State farmland classifications for the project site. This section focuses on applicable State, regional, and local policies regarding agricultural resources and the conversion of farmland to non-agricultural uses.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements that affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

The analysis contained in this section is based on the following reference documents:

- *Agricultural Mitigation Bank Memorandum*, County of Riverside Transportation and Land Management Agency, October 2, 2003.
- *Agricultural Resources Assessment for the World Logistics Center Specific Plan Draft Environmental Impact Report*, Parsons Brinckerhoff, February 12, 2012.
- A Guide to the Farmland Mapping and Monitoring Program, California Department of Conservation, Division of Land Resources Protection, 2004 Edition.
- California Land Evaluation and Site Assessment Model, Instruction Manual, California Department of Conservation, Office of Land Conservation, 1997.
- Conservation Element, City of Moreno Valley General Plan, adopted July 11, 2006.
- Google Maps Street View, imagery dated 2007.
- Moreno Valley General Plan Environmental Impact Report, SCH#200091075, certified July 2006.

- Moreno Valley Municipal Code, Chapter 9.06, current through February 2012.
- Riverside County Integrated Project website, http://www.rcip.org/, accessed April 5, 2012.
- Riverside County Land Use Conversions, 1998–2000, 2000–2002, 2002–2004, 2004–2006, California Department of Conservation, Division of Land Resources Protection.
- Riverside County 2010 Agricultural Production Report, 2010.
- Soil Survey Western Riverside County Area California, United States Department of Agriculture, November 1971.
- An Agriculture Industry Analysis of the Inland Empire, Andrew Chang & Company, LLC. March 12, 2012 (Appendix C).

The California Land Evaluation and Site Assessment (LESA) Model worksheets prepared for the project are included in Appendix C to this EIR (*Agricultural Resources Assessment for the World Logistics Center Specific Plan Draft Environmental Impact Report*, Parsons Brinckerhoff, February 2012).

4.2.1 Existing Setting

Most of the land within the project area has been utilized for agricultural purposes since the late 1880s. The area has a history of citrus production and dry land farming incorporating various agricultural activities such as frequent disking, infrequent pesticide application, and very limited irrigation. Due to a variety of local and regional economic factors, agricultural production is no longer a principal characteristic of the Moreno Valley economy.[1]

Based on the project biology study (MBA 2012) and the review of recent aerial photographs, currently approximately 2,452 acres or 90 percent of the 2,710-acre Specific Plan area is currently dry farmed, mainly with winter wheat. The remaining acreage of the Specific Plan area contains rural residences and related building/uses, and disturbed native vegetation in the northeast and southwest portions of the site.

Approximately 897 acres or 81 percent of the 1,104-acre open space properties that are owned by the State and public utility companies and located south of the Specific Plan site are in active agriculture; they are also being dry farmed primarily with winter wheat. The remaining land in this area includes disturbed native vegetation associated with Mystic Lake and public facilities, such as the two natural gas facilities.

Adjacent to the project area, suburban residential uses are located to the west, open space and scattered rural residential uses are located to the east, and State-owned open space properties, such as the Lake Perris Recreation Area and the San Jacinto Wildlife Area, are located to the southwest and south, respectively. 4.2.1.1 State Designated Farmland

The California Government Code (Section 65570) requires the collection and reporting of agricultural land use acreage and conversion by June 30 of each even-numbered year. Utilizing data from the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil survey and current land use information, the California Department of Conservation (DOC), the Farmland Mapping and Monitoring Program (FMMP)[2] compiles important farmland maps for each county within

[1] Conservation Element, City of Moreno Valley General Plan.
[2] A Guide to the Farmland Mapping and Monitoring Program, California Department of Conservation, Division of Land Resources Protection, 2004 Edition.

the State. Maps and statistics are produced biannually using a process that integrates aerial photo interpretation, field mapping, a computerized mapping system, and public review. These maps delineate land use in eight mapping categories (and one overlay category) and represent an inventory of agricultural soil resources within Riverside County (see Figure 4.2.1). The categories of land shown on these maps are listed below.

- **Prime Farmland:** Land that has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods.
- **Farmland of Statewide Importance:** Land that is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store moisture.
- **Unique Farmland:** Land of lesser-quality soils used to produce specific high economic value crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. It is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Examples of Unique Farmland crops include oranges, olives, avocados, rice, grapes, and cut flowers.
- **Farmland of Local Importance:** Land of importance to the local agricultural economy, as determined by each county's board of supervisors and local advisory committees, i.e., dairies, dry land farming, aquaculture, and uncultivated areas with soils qualifying for Prime Farmland and Farmland of Statewide Importance.

  Farmland of Local Importance in Riverside County, including the City of Moreno Valley, is defined as:

  - Lands with soils that would be classified as Prime and Statewide Farmland but lack available irrigation water.
  - Lands planted with dry land crops of barley, oats, and wheat.
  - Lands producing major crops for Riverside County but that are not listed as Unique crops. These crops are identified as returning one million or more dollars on the 1980 Riverside County Agriculture Crop Report. Crops identified are permanent pasture (irrigated), summer squash, okra, eggplant, radishes, and watermelons.
  - Dairylands, including corrals, pasture, milking facilities, hay and manure storage areas if accompanied with permanent pasture, or hayland of 10 acres or more.
  - Lands identified by city or county ordinance as Agricultural Zones or Contracts, which includes Riverside City "Proposition R" lands.
  - Lands planted with jojoba, which are under cultivation and are of producing age.

- **Grazing Land:** Land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock.

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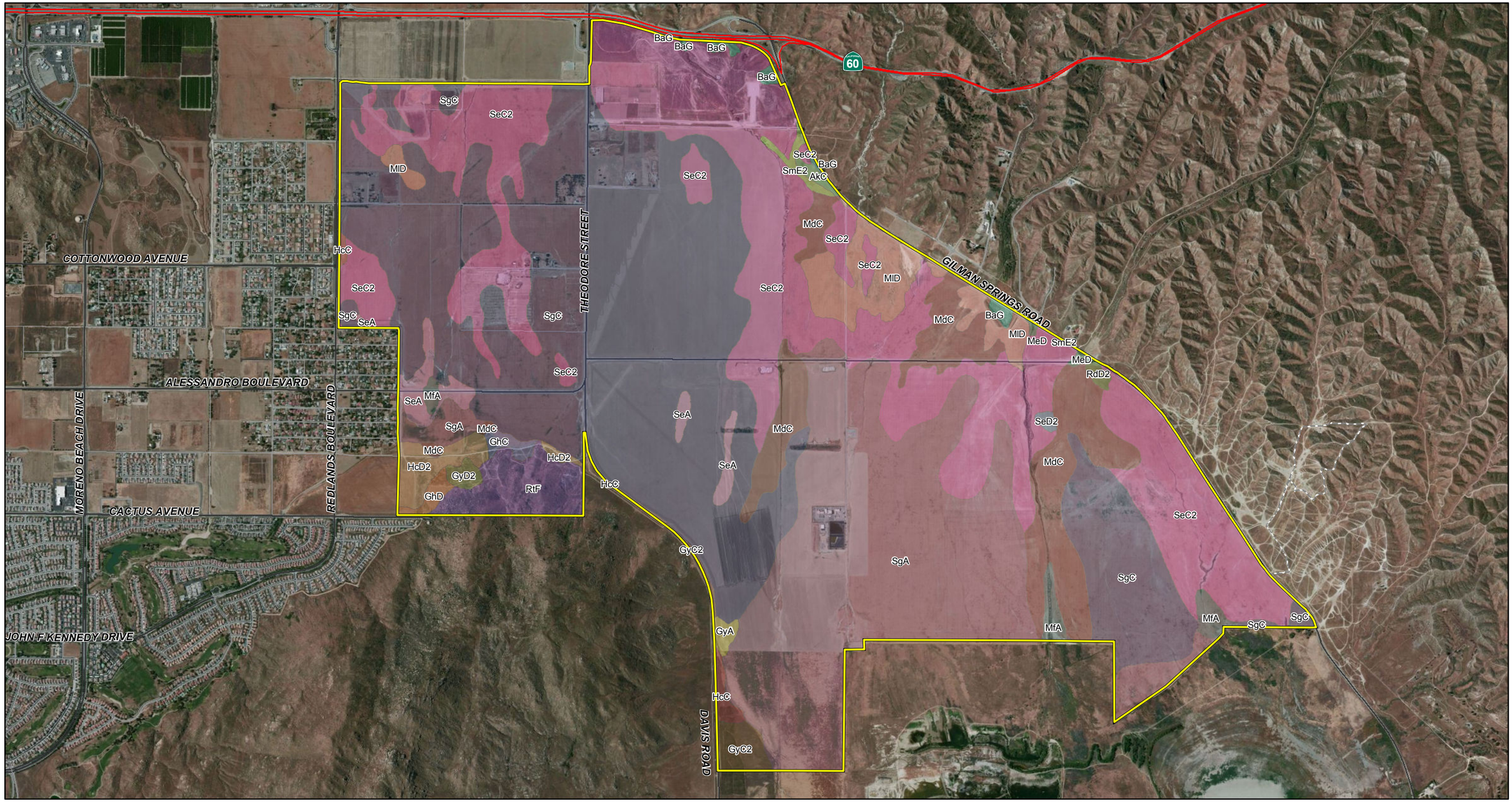

LSA

ProjectBoundary

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Soil Classification

- AkC, Arbuckle loam, 2-8 % slopes
- BaG, Badland
- GhC, Gorgonio loamy sand, 0-8 % slopes
- GhD, Gorgonio loamy sand, 8-15 % slopes
- GyA, Greenfield sandy loam, 0-2 % slopes
- GyC2, Greenfield sandy loam, 2-8 % slopes, eroded
- GyD2, Greenfield sandy loam, 8-15 % slopes, eroded
- HcC, Hanford coarse sandy loam, 2-8 % slopes
- HcD2, Hanford coarse sandy loam, 8-15 % slopes, erod ed
- MdC, Metz loamy sand, 2-8 % slopes
- MeD, Metz loamy sand, channeled, 0-15 % slopes
- MfA, Metz loamy fine sand, 0-2 % slopes
- MlD, Metz gravelly sandy loam, 2-15 % slopes
- RdD2, Ramona sandy loam, moderately deep, 8-15 % slo pes, eroded
- RtF, Rockland
- SeA, San Emigdio fine sandy loam, 0-2 % slopes
- SeC2, San Emigdio fine sandy loam, 2-8 % slopes, ero ded
- SeD2, San Emigdio fine sandy loam, 8-15 % slopes, er oded
- SgA, San Emigdio loam, 0-2 % slopes
- SgC, San Emigdio loam, 2-8 % slopes
- SmE2, San Timoteo loam, 8-25 % slopes, eroded

SOURCE: Bing Maps, 2010; Soild Data Mart, 2003.

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FIGURE 4.2.1

World Logistics Center Project
Environmental Impact Report

Soils Map

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- **Urban and Built-up Land:** Land used for residential, industrial, commercial, construction, institutional, and public administrative purposes such as railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities also are included in this category.
- **Other Land:** Land not included in any of the other mapping categories. Common examples include low-density rural developments, brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres.
- **Water:** Water areas with an extent of at least 40 acres.
- **Land Committed to Nonagricultural Use:** This optional designation is an overlay to the standard farmland categories and represents existing farmland and grazing land and vacant areas that have a permanent commitment for development. Examples of Land Committed to Nonagricultural Use would include an area undergoing permanent infrastructure installation or for which bonds or assessments have been issued for public utilities. Such lands represent planning areas where there are commitments for future nonagricultural developments that are not reversible by a simple majority vote by a city council or board of supervisors.

Figure 4.2.2 details farmland designations on the project area. Approximately 3,389 acres, or 89 percent of the 3,814-acre project area, are designated as Farmland of Local Importance. Approximately 25 acres at the northeast corner of Theodore and Eucalyptus Streets are designated Unique Farmland. Imagery dated 2007 shows fallow fields with ruderal vegetation in this area, although some plowing appears to have occurred and several greenhouses stood on the site at that time.[1] Approximately 400 acres located in several areas of the project area are designated X (Other Land) with the largest acreages in the northeast corner, southwest, and south central portions of the project area. Although there are seven scattered rural residences on the project site, a "worst-case" assumption is that 2,685 acres of the WLC project site are considered Farmland of Local Importance with 25 acres classified as Unique Farmland by the State.

4.2.1.2 California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, also referred to as the Williamson Act, is a non-mandated State program administered by counties and cities for the preservation of agricultural land. This program enables local governments to enter into contracts with private landowners to restrict specific parcels of land to agricultural or related open space use. In return, landowners receive much lower property tax assessments than normal because the assessments are based upon farming and open space uses rather than full market value.

Participation in the program is voluntary on the part of both landowners and local governments, and it is implemented through the establishment of Agricultural Preserves and the execution of Williamson Act contracts. Individual property owners enter into a contract that restricts or prohibits development of their property to non-agricultural uses during the term of the contract in return for lower property taxes. Initially signed for a minimum ten-year period, the contracts are automatically renewed each year for a successive minimum ten-year period unless a notice of non-renewal is filed, or a contract cancellation is approved by the local government.

The nearest parcel that is under Williamson Act contract is approximately 1.5 miles to the southeast of the project site just west of Gilman Springs Road (see Figure 4.2.3). This property is outside of

[1] Google Maps Street View, dated 2007, viewed April 3, 2012.

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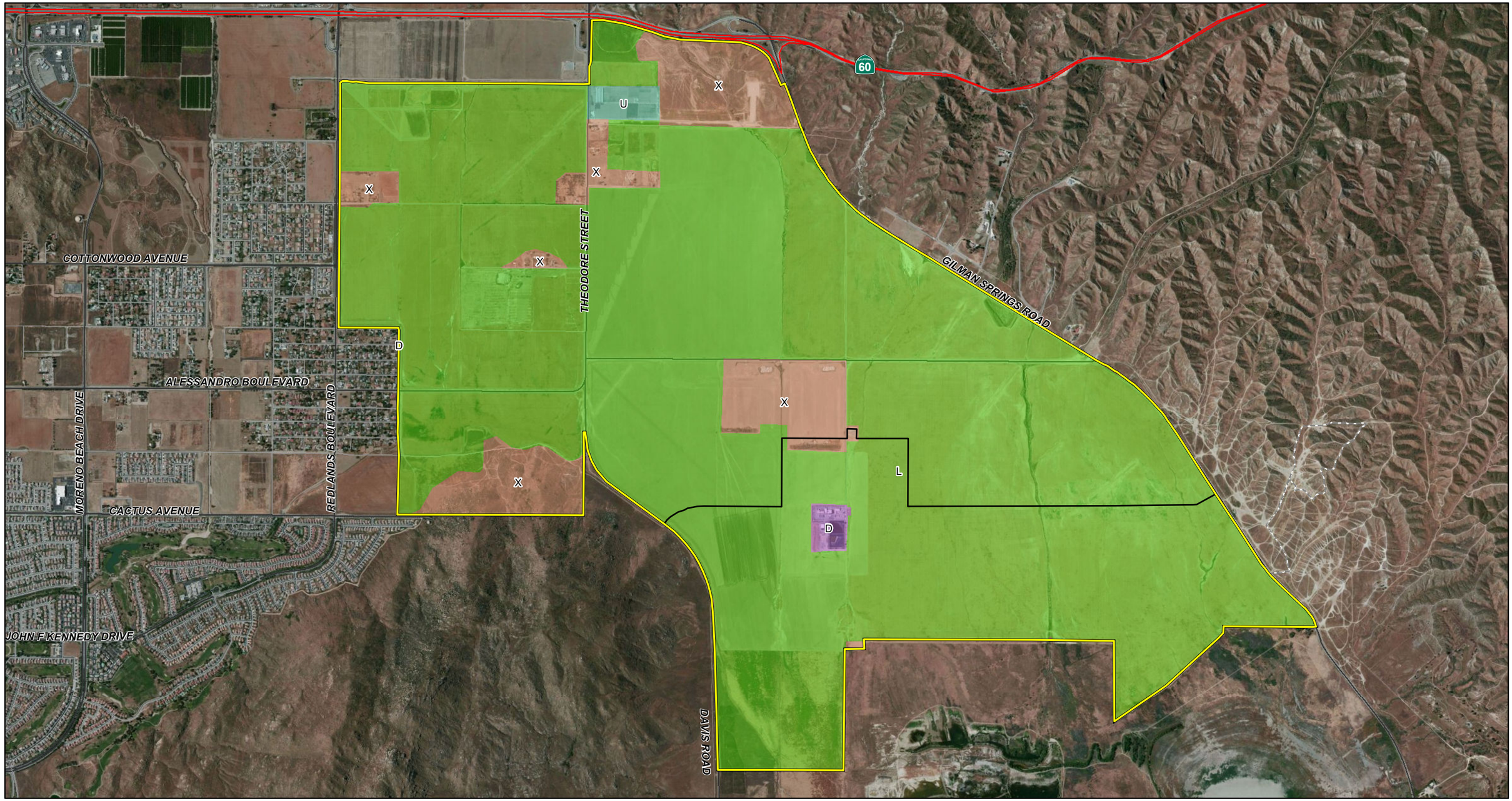

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ProjectBoundary

Specific Plan Boundary

Farmland

D - Urban and Built-Up Land

L - Farmland of Local Importance

U - Unique Farmland

X - Other Land

SOURCE: Bing Maps, 2010; Department of Conservation, Farmland Mapping & Monitioring Program (FMMP), 2010.

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FIGURE 4.2.2

World Logistics Center Project
Environmental Impact Report

Designated Farmland

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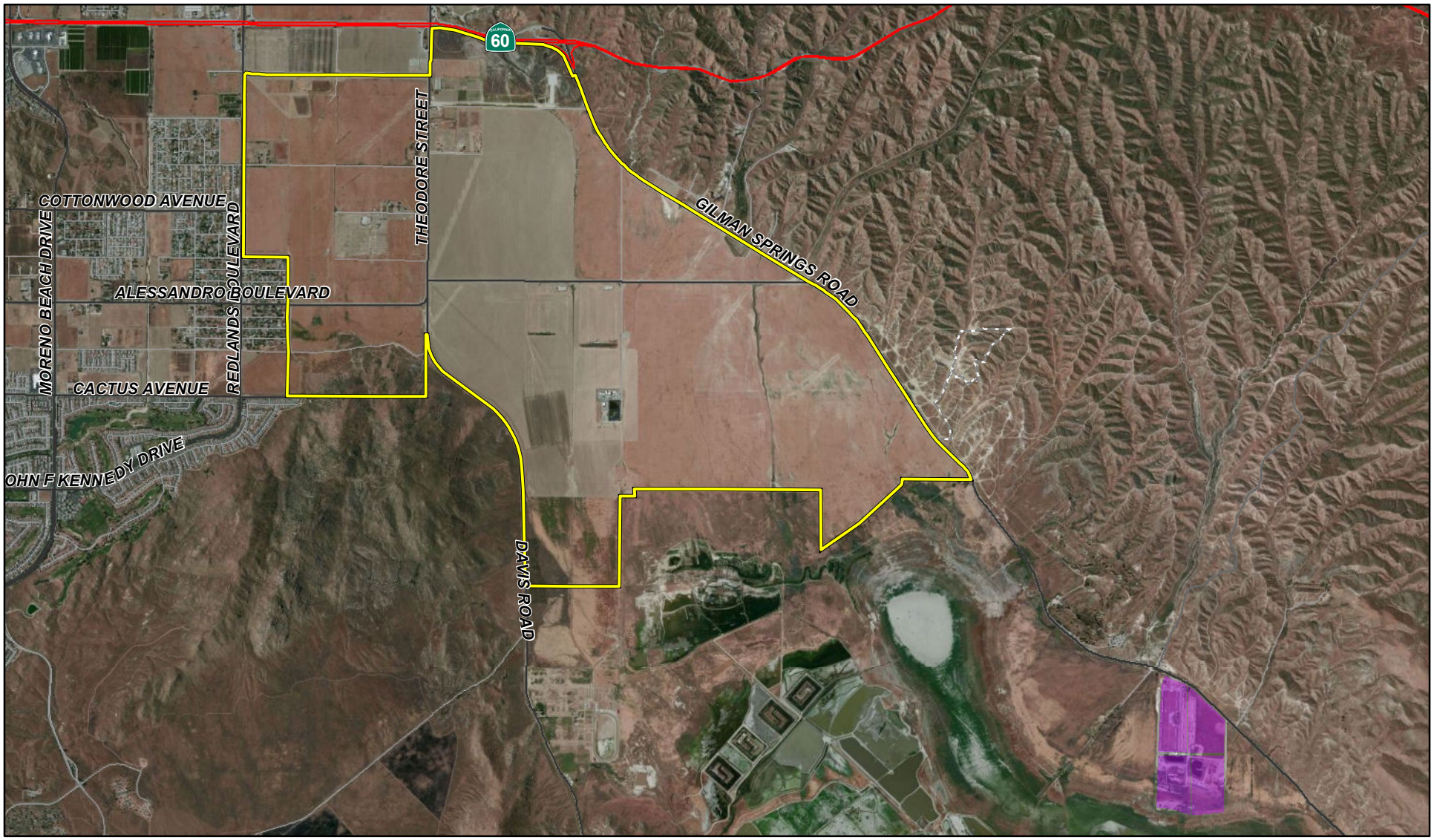

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FIGURE 4.2.3

Project Boundary

Williamson Act Land

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SOURCE: Bing Maps, 2010; Riverside County, 2008.

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World Logistics Center Project
Environmental Impact Report

Offsite Williamson Act Land

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Moreno Valley city limits but within the city's sphere of influence. There are no Williamson Act Conservation contracts[1] within the project area.

4.2.1.3 General Plan, Specific Plan, and Zoning Designations

General Plan. The City's 2006 General Plan Land Use Element has no "agricultural" land use designation.[2] The EIR accompanying the City's 2006 General Plan determined that the conversion of agricultural land to nonagricultural uses throughout the City represented a significant cumulative impact. As the transition from agricultural to urban and suburban uses continues, the extent to which agriculture and supporting economic activities contribute to the economic base of the City is reduced. In its adoption of the 2006 General Plan, the City recognized that these losses were offset by the economic activities and social benefits that typically accompany urban development. In connection with the City's conclusion that a significant cumulative impact would result from implementation of the General Plan, the City adopted findings and facts and a Statement of Overriding Considerations indicating that social and economic factors outweighed the significant cumulative impacts associated with conversion of agricultural land to non-agricultural use.

Most of the project area is within the current Moreno Highlands Specific Plan and is designated for a mix of Business Park, Open Space, Residential, Commercial, Mixed Use, and Public Facilities land uses (see Section 4.10, *Land Use and Planning*). The land uses proposed in the WLCSP are Logistics Development (LD), Light Logistics (LL), Logistics Support (LS), and Open Space (OS).

4.2.1.4 NOP/Scoping Comments

During the NOP/scoping process, some local residents expressed concern over the loss of agricultural land on the project site.

4.2.2 Existing Policies and Regulations

4.2.2.1 City of Moreno Valley General Plan Policies

The City of Moreno Valley's General Plan does not designate any land for agricultural production or preservation, but growing crops is permitted in all of the City's zoning categories. Where practical, the City encourages incorporation of crops, such as existing tree groves, into the design of proposed development projects allowing continuation of the agricultural character of the area as well providing a buffer between different types of land uses.

The following City General Plan goals and policies pertain to and are applicable to the proposed project.

9.1 Ultimate Goals

VIII. Recognize the need to conserve natural resources while accommodating growth and development.

9.4.2 Parks, Recreation, and Open Space Element Objectives and Policies

Objective 4.1 Retain agricultural open space as long as agricultural activities can be economically conducted, and are desired by agricultural interests, and provide for an orderly transition of agricultural lands to other urban and rural uses.

[1] Department of Conservation, FMMP, 2008.
[2] City of Moreno Valley General Plan, adopted July 2006.

4.2.3 Thresholds of Significance

Appendix G of the *CEQA Guidelines* recognizes the following significance thresholds related to agricultural resources. Based on these significance thresholds, potential impacts to agricultural resources could be considered significant if the proposed project would:

- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]);
- Result in the loss of forest land or conversion of forest land to non-forest use;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use; and/or
- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to non-agricultural use.

4.2.4 Methodology

The methodological analysis underlying this section of the EIR consists of the following:

- First, analyze the FMMP data to determine if portions of the 3,814-acre project area are designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.
- Second, evaluate the current General Plan land use designations, Specific Plan proposal, and zoning applicable to the site to determine the existence of any conflicts between the project and any potential existing agricultural General Plan and zoning designations applicable to the site.
- Finally, use the California Land Evaluation and Site Assessment (LESA) model, developed by the State Department of Conservation, as a guide to quantify any potential impacts the proposed project may have on agricultural resources. Utilization of the LESA model is currently considered to be the most reliable method by which to determine a project's potential impacts on agricultural resources.

In the late 1980s and the early 1990s, the DOC and the State Legislature began exploring ways by which local agencies could analyze the specific impacts of local projects related to the conversion of farmland in a manner that was consistent throughout the State. At that time, reference to the FMMP maps was the only widely utilized methodological approach to analyzing conversion impacts. Oftentimes, the FMMP maps were outdated and/or did not contain specific data on local conditions that could better assess whether local land contains viable farmland. Federal and State agencies were and are cognizant of the fact that determining the true significance of agricultural conversions is a function of understanding the specific characteristics affecting a particular site proposed for conversion. In order to create a more site-specific methodological approach to assessing agricultural impacts, following the preparation of several State and Federal studies, the DOC developed the LESA model as an optional method by which local agencies could assess the impacts of land conversion on agricultural resources. (See, e.g., Stats. 1993, Ch. 812; Pub. Res. Code § 21095; California Agricultural Land Evaluation and Site Assessment Model, Instruction Manual, 1987.) Because of its use of localized input factors, the LESA model is generally recognized as the preferred methodological tool to assess the significance of a proposed project's impacts on agricultural resources.

4.2.5 Less Than Significant Impacts

The following potential impacts were determined to be less than significant. In each of the following issues, either no impact would occur or adherence to established regulations, standards, and policies would reduce potential impacts to a less than significant level. In either instance, no mitigation would be required.

4.2.5.1 Forest Land Zoning

Threshold	Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

According to the California Department of Forestry and Fire Protection, there are no areas designated as forest land or timberland on the project site. Therefore, no significant impacts would occur from the implementation of the project.

4.2.5.2 Loss or Conversion of Forest Land

Threshold	Would the project result in the loss of forest land or conversion of forest land to non-forest use?

There are no areas of forest lands on the project site. Therefore, no significant impacts would occur from the implementation of the project.

4.2.5.3 Existing Zoning and Williamson Act

Threshold	Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

While some portions of the 3,918-acre project site are currently used for agriculture, there are no Williamson Act contracts (see previously referenced Figure 4.2.3) on either the project site or any adjacent properties. Because the project would not conflict with any Williamson Act contracts, the impacts related to this issue would be less than significant and no mitigation is required.

There are no agricultural zones identified on the 3,918-acre project site or on any of the surrounding properties.[1] However, agriculture is allowed in most areas of the City as an interim land use until it is replaced by development. The project site is not zoned for agricultural uses, so implementation of the proposed project would not conflict with existing zoning for agricultural uses. Agriculture is a permitted use in all areas of the proposed Specific Plan. In the absence of a significant impact, no mitigation is required.

It should be noted the CDFW Conservation Buffer Area within the SJWA, which is immediately south of the Specific Plan site, is currently being used for agriculture. For additional analysis of the CDFW Conservation Buffer Area, see Section 4.4, *Biological Resources*, and 4.9, *Water Resources*.

[1] *Land Use Map, Land Use Designations,* City of Moreno Valley General Plan, July 2006.

General Plan Consistency. The following evaluates the proposed project in relation to the City's General Plan goals and objectives relative to agriculture:

9.1 Ultimate Goals

Goal VIII. Recognize the need to conserve natural resources while accommodating growth and development.

Consistency: With mitigation outlined in Section 4.1, Aesthetics, the Specific Plan will allow for preservation of the most prominent existing visual resources in this portion of the City, but will result in the removal of agricultural fields to support the proposed development of logistics warehousing. Therefore, the project is consistent with this goal and no mitigation is needed.

9.4.2 Parks, Recreation, and Open Space Element Objectives and Policies

Objective 4.1 Retain agricultural open space as long as agricultural activities can be economically conducted, and are desired by agricultural interests, and provide for an orderly transition of agricultural lands to other urban and rural uses.

Consistency: The project will eventually result in the loss of agricultural land within the Specific Plan area but will allow for the permanent designation of open space within the "other project areas" south of the Specific Plan area, which are currently dry farmed. Therefore, the proposed project is consistent with this objective and no mitigation is needed.

4.2.6 Significant Impacts

Impacts of the project on agricultural resources have been determined to be significant based on two significance thresholds.

4.2.6.1 Farmland Conversion

Impact 4.2.6.1: *Construction of the proposed project would convert 25 acres of Unique Farmland as identified by the State of California to non-agricultural uses.*

Threshold	Would the project result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural land use?

Approximately 25 acres of the project site are designated Unique Farmland. Under the proposed Specific Plan, this land will eventually be converted to non-agricultural use, which would result in a significant and unavoidable impact relative to "designated" farmland conversion. In addition, the project would result in the conversion of 2,610 acres of land designated as Farmland of Local Significance within the Specific Plan area (total 2,710 acres total minus 25 acres of Unique Farmland and 75 acres designated as Open Space). The 1,104 acres of open space and utility lands south of the Specific Plan site are not proposed for development and it is expected they will remain in their existing condition (i.e., dry farming).

Project or Specific Plan Design Features. Section 11.5 of the Specific Plan contains a "right to farm" provision that will allow farming to continue on vacant land within the WLCSP until such time as it converts to developed uses. This provision will help protect onsite farming from "nuisance" claims by new landowners or tenants (e.g., dust, noise, etc.).

Mitigation Measures. Consideration was given to the contribution to an agricultural mitigation bank as potential project-related mitigation. The County of Riverside considered the establishment of an Agricultural Mitigation Bank to mitigate the loss of farmland during the adoption process of the Riverside County General Plan in 2003; however, purchase of credits in such a bank to mitigate the loss of agricultural lands as part of the Draft EIR for the County General Plan (refer to Mitigation Measures 4.2.2A, B, and C in the Draft EIR of the Riverside County Integrated Project) were specifically removed from the General Plan during the public hearings on the General Plan.[1] Since potential mitigation for regional loss of agriculture has already been considered and rejected by the County, such mitigation would be even more infeasible on a citywide basis.

In 2009, a regional agricultural conversion report was prepared by CBRE Consultants[2] for an unrelated development project in the City of Perris and a similar study was prepared in 2011 for this project by Andrew Chang and Company (ACC 2012). The ACC[3] and CBRE reports both concluded that the agriculture industry will continue to decline in the Inland Empire and identified three main reasons for the decline: 1) the more affordable housing market in the region compared to Los Angeles and Orange Counties, 2) the competition for cheaper farm labor from areas like the South Central Valley, and 3) lower water allocations to agriculture because of the growing urban population that receives priority for the water. The reports also noted that the agriculture industry within the Inland Empire is very small, making up only 4.1 percent of California's total agricultural industry and only 1 percent of the regional economy in 2010. There is a clear pattern of agricultural decline from 2006 to 2010. Over these four years, 24,000 acres of farmland were removed in the Inland Empire to make way for of urban land uses. Agricultural production levels were 28 percent lower in 2010 than they were in 2004. The combination of the small size of the Inland Empire's agricultural industry and the three key economic constraints caused these studies to conclude that the agriculture industry in the Inland Empire is in decline. The ACC report concluded that the agriculture industry within the Inland Empire will become less competitive and continue to decline regardless of whether or not this project is developed. Under these circumstances, no mitigation that would artificially preserve or prolong agricultural activities (i.e., other than current market forces) in the project area and/or on the project site would be feasible or necessary.

There are no feasible mitigation measures to preserve agriculture over the long term on the project site in a regional context; however, the following measure is recommended to preserve a part of the local heritage of farming for the Moreno Valley community for future generations:

4.2.6.1A Prior to issuance of any discretionary permits for development within the WLCSP property, Highland Fairview shall offer to dedicate five (5) acres of land to the City for "heritage farming" (e.g., community gardens, farm museum, or pumpkin patch). This offer shall be in force for a period of 3 years. If the City has not accepted the offer after that time, the land shall revert to Highland Fairview for development consistent with the General Plan and zoning at that time. This measure shall be implemented to the satisfaction of the City Planning Division in consultation with the Riverside County Farm Bureau and the City's Environmental and Historic Preservation Board as appropriate. The site must have water service readily available.

Level of Significance after Mitigation. The eventual conversion of 25 acres of Unique Farmland is a significant impact of the project resulting from the basic project objectives. There is no reasonable or feasible mitigation to reduce the significant impacts resulting from the eventual permanent loss of agricultural land to a less than significant level. Even if agriculture continues on the site for a period of

[1] Riverside County Integrated Project website, http://www.rcip.org/ , accessed April 5, 2012.
[2] Economic Viability of Agriculture in the East Inland Empire. CBRE Consulting. 2009.
[3] Agriculture Industry Analysis of the Inland Empire, Andrew Chang and Company, 2012.

time, ultimately that land use will be eliminated from the project area by ongoing market forces. Therefore, there are no feasible measures that would mitigate the permanent loss or conversion of Unique Farmland to non-agricultural uses, and this remains a significant and unavoidable impact.

4.2.6.2 Conversion of Farmland to Non-Agricultural Uses

Impact 4.2.6.2: *The project would convert approximately 2,635 acres of land currently being farmed, which includes 2,610 acres of land designated as Farmland of Local Importance, to non-agricultural uses.*

Threshold	Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use, or conversion of forest land to non-forest use?

In addition to the FMMP designations, Riverside County has established a program through which it classifies various land within the County as Locally Important Farmland. While the County has established criteria by which Locally Important Farmland is categorized, a small portion of that land has been so designated due simply to the historical use of the land.

The factors used by the County to define Locally Important Farmland are as follows:

- Lands with soils that would be classified as Prime and Statewide Farmland but lack available irrigation water.
- Lands planted with dry land crops of barley, oats, and wheat.
- Lands producing major crops for Riverside County but that are not listed as Unique crops. These crops are identified as returning one million or more dollars on the 1980 Riverside County Agriculture Crop Report. Crops identified are permanent pasture (irrigated), summer squash, okra, eggplant, radishes, and watermelons.
- Dairylands, including corrals, pasture, milking facilities, and hay and manure storage areas if accompanied with permanent pasture or hayland of 10 acres or more.
- Lands identified by city or county ordinance as Agricultural Zones or Contracts, which includes Riverside City “Proposition R” lands.
- Lands planted with jojoba which are under cultivation and are of producing age.

The majority of the proposed project site is currently designated Farmland of Local Importance by the County. None of the above factors supports maintaining the property as farmland, and it is likely that the property was designated as Locally Important Farmland based simply on the agricultural uses that at one time existed on the property. The County’s maps do not reflect the City’s General Plan Land Use Map, which shows no agricultural designations in the City.

Implementation of the project would result in the permanent conversion of approximately 2,635 acres currently used for dry farming to non-agricultural uses. While this could have an effect on accelerating the loss of other existing agricultural land, little, if any, of the adjacent lands to the project area are currently being used for agricultural production. Likewise, there is no agricultural use in the Zone of Influence (term used in the State LESA Model) and a majority of the land in that zone is vacant (i.e., in the Badlands to the east and portions of the San Jacinto Wildlife Area and the Lake Perris State Recreation Area to the south). The conversion of agricultural lands to urban uses is supported by the City’s General Plan policies, as discussed above. The entire project site and adjacent lands have been designated for urban uses for nearly 20 years by the City. Nevertheless, much of the Specific Plan area is designated Farmland of Local Importance and will be permanently converted to non-

agricultural urban uses. Therefore, the project will cause significant, unavoidable impacts related to conversion of locally important farmland (see previously referenced Figure 4.2.2).

The farming that is currently conducted on the CDFW property south of the Specific Plan area is expected to continue for the foreseeable future. The existing vacant land adjacent to the SDG&E compressor plant property is not currently being farmed, but is expected to remain vacant for the foreseeable future.

The LESA Model. The conversion of agricultural land to non-agricultural uses is a result of various economic and demographic factors. Increased costs for water and a continuing demand for housing and commercial development in the City and region have provided the primary impetus for this agricultural land conversion. Although the project results in a significant impact related to the conversion of farmland to non-agricultural use, this EIR also refers to the State LESA model as an analytical tool by which the project's impacts on agricultural conversion can be assessed, and to further gauge the level of significance of that farmland conversion. Appendix G of the *CEQA Guidelines* states as follows: "In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation (DOC) as an optional model to use in assessing impacts on agriculture and farmland." [1] Further, the LESA model was specifically created by the DOC in order to provide "specific guidance concerning how agencies should address farmland conversion impacts." Because of its use of localized inputs as part of the model, the LESA model is generally considered the preferred methodological tool by which to assess the significance of a proposed project's impacts related to agricultural resources.

The LESA model is intended to provide lead agencies with a methodology to identify potentially significant impacts that may result from agricultural land conversions. The model is a method of rating the relative quality of land resources and potential impacts to agricultural resources.

The LESA Model uses six different factors (two based on soil resource quality and four based on on-site and adjacent land characteristics) to develop a weighted score that identifies the significance of potential impacts to agricultural resources. The Land Evaluation (LE) scoring utilizes two soil factors. The Land Capability Classification (LCC) indicates the suitability of soils for most kinds of crops and the risk of damage when they are used in agriculture, while the Storie Index provides a numeric rating (0–100) of the relative degree of suitability or value of a given soil for intensive agriculture. The Site Assessment (SA) scoring considers the size of the site to be converted, water supply restrictions in drought and non-drought years, and the presence (or absence) of adjacent agricultural, habitat, or parkland uses.

By assessing and weighing a variety of soil, water, and land use characteristics, it is possible that the conversion of a large parcel containing poor soils and with limited access to water would not result in a significant impact, while the conversion of a much smaller well-watered parcel with quality soils could be considered significant. To ensure potential impacts to adjacent agricultural activities are appropriately considered, the LESA model requires an examination of land use on all parcels within a Zone of Influence (ZOI) that extends a minimum 0.25 mile from the boundary of the site. For any site evaluated using the LESA model, the factors are rated, weighed, and combined, resulting in a single numeric score that becomes the basis for determining a project's potential significance.[2]

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1 *California Land Evaluation and Site Assessment Model*, Instruction Manual, State of California Department of Conservation, Office of Land Conservation, 1997.

2 *California Land Evaluation and Site Assessment Model*, Instruction Manual, State of California Department of Conservation, Office of Land Conservation, 1997.

To assess potential agricultural resource impacts that may result from development of the proposed site, the LESA model was run for the entire 3,918-acre project area.[1] The total LESA score for the project is 63.51, which is considered significant unless the LE and SA sub-scores fall below 20 (see Table 4.2.A). The LE sub-score is 43 and the SA sub-score is 20.5, indicating a significant impact. The worksheets detailing the variables considered during the evaluation of each site are included in the *Agricultural Resources Assessment for the World Logistics Center Specific Plan* (Appendix C).

Table 4.2.A: LESA Model Significance Determination

Total LESA Score	Scoring Decision
0–39 Points	Not considered significant
40–59 Points	Considered significant *only* if LE and SA sub-scores are each *greater* than or equal to 20 points
60–79 Points	Considered significant *unless* either LE or SA sub-score is *less* than 20 points
80–100 Points	Considered significant

Source: California Land Evaluation and Site Assessment Model, Instruction Manual, State of California Department of Conservation, Office of Land Conservation, 1997.

Project or Specific Plan Design Features. There are no features included in the Specific Plan that address the loss of agriculture on the project site.

Mitigation Measures. As stated above, consideration was given to the contribution to an agricultural mitigation bank as potential project-related mitigation. However, the County, through the adoption of its General Plan, determined that contribution to an agricultural mitigation bank is not feasible and the City of Moreno Valley followed suit in the adoption of its General Plan. **Mitigation Measures 4.2.6.1A** and **4.2.6.1B** will help reduce impacts to agricultural resources, but development of the Specific Plan site will eventually remove 2,685 acres of locally important farmland from production, and this is considered a significant long-term impact.

Level of Significance after Mitigation. There is no feasible mitigation to reduce the significant impacts resulting from the loss of agricultural land to a less than significant level. While the implementation **Mitigation Measure 4.2.6.1A** to help establish a community garden would partially mitigate the conversion of agricultural land, the permanent loss or conversion of 2,610 acres of Locally Important Farmland to non-agricultural uses remains a significant and unavoidable impact on agricultural resources.

4.2.7 Cumulative Impacts

Significant Cumulative Impact: *Riverside County has experienced a net loss of Unique Farmland over the most recent 2-year reporting period. The project contributes to the cumulative impacts of this net loss by removing an additional 25 acres of Unique Farmland from potential agricultural production in this portion of the County. In addition, it will eventually remove 3,389 acres of land that is designated as Farmland of Local Importance (including 3,349 acres of land currently being dry farmed, in the project area, from potential agricultural production in this portion of the County.*

[1] *Agricultural Resources Assessment for the World Logistics Center Specific Plan Draft Environmental Impact Report*, Parsons Brinckerhoff, February 2012.

The DOC Office of Land Conservation publishes a Farmland Conversion Report every two years as part of its FMMP. These reports document land use conversion by acreage for each California county. The most recent data are for the 2008–2010 period,[1] during which Riverside County experienced a net loss of 3,300 acres of Prime Farmland, 567 acres of Farmland of Statewide Importance, and 1,742 acres of Unique Farmland. The amount of Important Farmland inventoried in Riverside County during the last countywide survey of farmland totaled 428,989 acres.

The cumulative area for agricultural resource impacts is Riverside County. As detailed in Table 4.2.B, the agricultural acreage inventoried in Riverside County by the FMMP has declined in each of the five past reporting cycles. The total planted acreage in Riverside County has fluctuated during the past five years (Table 4.2.C).

Table 4.2.B: Agricultural Acreage Inventoried

	Reporting Period				
	2010	**2008**	**2006**	**2002**	**2000**
Riverside County	428,989	433,877	444,455	479,278	609,535

Note: Though designated agricultural land, acreage may not necessarily be planted or otherwise used for agricultural uses.
Source: Table A-25 Riverside County 2008-2010 Land Use Conversion, California Department of Conservation, 2012.

Table 4.2.C: Planted Acreage

	Reporting Period				
	2010	**2009**	**2008**	**2007**	**2006**
Riverside County	209,913	202,066	246,012	214,050	216,219

Source: Riverside County 2010 Agricultural Production Report, 2010.

While agricultural land is a finite resource, the City, through its designation of the site for non-agricultural urban uses in its General Plan, has previously considered that continuing development pressures in the City and region would result in the conversion of agricultural land to non-agricultural uses. The utilization of the property sites for agricultural activity would impede the City from achieving the goals and objectives set forth in its General Plan.

As explained previously, the CBRE and the ACC reports concluded that the agriculture industry within the Inland Empire will become less competitive and continue to decline whether or not the proposed project is developed. Under these circumstances, no mitigation that would artificially preserve or prolong agricultural activities (i.e., other than current market forces) in the project area would be feasible or effective over the long term.

The continuation of agricultural operations on site over the long term is likely not economically viable. The County continues to experience a net loss of Unique Farmland and Farmland of Local Importance, and the development of the project would contribute to the countywide net loss of designated farmland. Therefore, cumulative agricultural impacts associated with implementation of the WLC project would be significant and unavoidable since there is no feasible mitigation for this impact.

[1] Table A-25 Riverside County 2008–2010 Land Use Conversion, Farmland Mapping and Monitoring Program, California Department of Conservation Division of Land Resource Protection, http://redirect.conservation.ca.gov/dlrp/fmmp/county_info_results.asp; website accessed April 4, 2012.

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4.3 AIR QUALITY

This section analyzes the proposed project's potential air quality impacts and provides a discussion of the proposed project, the physical setting of the project area, and the air quality regulatory framework. The air quality analyses evaluate potential air quality impacts by examining the short-term construction as well as long-term operational impacts associated with the project and by evaluating the effectiveness of the identified mitigation measures. Modeled air quality levels are based upon vehicle data and project trip generation included in the project's *Traffic Impact Analysis* and peak turn volumes generated for the proposed project combined with emission factors from the California Air Resources Board (CARB). The evaluation was prepared in accordance with appropriate standards, utilizing procedures and methodologies in the South Coast Air Quality Management District (SCAQMD) *CEQA Air Quality Handbook* (SCAQMD 1993). Air quality data posted by the SCAQMD, CARB, and the U.S. Environmental Protection Agency (EPA) web sites are included to document the local air quality environment and are incorporated herein by reference.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements that affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

The analysis contained in this section is based on the following technical studies prepared for the proposed project:

- *Air Quality, Greenhouse Gas, and Health Risk Assessment Report* (Michael Brandman Associates, January 29, 2013) contained in Appendix D; and
- *Traffic Impact Analysis Report, The World Logistics Center,* (Parsons Brinkerhoff, Inc., January 28, 2013) contained in Appendix L of this EIR.

In addition to these project-specific technical studies, the analysis contained in this section is also based on the following reference documents:

- *CEQA Air Quality Handbook,* South Coast Air Quality Management District, 1993;
- *Final EIR City of Moreno Valley General Plan*, July 2006;
- *Conservation Element*, City of Moreno Valley General Plan, adopted July 11, 2005;
- *Final 2012 Air Quality Management Plan,* South Coast Air Quality Management District, November 2007; and
- Other reference material, as cited herein.

4.3.1 Existing Setting

The project site is located in the South Coast Air Basin (Basin), a geographic area that encompasses the coastal plain and connecting broad inland valleys and low hills. The Pacific Ocean forms the southwestern border of the Basin, with mountain ranges forming the remainder of the border. The Basin includes Orange County and the non-desert portions of Los Angeles County, Riverside County, and San Bernardino County. The Basin is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

4.3.1.1 Climate and Meteorology

Air quality in the project area is not only affected by various emission sources (mobile, industry, etc.), but also by atmospheric conditions such as wind speed, wind direction, temperature, rainfall, and amount of sunshine. The combination of topography, low atmospheric mixing height, abundant sunshine, and emissions from the second largest urban area in the United States combine to give the Basin one of the worst air pollution problems in the nation.

Winds in the Basin are predominantly of relatively low velocities, averaging about 4.0 miles per hour (mph). These low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. These conditions tend to last for several days at a time.

During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas of Los Angeles County are transported predominantly inland into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide (CO) and oxides of nitrogen (NO_X), because of extremely low inversions and air stagnation during the night and early morning hours that trap emissions principally from mobile sources. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

4.3.1.2 Regional Air Quality

Both the State of California and the Federal government have established health-based ambient air quality standards (AAQS) for six air pollutants. These pollutants are known as “criteria pollutants.”

- Carbon monoxide (CO)
- Lead (Pb)
- Nitrogen dioxide (NO_2)
- Ozone (O_3)
- Particulate matter with a diameter of 10 microns or less (PM_{10})
- Sulfur dioxide (SO_2)

Federal standards for 8-hour ozone and for fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) have also been adopted. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety and are listed in Table 4.3.A.

In addition to setting out AAQS, the State has established a set of episode criteria for O_3, CO, NO_2, SO_2, and PM_{10}. These episode criteria refer to periods of short-term exposure to air pollutants that threaten public health. Health effects are progressively more severe as pollutant levels increase from Stage One to Stage Three. These health effects will not occur unless the standards are exceeded by a large margin or for a prolonged period of time. Among the pollutants, O_3 and particulate matter ($PM_{2.5}$ and PM_{10}) are considered regional pollutants, while the others have more localized effects. Table 4.3.B lists the health effects of these criteria pollutants and their potential sources.

An alert level is that concentration of pollutants at which initial stage control actions are to begin. An alert will be declared when any one of the pollutant alert levels is reached at any monitoring site and meteorological conditions are such that the pollutant concentrations can be expected to remain at these levels for 12 or more hours or to increase; or, in the case of oxidants, the situation is likely to recur within the next 24 hours unless control actions are taken. At times, meteorological conditions are so adverse to pollutant dispersion that concentrations of ozone exceed the State air quality standard by as much as a factor of three. The CARB has defined Episode Levels of ozone air pollution as follows:

- **Health Advisory Levels** occur when hourly ozone concentrations equal or exceed 0.15 parts per million (ppm). At this level, residents are advised to avoid prolonged, vigorous outdoor exercise, and persons with respiratory or coronary disease should avoid exercise.
- **Stage 1 Episodes** occur when hourly ozone concentrations equal or exceed 0.20 ppm. At these times, persons with respiratory or coronary artery disease should be notified to take precautions against exposure and should stay indoors as much as possible. Schools are also notified to advise against strenuous physical activity for their students. To this end, schools are in regular communication with the SCAQMD.
- **Stage 2 Episodes** occur when hourly ozone concentrations equal or exceed 0.35 ppm. The SCAQMD requires industry to take prompt actions to reduce emissions at those times. The last Stage 2 episodes occurred in 1989 and 1992.
- **Stage 3 Episodes** occur when hourly ozone concentrations equal or exceed 0.50 ppm. The last Stage 3 episode occurred in the Basin in 1974.

Pollutant alert levels:

- O_3: 392 micrograms per cubic meter ($\mu g/m^3$) (0.20 ppm), 1-hour average.
- CO: 17 milligrams per cubic meter (mg/m^3) (15 ppm), 8-hour average.
- NO_2: 1,130 $\mu g/m^3$ (0.6 ppm) 1-hour average; 282 $\mu g/m^3$ (0.15 ppm) 24-hour average.
- SO_2: 800 $\mu g/m^3$ (0.3 ppm), 24-hour average.
- Particulates, measured as PM_{10}: 350 $\mu g/m^3$, 24-hour average.

Table 4.3.B lists the health effects of these criteria pollutants and their potential sources.

Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution. Examples of this would be the motor vehicles at intersections, malls, and on highways. The California Clean Air Act (CCAA) provides the SCAQMD with the authority to manage transportation

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Table 4.3.A: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]			Footnotes
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]	
Ozone (O_3)	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry	1 California standards for ozone; carbon monoxide (except Lake Tahoe); sulfur dioxide (1- and 24-hour); nitrogen dioxide; suspended particulate matter (PM_{10} and $PM_{2.5}$) and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
	8-Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)			
Respirable Particulate Matter (PM_{10})	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current federal policies.
	Annual Arithmetic Mean	20 µg/m^3		—			
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3			
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)	3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
	1-Hour	20 ppm (23 mg/m^3)		35 ppm(40 mg/m^3)			
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Gas Phase Chemiluminescence	53 ppb (100 µg/m^3) (see footnote 8)	Same as Primary Standard	Gas Phase Chemiluminescence	4 Any equivalent procedure which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
	1-Hour	0.18 ppm (339 µg/m^3)		100 ppb (188 µg/m^3) (see footnote 8)	None		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (for certain areas) (see footnote 9)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)	5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)	—		6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
	3-Hour	—		—	0.5 ppm (1300 µg/m^3)		
	1-Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3) (see footnote 9)	—		7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
Lead[10]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption	8 To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the EPA standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.
	Calendar Quarter	—		1.5 µg/m^3	Same as Primary Standard		
	Rolling 3-Month Average[9]	—					9 On June 2, 2010, the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using the ultraviolet technology, but will retain the older pararosaniline methods until the new FRM have adequately permeated State monitoring networks. The EPA also revoked both the existing 24-hour SO_2 standard of 0.14 ppm and the annual primary SO_2 standard of 0.030 ppm, effective August 23, 2010. The secondary SO_2 standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
Visibility-Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.	Beta Attenuation and Transmittance through Filter Tape	**No Federal Standards**			10 The CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography				11 National lead standard, rolling 3-month average: final rule signed October 15, 2008.
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence				°C = degrees Celsius EPA = United States Environmental Protection Agency µg/m^3 = micrograms per cubic meter mg/m^3 = milligrams per cubic meter ppm = parts per million
Vinyl Chloride[9]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography				

Source: California Air Resources Board, February 7, 2012.

Table 4.3.B: Summary of Health Effects of the Major Criteria Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O_3)	▪ Atmospheric reaction of organic gases with nitrogen oxides in the presence of sunlight.	▪ Breathing difficulty. ▪ Lung tissue damage. ▪ Damage to rubber and some plastics.
Nitrogen Dioxide (NO_2)	▪ Motor vehicle exhaust. ▪ Heavy construction equipment exhaust. ▪ Farming equipment exhaust. ▪ Residential heating.	▪ Lung irritation and damage. ▪ Formation of acid rain.
Carbon Monoxide (CO)	▪ Motor vehicle exhaust. ▪ Heavy construction equipment exhaust. ▪ Farming equipment exhaust. ▪ Residential heating.	▪ Reduced tolerance for exercise. ▪ Impairment of mental function. ▪ Impairment of fetal development. ▪ Death at high levels of exposure. ▪ Aggravation of some heart diseases (angina).
Suspended Particulate Matter ($PM_{2.5}$ and PM_{10})	▪ Motor vehicle exhaust ($PM_{2.5}$). ▪ Equipment and industrial sources ($PM_{2.5}$). ▪ Residential and agricultural burning ($PM_{2.5}$ and PM_{10}). ▪ Atmospheric chemical reactions ($PM_{2.5}$ and PM_{10}). ▪ Road dust (PM_{10}). ▪ Windblown dust (Agriculture [PM_{10}]) ▪ Construction (Fireplaces [PM_{10}])	▪ Reduced lung function. ▪ Aggravation of the effects of gaseous pollutants. ▪ Aggravation of respiratory and cardiorespiratory diseases. ▪ Increased cough and chest discomfort. ▪ Soiling. ▪ Reduced visibility.
Sulfur Dioxide (SO_2)	▪ Coal/oil- burning power plants. ▪ Industries, refineries, and diesel engines.	▪ Increased lung disease. ▪ Breathing problems for asthmatics. ▪ Formation of acid rain.
Lead (Pb)	▪ Metal smelters. ▪ Resource recovery. ▪ Leaded gasoline. ▪ Deterioration of lead paint.	▪ Learning disabilities. ▪ Brain and kidney damage.

Source: California Air Resources Board 2009 (http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm).

Table 4.3.C: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment	N/A
O_3 8-hour	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Serious Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Nonattainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Pb	Attainment	Attainment
All others	Attainment/Unclassified	Attainment/Unclassified

Unclassified designation: a pollutant that is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
Attainment designation: a pollutant is designated attainment if the State standard for that pollutant was not violated at any site in the area during a 3-year period.
Nonattainment: a pollutant is designated nonattainment if there was at least one violation at any site in the area during a 3-year period.
Source: California Air Resources Board website: www.arb.ca.gov/desig/desig.htm, 2011.

activities at indirect sources. The SCAQMD also regulates stationary sources of pollution throughout its jurisdictional area. Direct emissions from motor vehicles are regulated by the CARB.

The narrative below describes the pollutant characteristics, mechanisms of pollutant origination, and health effects for the criteria pollutants (i.e., pollutants specifically regulated under the Federal Clean Air Act [CAA] and/or the California Clean Air Act [CCAA]) and other pollutants of concern. Because the concentration levels of the AAQS were set with an adequate margin to protect public health and safety, these health effects will not occur unless the standards are exceeded by a large margin or for a prolonged period of time. State AAQS are more stringent than Federal AAQS.

- *Carbon Monoxide*
    - Description and Properties: CO is colorless, odorless toxic gas produce by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). CO is a primary pollutant, meaning it is emitted directly into the air (unlike secondary pollutants such as ozone that are formed by the reactions of other pollutants). CO levels tend to be highest during the winter months when the meteorological conditions support the accumulation of the pollutants. This occurs when relatively low inversion levels trap pollutants near the ground and concentrated the CO (EPA 2006c). Because CO is somewhat soluble in water, normal winter conditions of rainfall and fog can suppress CO conditions.
    - Health Effects: CO is essentially inert to plants and materials but can have significant effects on human health. CO gas enters the body through the lungs, dissolves in the blood, and replaces oxygen as an attached hemoglobin. This binding reduces available oxygen in the blood and; therefore, reduces oxygen delivery to the body's organs and tissues. Effects on humans range from slight headaches to nausea to death. Elevated levels of CO can also cause visual impairments, reduced manual dexterity, poor learning ability, reduced work capacity, and trouble performing complex tasks.
    - Sources: The major sources of CO are on-road vehicles, aircraft, and off-road equipment, or any source that burns fuel including residential heaters and stoves. Since most of the CO sources are the indirect result of urban development, most emissions and unhealthy CO levels occur in major urban areas.
- *Ozone*
    - Description and Physical Properties: O_3 is known as a photochemical pollutant. Ozone is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between reactive organic gases (ROG) or volatile organic compounds (VOC), NO_X, and sunlight. ROG and NO_X are emitted from automobiles, solvents and fuel combustion, the sources of which are widespread throughout the SCAQMD. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. The conditions conducive to the formation of ozone include extended periods of daylight (solar radiation) and hot temperatures. These conditions are prevalent during the summer when thermal inversions are most likely to occur. As a result, summertime conditions of long periods of daylight and hot temperatures form ozone in the greatest qualities. During the summer, thermal inversions trap ozone from dispersing vertically, high concentrations of this pollutant are prevalent.
    - Health Effects: Health Effects of ozone can include respiratory system irritation, reduction of lung capacity, asthma aggravation, inflammation and damage to lung cells, aggravated cardiovascular disease, and permanent lung damage. The greatest health risk is to those who are more active outdoors during smoggy periods, such as children, athletes, and outdoor workers. Ozone also damages natural ecosystems such as forests, foothill communities, and damages agricultural crops and some man-made materials such as rubber, paint, and plastics.

- Sources: Ozone is a secondary pollutant, thus is not emitted directly in the lower level of the atmosphere. The sources of ozone precursors (ROG and NO_X) are discussed above in the description of ozone.

- *Oxides of Nitrogen*
  - Description and Physical Properties: During combustion of fossil fuels, oxygen reacts with nitrogen to produce NO_X (NO, NO_2, NO_3, N_2O, N_2O_3, N_2O_4, and N_2O_5). Atmospheric deposition of NO_X occurs when atmospheric or airborne nitrogen is transferred to water, vegetation, soil, or other materials. Acid deposition involves the deposition of nitrogen and/or sulfur acidic compounds that can harm natural resources and materials. NO_X is also an ozone precursor. When NO_X and ROG are released in the atmosphere, they can also be a precursor to PM_{10} and $PM_{2.5}$.
  - Health Effects: The EPA has concluded that the only form of NO_X that exists at a level high enough to cause public health concerns is nitrogen dioxide (NO_2) (EPA 1997). Nitrogen dioxide is a brown gas with a strong odor. NO_X can react with moisture, ammonia, and other compounds to form nitric acid and related particles. The main human health concerns of nitrogen dioxide include lung damage, increased incidence of chronic bronchitis, eye and mucus membrane damage, negative effects on the respiratory system, pulmonary dysfunction, and premature death. Small particles can penetrate deeply into the sensitive tissue of the lungs and can cause or worsen respiratory disease such as emphysema, asthma, and bronchitis, and can also aggravate existing heart disease (EPA 2005b). Because NO_X is an ozone precursor, the health effects associated with ozone are also indirect health effects associated with unhealthful levels of NO_X emissions.
  - Sources: A major source of NO_X includes stationary source fuel combustion (i.e. manufacturing and industrial, food and agricultural processing, and service commercial uses). Additionally, NO_X emission sources include motor vehicles internal combustion engines and electric utility and industrial boilers powered by fossil fuel combustion. Natural sources of NO_X include lightning, soils, wildfires, stratospheric intrusion, and the oceans. Natural sources accounted for approximately seven percent of 1990 emissions of NO_X for the United States. On-road vehicles also contribute to NO_X emissions.

- *Sulfur Dioxide*
  - Description and Physical Properties: Sulfur dioxide (SO_2) is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor, similar to rotten eggs. Sulfuric acid is formed from sulfur dioxide, which is an aerosol particle component that affects acid deposition. Sulfur oxides (SO_X) include sulfur dioxide and sulfur trioxide (SO_3). The gas can also be produced in the air by dimethylsulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. Historically, sulfur dioxide was a pollutant of concern. However, with the successful application of regulations at the State and local level, the levels of sulfur dioxide have been reduced dramatically in the past several decades. The CARB, the State regulatory agency charged with regulating air pollution in the State, demonstrates that sulfur dioxide levels in the State are well below the maximum standards (CARB 2006b, Page 107, 408, and 409). Although sulfur dioxide concentrations have been reduced to levels well below State and Federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM_{10}. Sulfates are a particulate formed through the photochemical oxidation of sulfur dioxide.
  - Health Effects: Sulfur dioxide is a soluble gas; therefore, it can be absorbed in the mucous membranes of the respiratory tract and nose. Long-term exposure of high levels of sulfur dioxide can cause irritation of existing cardiovascular disease, respiratory illness, and changes in the defenses in the lungs. When people with asthma are exposed to high levels of sulfur dioxide for short periods of time during moderate activity, effects may include wheezing, chest tightness, or shortness of breath (EPA 2000).

- Sources: Anthropogenic, or human caused, sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide.

- *Lead*
  - Description and Physical Properties: Lead (Pb) is a solid heavy metal that can exist in air pollution as an aerosol particle component. An aerosol is a collection of solid, liquid, or mixed-phase particles suspended in the air. Lead was first regulated as an air pollutant in 1976. Leaded gasoline was first marketed in 1923 and was used in motor vehicles until around 1970. The exclusion of lead from gasoline helped to decrease emissions of lead in the United States from 219,000 to 4,000 short tons per year between 1970 and 1997. Even though leaded gasoline has been phased out in most countries, some still use leaded gasoline. The mechanisms by which lead can be removed from the atmosphere (sinks) include deposition to soils, ice caps, and oceans, and inhalation.
  - Health Effects: Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. The more serious effects of lead poisoning include behavior disorders, mental retardation, and neurological impairment. Low levels of lead in fetuses and young children can result in nervous system damage, which can cause learning deficiencies and low IQs. Lead may also contribute to high blood pressure and heart disease.
  - Sources: Lead-ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, soil waste disposal, and crustal physical weathering.

- *Particulate Matter (PM_{10} and $PM_{2.5}$)*
  - Description and Physical Properties: Particulate matter is a generic term that defines a broad group of chemically and physically different particles (either liquid droplets or solids) that can exist over a wide range of sizes. Examples of atmosphere particles include those produced from combustion (diesel soot or fly ash), light produced (urban haze), sea spray produced (salt particles), and soil-like particles from re-suspended dust. In discussions of air pollution, particulate matter is typically divided up into two size categories: PM_{10} and $PM_{2.5}$ because of the adverse health effects associated the smaller-sized particles. PM_{10} refers to particulate matter that is 10 microns or less in diameter (1 micron is one-millionth of a meter, also known as a micrometer [µm]). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in a diameter. Soil dust consists of the minerals and organic material found in soil being lifted up into the air by winds (e.g., fugitive dust).
  - Health Effects: Particulate matter can be inhaled directly into the lungs where it can be absorbed into the bloodstream. It is a respiratory irritant and can cause direct pulmonary effects such as coughing, bronchitis, lung disease, respiratory illnesses, increased airway reactivity, and exacerbation of asthma. Relatively recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. Non-health effect includes reduced visibility and soiling of property.
  - Sources: Particulate matter originates from a variety of stationary and mobile sources. Stationary sources include fuel combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal and recycling. Mobile or transportation-related sources include particulate matter from highway vehicles and non-road vehicles and fugitive dust from paved and unpaved roads. Secondary particulate matter is formed in the atmosphere through chemical reactions that can involve ROG, SO_X, NO_X, and ammonia.

- *Diesel Particulate Matter*
    - Description and Physical Properties: Diesel particulate matter (DPM) is a source of $PM_{2.5}$ because the size of diesel particles are typically 2.5 microns and smaller. In 1998, DPM made up about 6 percent of the total $PM_{2.5}$ inventory nationwide (EPA 2002). Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. DPM includes the particles-phase constituents in diesel exhaust. Organic compounds account for 80 percent of the total particulate matter mass, which is composed of compounds such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons (PAHs) and their derivatives. Fifteen PAHs are confirmed for carcinogenicity, a number of which are found in diesel exhaust (NTP 2005b). The chemical composition and particle sizes of diesel PM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), expected load, engine emission controls, fuel formulations (high/low sulfur fuel), and the year of the engine (EPA 2002).
    - Non-Cancer Health Effects: Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and can cause coughs, headaches, light-headedness, and nausea. Diesel exhaust is a major source of ambient particulate matter pollution as well, and numerous studies have linked elevated particle levels in the air to increase hospital admission, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems (OEHHA 2002).
    - Cancer Health Effects: Human studies on the carcinogenicity of diesel particulate matter demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure (NTP 2005b).
    - Sources: Diesel exhaust.
- *Visibility-Reducing Particles*
    - Description and Physical Properties: Visibility-reducing particles (VRP) are suspended particulate matter that reduces visibility. Visibility is the distance through the air that can be seen without the use of instrumental assistance. The distance that can be seen is limited by the amount of gases and aerosol particles in the way. The EPA implemented a Regional Haze Rule in 1999 to attempt to protect visibility in 156 national parks and wilderness areas in the Unites States. The regulation requires states to establish goals for improving their areas and to work together with other states as the pollution is often transported over long distances (EPA 1999).
    - Health Effects: The human health effects of VRP are those of pollution (particulate matter, oxides of nitrogen, and sulfur dioxide) discussed above.
    - Sources: The sources are other pollutants (particulate matter, oxides of nitrogen, and sulfur dioxide) as discussed above.
- *Vinyl Chloride*
    - Description and Physical Properties: Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. Vinyl chloride is formed when other substances such as trichloroethylene and tetrachloroethylene are broken down. This can occur when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites due to microbial breakdown of chlorinated solvents. In 1978, the CARB established a State ambient air quality standard for vinyl chloride. The standard was set at 0.01 ppm for a 24-hour duration because that was the lowest level that could be detected at that time. In 1990, the CARB identified vinyl chloride as a toxic air contaminant and estimated a cancer unit risk factor.

- Health Effects: Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness, and headaches (CARB 2005). Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.
- Sources: Manufacturing of PVC plastic and vinyl products.

- *Hydrogen Sulfide*
  - Description and Physical Properties: Hydrogen sulfide (H_2S) is a flammable, colorless, poisonous gas that smells like rotten eggs.
  - Health Effects: High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause symptoms like headache, nausea, vomiting, and cough. Long exposure to hydrogen sulfide can cause pulmonary edema.
  - Sources: Hydrogen sulfide and other reduced sulfur compounds form by the anaerobic decomposition of manure some types of bacteria found in animal and human by-products produce hydrogen sulfide during reduction of sulfur-containing compounds, such as proteins. Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary sources of hydrogen sulfide emissions. Anthropogenic sources include the combustion of sulfur containing fuels (oil and coal) and organic matter that undergoes putrefaction. It is used in the production of heavy water for nuclear reactors, the manufacture of chemicals, in metallurgy, and as an analytical reagent.
- *Reactive Organic Gases*
  - Description and Physical Properties: Reactive organic gases (ROG), or volatile organic compounds (VOC), are defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. ROG consist of nonmethane hydrocarbons and oxygenated hydrocarbons. Hydrocarbons are organic compounds that contain only hydrogen and carbon atoms. Nonmethane hydrocarbons are hydrocarbons that do not contain the unreactive hydrocarbon, methane. Oxygenated hydrocarbons are hydrocarbons with oxygenated functional groups attached.
  - It should be noted that there are no State or Federal ambient air quality standard for ROG because they are not classified as criteria pollutants. They are regulated, however, because a reduction in ROG emissions reduces certain chemicals reactions that contribute to the formulation of ozone. ROG are also transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility.
  - Health Effects: Although health-based standards have not been established for ROG, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of ROG are suspected to cause eye, nose, and throat irritation; headaches, loss of coordination, nausea, damage to liver, kidney, and the central nervous system (EPA 2005). There are many ROG that have been classified as toxic air contaminates. A particular ROG of concern is benzene, which is described in more detail below. The EPA maintains a list of all air substances that have been classified as hazardous to humans and/or animals, and includes ROG, pesticides, herbicides, and radionuclides (EPA 2006d).
  - Sources: The major sources of ROG are on-road motor vehicles and solvent evaporation.
- *Benzene*
  - Description and Physical Properties: Benzene is an ROG. It is a clear or colorless light-yellow, volatile, highly flammable liquid with a gasoline-like odor. The EPA has classified benzene as a “Group A” carcinogen.

- Health Effects: Short-term (acute) exposure of high doses from inhalation of benzene may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation, and at higher levels, unconsciousness can occur. Long-term (chronic) occupational exposure of high dose by inhalation has caused blood disorders, including aplastic anemia and lower levels or red blood cells (EPA 1992). Occupational exposure to benzene has been shown to cause leukemia (mainly acute myelogenous leukemia) (NTP 2005). Studies have also found that benzene exposure increased the risks of lymphatic and hematopoietic cancer (cancers of lymphatic system and of organs and tissues involved in the production of blood), total leukemia, and specific histologic types of leukemia (NTP 2005).
- Sources: Benzene is emitted into the air from gasoline services station (fuel evaporation), motor vehicle exhaust, tobacco smoke, and from burning oil and coal. Benzene is also used as a solvent for paints, inks, oils, waxes, plastic, and rubber. It is used in the extraction of oils from seeds and nuts. It is also manufactured for detergents, explosives, dyestuffs, and pharmaceuticals.

4.3.1.3 Air Pollution Constituents and Attainment Status

The CARB has many responsibilities with respect to air quality, including the following:

- Coordination and oversight of State and Federal air pollution control programs in California;
- Oversight activities of local air quality management agencies (e.g., the SCAQMD);
- Responsibility for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for EPA approval; and
- Maintaining air quality monitoring stations throughout the State in conjunction with local air districts.

The CARB has divided the State into 15 air basins based on meteorological and topographical factors that affect air pollution. An air basin generally has similar meteorological and geographic conditions throughout. The CARB and EPA use the data collected at monitoring stations to classify air basins as attainment, nonattainment, nonattainment transitional, or unclassified, based on air quality data for the most recent three calendar years compared with the AAQS. Nonattainment areas are imposed with additional restrictions, as required by the EPA to attain and maintain air quality standards. The air quality data are also used to monitor progress in attaining and maintaining air quality standards.

Significant authority for air quality control within the various air basins has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans. Table 4.3.C (page 4.3-6) identifies the attainment status[1] for the criteria pollutants in the Basin. The State AAQS are more stringent than the Federal AAQS.

4.3.1.4 Regional Air Quality Improvements

The SCAQMD website (aqmd.gov) includes historical air quality data dating back to 1994; the year after air pollution emissions thresholds were established. As described on the SCAQMD website,[2] in 1994 pollutant concentrations in the Basin exceeded three of the six Federal ambient air quality standards. The state sulfate standard was exceeded in some Basin areas. The state lead standard

[1] Unclassified designation: a pollutant that is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment; Attainment designation: a pollutant is designated attainment if the State standard for that pollutant was not violated at any site in the area during a 3-year period. Nonattainment: a pollutant is designated nonattainment if there was at least one violation at any site in the area during a 3-year period.

[2] Historical Air Quality, Summary of 1994 Air Quality, http://aqmd.gov/smog/AirQualityStandardsComplianceReport/AirQualitySummary94.html, website accessed December 17, 2012.

was exceeded in one localized area immediately adjacent to a source. No areas of the Basin exceeded standards for nitrogen dioxide or sulfur dioxide. The Los Angeles and Riverside County areas of the Southeast Desert Air Basin (SEDAB) served by the District exceeded standards for ozone and PM_{10}. No other standards were exceeded in the District SEDAB areas. The Federal standards were exceeded at one or more locations in the Basin during 142 days in 1994.

Although both Federal and State standards were exceeded for three criteria pollutants during 1994, current air quality represents substantial improvement over historical air quality. Between 1982–1984 and 1992–1994, the number of days on which the Federal ozone standard was exceeded dropped by one third, from 33 percent to 22 percent of days, in the East San Gabriel Valley area, which is exceeded most frequently. Exceedances of the Federal carbon monoxide standard decreased from 11 percent of days in 1982–1984 to 7 percent of days in 1992–1994. A comparison for the same periods cannot be made for PM_{10} since the first full year of monitoring was 1985. However, between 1985–1987 and 1992–1994, the percent of days exceeding the Federal 24-hour standard decreased from 13 percent to 3 percent.[1]

Exceedances of the State nitrogen dioxide standard decreased from 1 percent of days in 1982–1984 to 0.1 percent of days in 1992–1994. The Federal nitrogen dioxide standard has not been exceeded in any area since 1991. There have been no exceedances of lead standards at regular air monitoring stations in the Basin since 1982. The State and Federal sulfur dioxide standards were not exceeded in any of the Basin monitoring areas during either period. Exceedances of the State sulfate standard decreased from 2 percent to 0 percent at the long-term site used in this analysis, though a few sites were exceeded in 1994. The areas of the Basin recording the highest pollutant concentrations have shown a significant decrease in exceedances of the Federal standards over the past decade.

As described in the SCAQMD *December 2000 Air Quality Standards Report*, in a continuing trend of significant long-term improvement in air quality, the Basin did not experience a Stage 1 Episode for the second year in a row in the year 2000. Also, the year 2000 was the second year in the history of ambient air monitoring that the Basin was not the location recording the highest ozone concentration in the nation. Nonetheless, maximum pollutant concentrations in the region still exceed the Federal standards for ozone, carbon monoxide and particulate matter (PM_{10} and $PM_{2.5}$) by a wide margin.

Maximum 1-hour average and 8-hour average ozone concentrations in 2000 (0.184 ppm and 0.159 ppm) were 147 percent and 187 percent of the Federal 1-hour and 8-hour standards, respectively. The highest 8-hour average carbon monoxide concentration of 2000 (10.0 ppm) was 105 percent of the Federal standard. Maximum 24-hour average and annual average PM_{10} concentrations (139 $\mu g/m^3$ and 60.1 $\mu g/m^3$) were 92 percent and 119 percent of the Federal 24-hour and annual standards, respectively. Maximum 24-hour average and annual average $PM_{2.5}$ concentrations (119.6 $\mu g/m^3$ and 28.2 $\mu g/m^3$) were, respectively, 183 percent and 182 percent of the Federal 24-hour and annual standards.

In 2000, the Federal nitrogen dioxide standard was not exceeded, with a maximum concentration (0.0435 ppm), which was 81 percent of the Federal standard. The maximum 1-hour average nitrogen dioxide concentration (0.21 ppm) was 81 percent of the State standard. State standard for sulfate was exceeded on one day at one location. The maximum 24-hour concentration (26.7 $\mu g/m^3$) was 107 percent of the State standard. (There is no Federal sulfate standard.) Sulfur dioxide and lead concentrations continued to remain well below the Federal and State standards in 2000.[2]

As identified in the SCAQMD *December 2000 Air Quality Standards Report*, the number of exceedances recorded in 2000 shows that air quality trends through 2000 are consistent with a continuation of the downtrends reported in previous years. Figure 4.3.1 shows the trend in the

1 Air Quality Trends Through 1994, http://aqmd.gov/smog/trends_8494.html, website accessed May 9, 2012.
2 *December 2000 Air Quality Standards Compliance Report,* SCAQMD, http://aqmd.gov/smog/AQSCR2000/aq00web.pdf, website accessed December 17, 2012.

percentage exceeding the Federal standards in the Basin. In 2000, there were 43 days on which one or more Federal standards were exceeded somewhere in the Basin, most of which (40 days) were for ozone alone. Between 1976–1978 and 1998–2000, the three-year average number of days exceeding any of the Federal standards for 1-hour ozone, 8-hour carbon monoxide or 24-hour PM_{10} in the Basin was reduced by 80 percent. ("All Standards" does not include PM_{10} until 1985.) The three-year average number of days exceeding the carbon monoxide Federal standard was reduced by 94 percent for the same period. The number of sampling days exceeding the Federal 24-hour PM_{10} standard decreased 93 percent between 1985–1987 and 1998–2000. (Three-year averages were used to minimize the effect of year-to-year variations due to changes in meteorological conditions.)

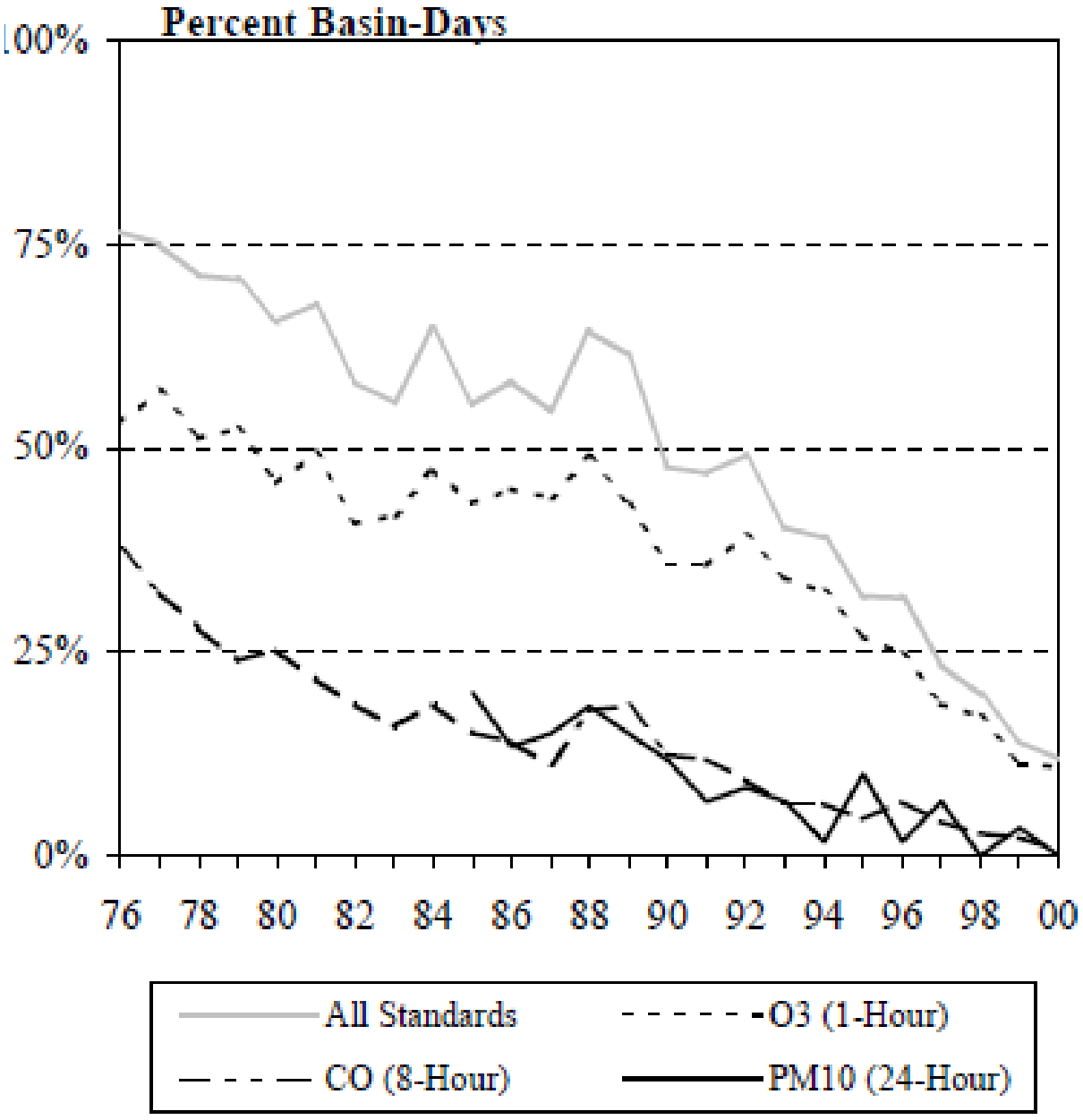

Figure 4.3.1: Percent of Days Basin Exceeds Federal AAQS

Between the periods 1976–1978 and 1998–2000, Stage 1 Episodes decreased 96 percent and health advisories decreased 86 percent. Exceedances of 1-hour and 8-hour Federal standards decreased 76 percent and 47 percent, and State standard exceedances decreased 49 percent as shown in Figure 4.3.2.

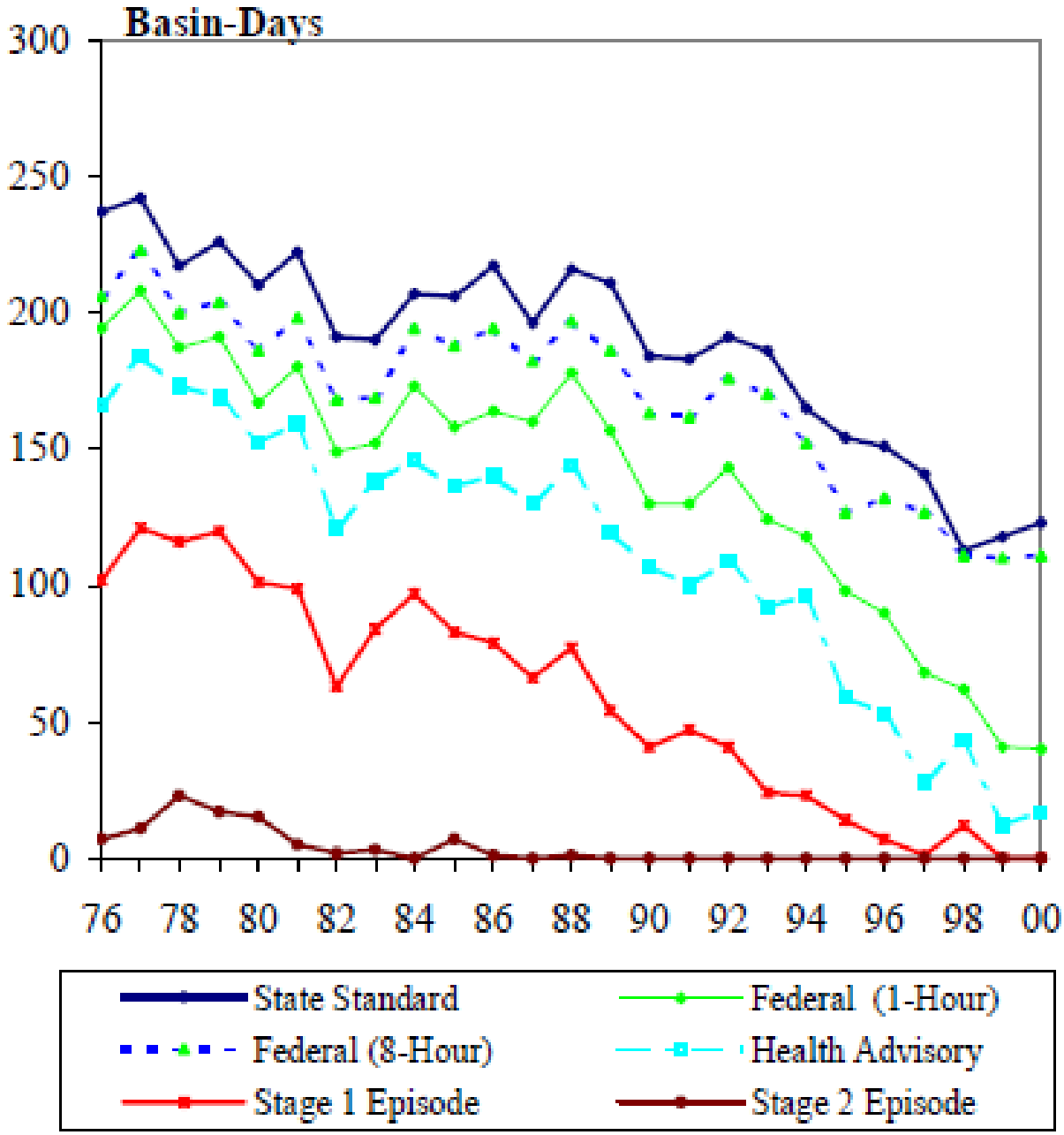

Figure 4.3.2: Exceedances of 1-Hour and 8-Hour Federal Standards

Figure 4.3.3 shows the number of days per month exceeding the Federal ozone standard for the period of 1976–2000. Up until the early 1990s, it was common to have days exceeding the Federal ozone standard as early as February and as late as November and December. Since the mid-1990s there have been no Federal standard exceedances recorded in the months of January–March and

November–December. Also, the frequency of exceedances in fall (September and October) has been reduced significantly in recent years.

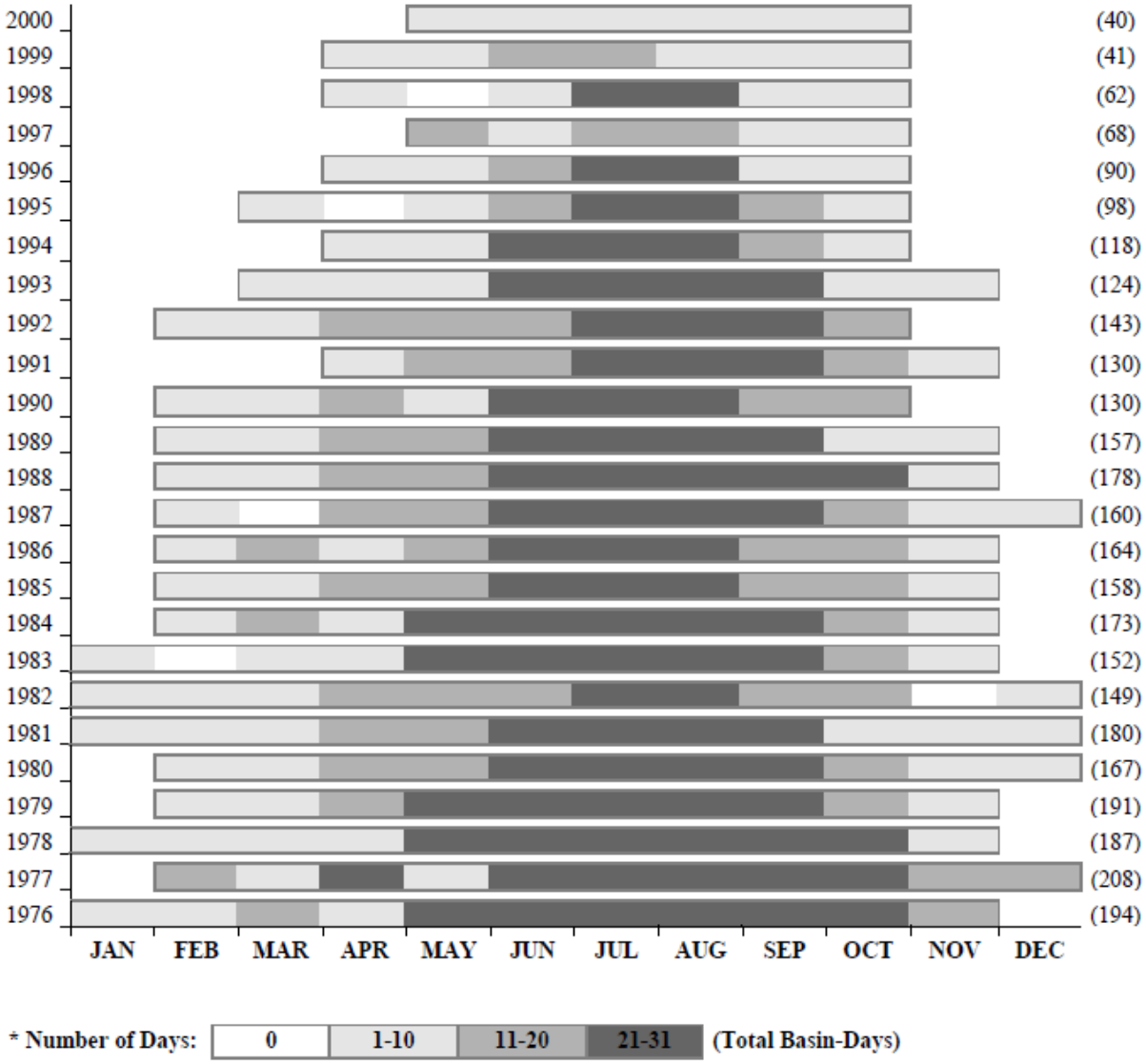

Figure 4.3.3: Number of Days per Month Federal Ozone Standard Exceeded, 1976–2000

The monthly distribution of the Federal ozone standard exceedances shows the trend toward shorter duration of the period of the year that high ozone concentrations occur (smog season). Although weather conditions contributed to the lower ozone concentrations, weather-adjusted trend studies have indicated that the significant downtrend in ozone concentration and shorter smog season in the Basin are mainly attributed to emission reduction and reduced reactivity of emitted organic compounds in the region.

As described in the SCAQMD *November/December 2006 Air Quality Standards Report*, the maximum 8-hour and 1-hour average ozone concentrations in the Basin (0.142 ppm and 0.175 ppm, recorded in the Central San Bernardino Mountains and East San Gabriel Valley areas) were 167 percent and 140 percent of the 8-hour and former 1-hour Federal standards, respectively. Maximum 24-hour average and annual average PM_{10} concentrations in the Basin (142 µg/m^3 and 64.0 µg/m^3, recorded in the Central San Bernardino Valley and Metropolitan Riverside County areas) were 94

percent of the Federal 24-hour standard and 125 percent of the former annual PM_{10} standards. Maximum 24-hour average $PM_{2.5}$ concentration (72.2 µg/m^3 recorded in the South San Gabriel Valley area) was 203 percent of the new Federal 24-hour standard (35 µg/m^3) and 110 percent of the former standard (65 µg/m^3). Maximum annual average $PM_{2.5}$ concentration (20.6 µg/m^3 recorded in the Metropolitan Riverside County area) was 136 percent of the Federal annual $PM_{2.5}$ standard.

Nitrogen dioxide maximum annual average concentration (0.031 ppm recorded in the Northwest San Bernardino Valley area) was 58 percent of the Federal standard. (The annual average concentration was 103% of the proposed new annual State standard for NO_2.) Carbon monoxide concentrations have not exceeded the standards in the Basin since 2002. The highest 8-hour average carbon monoxide concentration in 2006 (6.4 ppm, recorded in the South Central Los Angeles County area) was 70 percent of the Federal standard. Sulfur dioxide, sulfate and lead concentrations remained well below the State and Federal standards in 2006.[1]

The American Lung Association website (lung.org) includes data collected from State air quality monitors that are used to compile an annual *State of the Air* report. These reports have been published over the last 13 years. The latest *State of the Air Report* compiled for the Basin was in 2010.[2] As noted in this report, air quality in the Basin has significantly improved in terms of both pollution levels and high pollution days over the past three decades. The area's average number of high ozone days dropped from 189.5 day per year in the initial 2000 State of the Air report (1996–1998) to 141.8 in the 2006–2008 report. The region has seen dramatic reduction in particle pollution since the initial State of the Air report (2000). While the 2010 *State of the Air Report* shows a slight uptick in the number of days of unhealthy air for ozone and annual particle pollution since the 2009 report, it is important to note that pollution levels measured in this latter report were affected by fluctuations in weather conditions in 2010 and the addition of several new particulate monitoring stations in areas in San Bernardino known to be particularly problematic for particulate matter given local conditions.

The 2012 Air Quality Management Plan states, "The remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs" (South Coast Air Quality Management District 2012). As shown in Figure 4.3.4, ozone, NO_X, VOC, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease through 2020 (CARB 2009). These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NO_X and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_X emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy.

Figure 4.3.4 also displays ozone contour maps, which show that the number of days exceeding the national 8-hour standard has decreased between 1997 and 2007. In the 2007 period, there was an overall decrease in exceedance days compared with the 1997 period.

As shown in the top portion of Figure 4.3.5, the overall trends of PM_{10} and $PM_{2.5}$ in the air (not emissions) show an overall improvement since 1975. As shown in the bottom portion of Figure 4.3.5, direct emissions of PM_{10} have remained somewhat constant in the Basin and direct emissions of $PM_{2.5}$ have decreased slightly since 1975. Area-wide sources (fugitive dust from roads, dust from construction and demolition, and other sources) contribute the greatest amount of direct particulate matter emissions.

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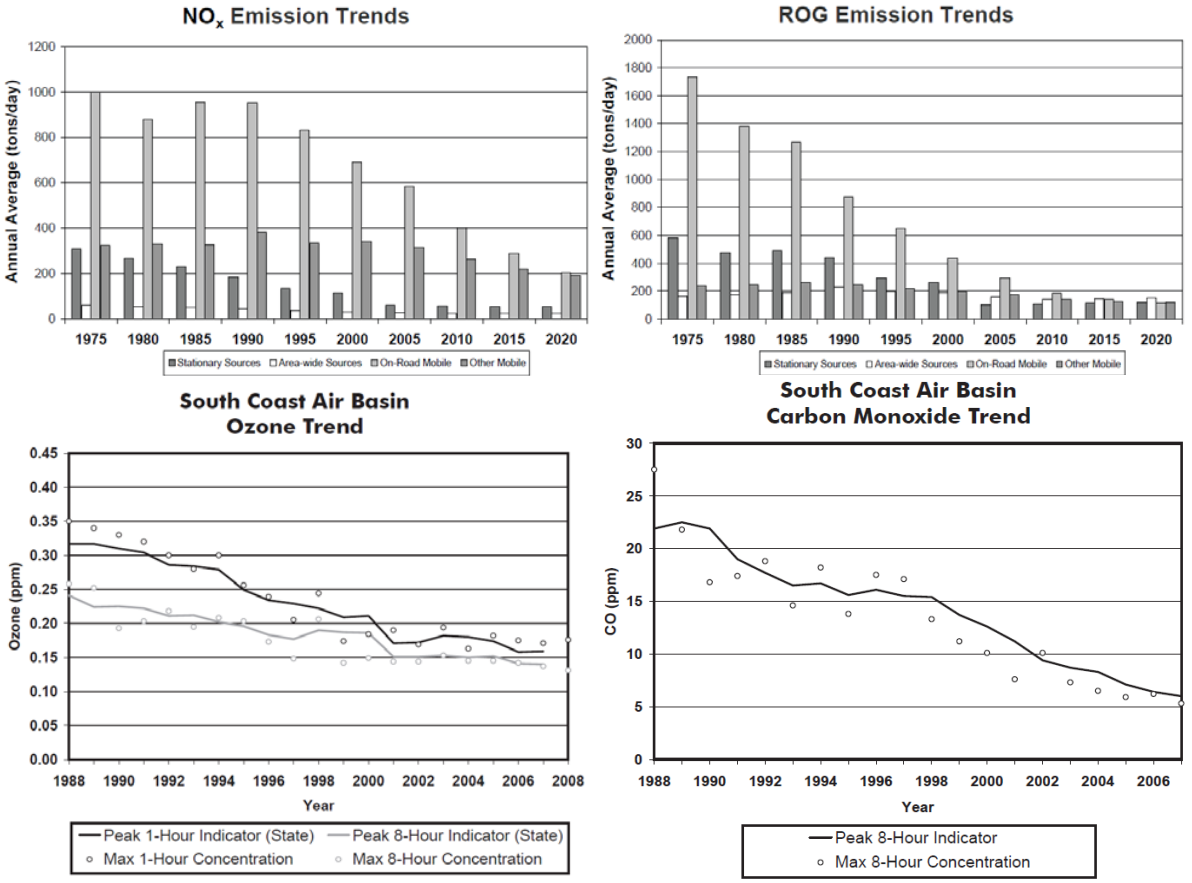
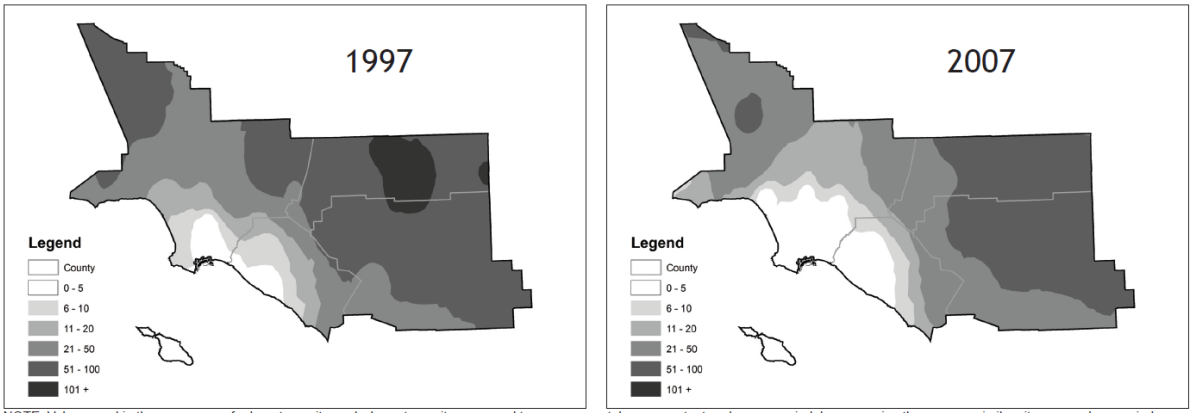
1 *November/December 2006 Air Quality Compliance Report*, SCAQMD, http://aqmd.gov/smog/AQSCR2006/2006_AirQuality.pdf, website accessed December 17, 2012.

2 *State of the Air 2010 South Coast Air Basin,* American Lung Association, *http://www.lung.org/associations/states/california/assets/pdfs/sota/south-coast-fact-sheet.pdf,* website accessed December 17, 2012.



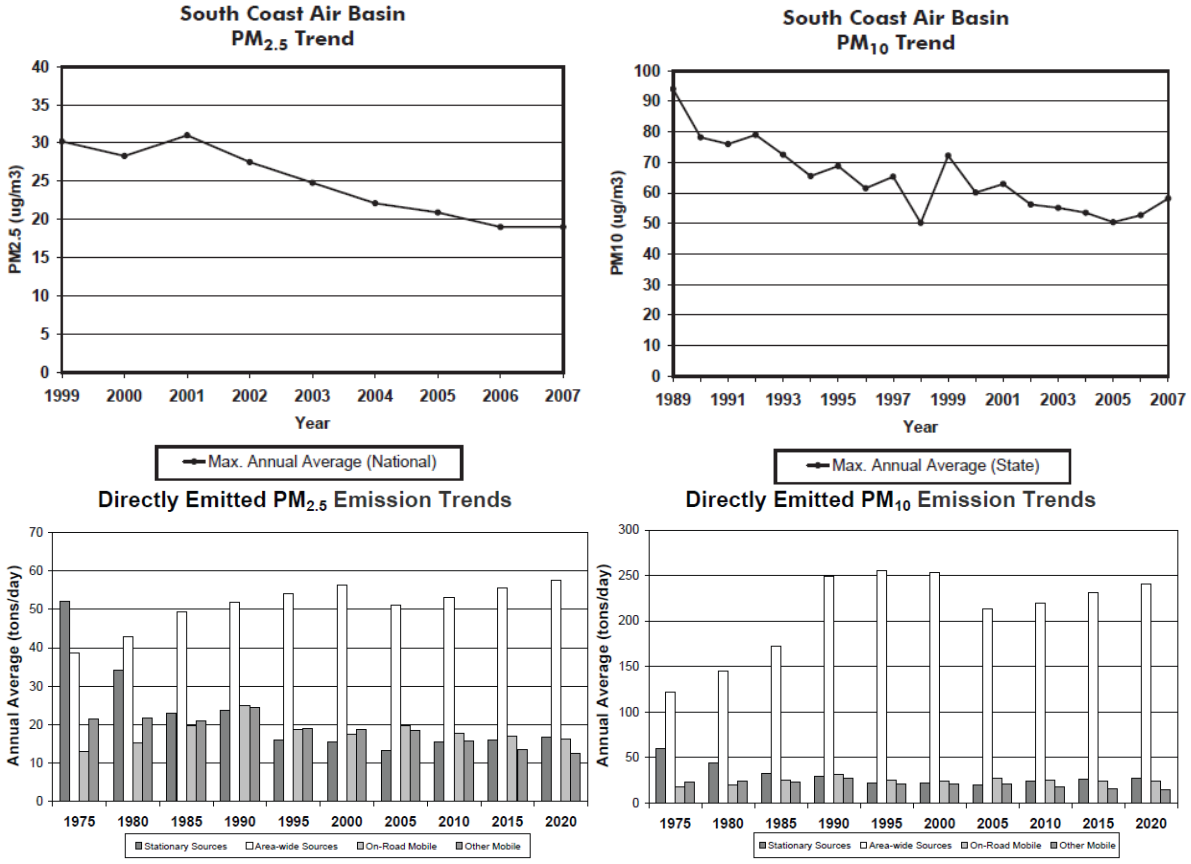
Ozone Contour Maps - 3-year Average of National 8-Hour Exceedance Days



NOTE: Values used in these maps are for long-term sites only. Long-term sites are used to more accurately represent a trend over a period, by comparing the same or similar sites over a long period.

Note: ROG (reactive organic gases) and VOC (volatile organic compounds) are used interchangeably in this analysis.
Source: CARB, California Almanac of Emissions and Air Quality, 2009 Edition.

Figure 4.3.4: NO_X, VOC, and Ozone Trends in the South Coast Air Basin



Source: CARB, California Almanac of Emissions and Air Quality, 2009 Edition.

Figure 4.3.5: Particulate Matter Trends in the South Coast Air Basin

The reduction in air pollution levels experienced in the Basin is attributable to multiple factors. First, Federal and State regulatory strategies requiring the use of cleaner fuels in the transportation and energy production industries have proven to greatly reduce the amount of tailpipe emission (vehicles) and point source (power plants) pollutants (e.g., NO_X and ROG). Second, the SCAQMD's rules and regulatory programs have proven to be instrumental in improving the air quality in the Basin. As an example, the SCAQMD has adopted multiple rules regarding fugitive dust (PM_{10} and $PM_{2.5}$) and construction emissions that have resulted in reduced emission levels. Third, the SCAQMD's creation of the 1993 CEQA review handbook has resulted in lead agencies throughout the air basin employing uniform CEQA analyses and methodologies. The use of uniform CEQA review has allowed the SCAQMD and lead agencies that rely on the 1993 SCAQMD Air Quality Handbook to perform CEQA analysis to better track progress and to employ uniform mitigation and design feature strategies. Fourth, the use of the SCAQMD thresholds of significance to determine a project's direct and cumulative impact has allowed the SCAQMD to make tremendous progress toward achieving air quality attainment. The discussion above (pertaining to the air quality improvements achieved over the past 20 years) demonstrates that the SCAQMD's rules and procedures, including the uniform utilization of the thresholds of significance recommended in the SCAQMD *CEQA Air Quality Handbook* are contributing toward the achievement of improved air quality in the Basin.

It is for this reason that this EIR and the City have chosen to rely on the thresholds of significance established by the SCAQMD in its 1993 CEQA Handbook and subsequent additions to the Handbook. These thresholds of significance (which serve as both direct and cumulative thresholds) have been uniformly utilized by lead agencies throughout the Basin for the past 20 years and the improvement of air quality within the Basin throughout this time period has demonstrated the efficacy

of these thresholds, along with the other regional and statewide regional programs discussed above, in improving air quality throughout the Basin.

4.3.1.5 Local Air Quality

The SCAQMD, together with the CARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the project site is the Riverside-Rubidoux station. This station monitors CO, SO_2, NO_2, O_3, PM_{10}, and $PM_{2.5}$. The air quality monitoring station closest to the site monitoring the rest of the criteria pollutants is the Metropolitan Riverside station. Some monitoring data for SO_2 has been omitted as attainment is regularly met for this pollutant within the Basin. These stations characterize the air quality representative of the ambient air quality in the project area.[1] The ambient air quality data in Table 4.3.D identify that CO and NO_2 levels are consistently below the relevant State and Federal standards in the project vicinity. O_3, PM_{10}, and $PM_{2.5}$ levels all exceed State and/or Federal standards regularly. Figure 4.3.6 identifies the locations of the monitoring stations relative to the proposed project site.

4.3.1.6 Sensitive Land Uses in the Project Vicinity

Sensitive receptors include residences, schools, medical offices, convalescent facilities, and similar uses that are sensitive to air pollutants. There are currently seven occupied single-family homes and associated ranch/farm buildings in various locations on the proposed project site. These residences are existing on-site sensitive receptors. The nearest off-site existing sensitive receptors in the vicinity of the proposed project site are the residences located along Bay Avenue, Merwin Street, and west of Redlands Boulevard. Nearby sensitive land uses are depicted in Figure 4.3.7.

4.3.1.7 Existing Project Area Emissions

The project area is largely vacant undeveloped marginal agricultural land, with seven occupied single-family homes and associated ranch/farm buildings in various locations on the property. Much of the site is currently used for dry farming. San Diego Gas & Electric (SDG&E) operates a natural gas compressor plant, known as the Moreno Compressor Station, on 19 acres in the south-central portion of the site. The Southern California Gas Company (SCGC) also operates a metering and pipe cleaning station on two separate parcels (totaling 1.5 acres) in the south-central portion of the site south of Alessandro Boulevard along existing Virginia Street. Existing air quality conditions at the proposed project site reflect ambient monitored conditions as presented in Table 4.3.D.

4.3.2 Policies and Regulations

4.3.2.1 Federal Regulations

Clean Air Act. Pursuant to the Federal Clean Air Act (CAA) of 1970, the EPA established national ambient air quality standards (NAAQS). The NAAQS were established for six major pollutants, termed “criteria” pollutants. Criteria pollutants are defined as those pollutants for which the Federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

The EPA established new national air quality standards for ground-level O_3 and $PM_{2.5}$ in 1997. On May 14, 1999, the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the CAA, as applied in setting the new public health standards for O_3 and particulate matter, was unconstitutional as an improper delegation of legislative authority to the EPA. On February 27, 2001,

[1] Air quality data, 2009-2011; EPA, CARB, and SCAQMD websites.

Table 4.3.D: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	2009	2001	2011
Carbon Monoxide (CO)				
Maximum 1-hr concentration (ppm)		2	3	ND
Number of days exceeded:	State: > 20 ppm	0	0	ND
	Federal: > 35 ppm	0	0	ND
Maximum 8-hr concentration (ppm)		1.85	1.84	1.35
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9.0 ppm	0	0	0
Ozone (O_3)				
Maximum 1-hr concentration (ppm)		0.116	0.128	0.128
Number of days exceeded:	State: > 0.09 ppm	25	31	52
Maximum 8-hr concentration (ppm)		0.101	0.099	0.115
Number of days exceeded:	State: > 0.07 ppm	57	74	92
	Federal: > 0.075 ppm	36	47	67
Coarse Particulates (PM_{10})				
Maximum 24-hr concentration (µg/m^3)		86.8	75.0	82.7
Number of days exceeded:	State: > 50 µg/m^3	120	43	30
	Federal: > 150 µg/m^3	0	0	0
Annual arithmetic mean concentration (µg/m^3)		41.9	33.8	32.5
Exceeded for the year	State: > 20 µg/m^3	Yes	Yes	Yes
Fine Particulates ($PM_{2.5}$)				
Maximum 24-hr concentration (µg/m^3)		62.0	58.5	73.7
Number of days exceeded:	Federal: > 35 µg/m^3	15	4	5
Annual arithmetic mean (µg/m^3)		17.1	13.9	13.8
Exceeded for the year	State: > 12 µg/m^3	Yes	Yes	Yes
	Federal: > 15 µg/m^3	Yes	No	No
Nitrogen Dioxide (NO_2)				
Maximum 1-hr concentration (ppm)		0.078	0.065	0.063
Number of days exceeded:	State: > 0.18 ppm	0	0	0
Annual arithmetic mean concentration (ppm)		0.017	0.017	ID
Exceeded for the year	State: > 0.030 ppm	No	No	ID
	Federal: > 0.053 ppm	No	No	ID
Sulfur Dioxide (SO_2)				
Maximum 24-hr concentration (ppm)		0.003	0.005	0.001
Number of days exceeded:	State: > 0.04 ppm	0	0	ND
Annual arithmetic average concentration (ppm)		0.001	0.001	<0.001
Exceeded for the year:	Federal: > 0.030 ppm	No	No	ND

[1] The exceedances of the federal 8-hour O_3 standard are based on the old 0.08 ppm standard. In April 2008, the EPA revised the standard to 0.075 ppm.

[2] No data available.

[3] The exceedances of the federal 24-hour $PM_{2.5}$ standard are based on the old 65 µg/m^3 standard. In 2006, the EPA revised the standard to 35 µg/m^3.

µg/m^3 = micrograms per cubic meter
EPA = United States Environmental Protection Agency
ID = Insufficient data
ND = No data
ppm = parts per million

Sources: California Air Resources Board 2012, from station Riverside-Rubidoux; South Coast AQM2012, from station Metropolitan Riverside.

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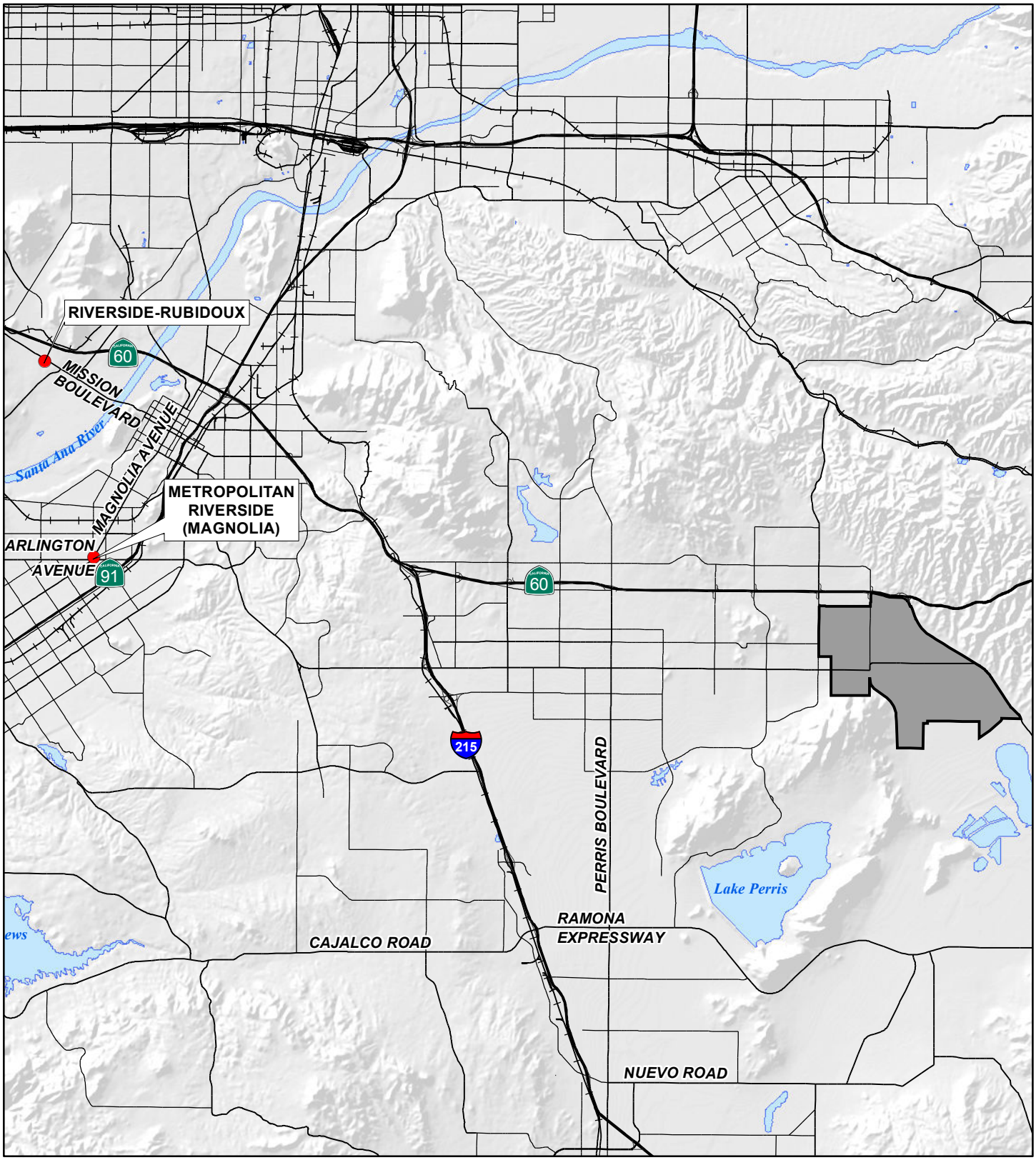

LSA

FIGURE 4.3.6

World Logistics Center Project
Environmental Impact Report

Air Quality Monitoring Stations

SOURCE: USGS DEM; Thomas Bros, 2007; Air Resources Board, 2005

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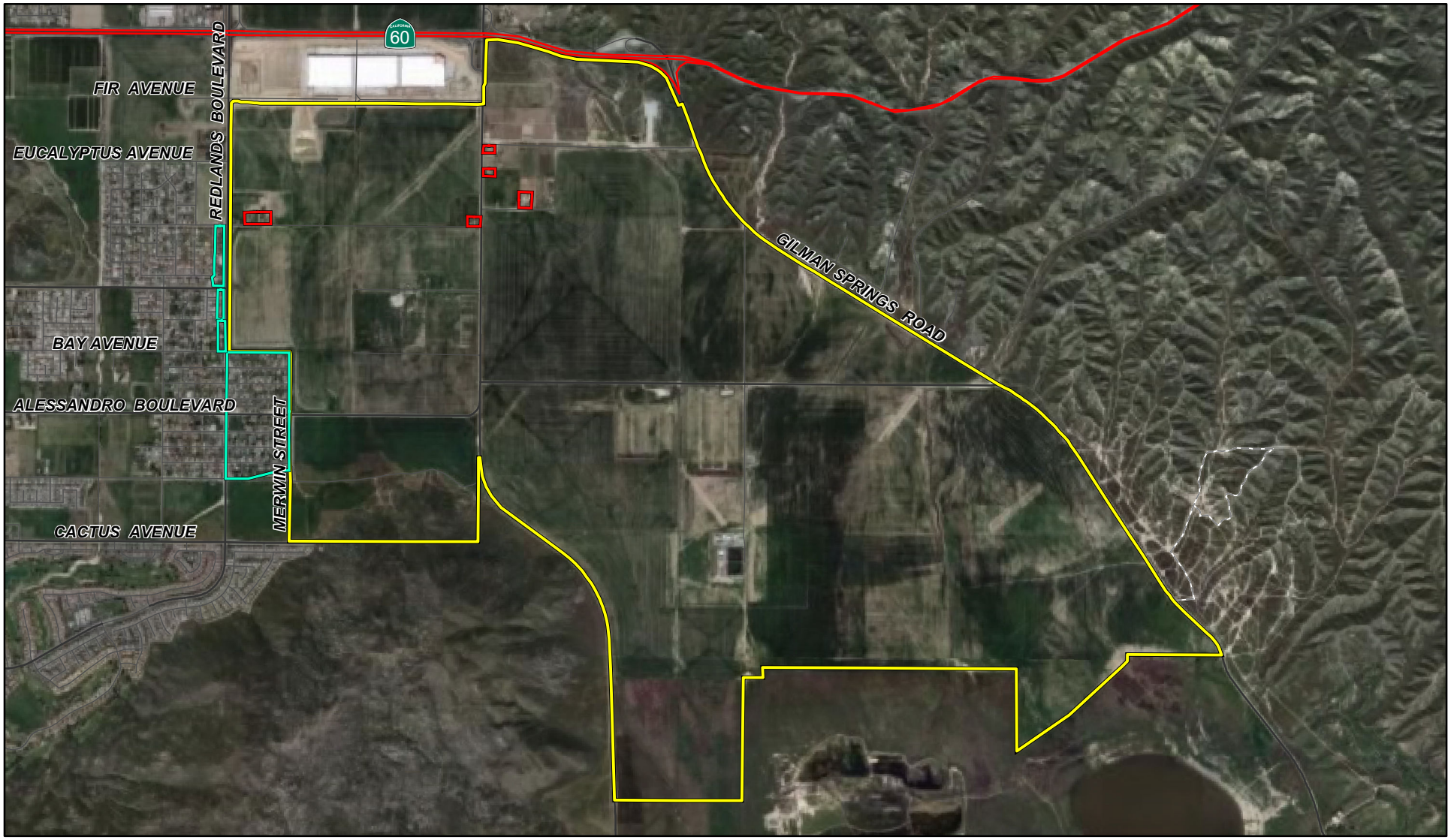

LSA

FIGURE 4.3.7

Project Boundary

Off-site Sensitive Receptor

On-site Sensitive Receptor

N

0 1,500 3,000

FEET

World Logistics Center Project
Environmental Impact Report

Existing Sensitive Receptors

SOURCE: Google Earth, 2011; Albert A Webb, Assoc., 2011.

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the U.S. Supreme Court upheld the way that the government sets air quality standards under the CAA. The Court unanimously rejected industry arguments that the EPA must consider financial cost as well as health benefits in writing standards. The Justices also rejected arguments that the EPA took too much lawmaking power from Congress when it set tougher standards for O_3 and soot in 1997. Nevertheless, the Court threw out the EPA's policy for implementing new O_3 rules, stating that the EPA ignored a section of the law that restricts its authority to enforce such rules.

In April 2003, the EPA was cleared by the White House Office of Management and Budget (OMB) to implement the eight-hour ground-level O_3 standard. The EPA issued the proposed rule implementing the eight-hour O_3 standard in April 2003. The EPA completed final eight-hour nonattainment status on April 15, 2004. The EPA issued the final $PM_{2.5}$ implementation rule in fall 2004. The EPA issued final designations on December 14, 2004.

Effective January 22, 2010, the EPA strengthened the standard for NO_2 by setting a new 1-hour standard at the level of 100 parts per billion (ppb). This standard defines the maximum allowable concentration anywhere in an area and will protect against adverse health effects associated with short-term exposure to NO_2. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb. On January 25, 2010, the EPA issued the final rule setting the one-hour maximum standard for NO_2 at 100 parts per billion (ppb). The agency retained the annual standard of 53 ppb.

Additionally, effective June 2, 2010, the EPA revised the primary standard for SO_2 by establishing a new 1-hour standard at a level of 75 ppb. The EPA revoked the two existing primary standards of 140 ppb evaluated over 24 hours and 30 ppb evaluated over an entire year as they would not provide additional public health protection given a 1-hour standard at 75 ppb. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

4.3.2.2 State Regulations

Mulford-Carrell Act. The State began to set California Ambient Air Quality Standards (CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. The CAAQS are generally more stringent than the NAAQS. In addition to the six criteria pollutants covered by the NAAQS, there are CAAQS for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

Originally, there were no attainment deadlines for CAAQS; however, the CCAA of 1988 provided a time frame and a planning structure to promote their attainment. The CCAA required nonattainment areas in the State to prepare attainment plans and proposed to classify each such area on the basis of the submitted plan, as follows: moderate, if CAAQS attainment could not occur before December 31, 1994; serious, if CAAQS attainment could not occur before December 31, 1997; and severe, if CAAQS attainment could not be conclusively demonstrated at all. The attainment plans are required to achieve a minimum 5 percent annual reduction in the emissions of nonattainment pollutants unless all feasible measures have been implemented. The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization (MPO) responsible for ensuring compliance with the requirements of the CAA for the Basin.

California Clean Air Act (CCAA). The CCAA was passed into law in 1988. The CCAA provides the basis for air quality planning and regulation independent of federal regulations. A major element of the CCAA is the requirement that local air districts in violation of the CAAQS must prepare attainment plans that identify air quality problems, causes, trends and actions to be taken to attain and maintain California's air quality standards by the earliest practicable date. The CCAA provides air districts with the authority to manage transportation activities at indirect sources that individually are minor but collectively emit a substantial amount of pollution such as motor vehicles at intersections, malls, and

on highways. The SCAQMD also regulates stationary sources of pollution throughout its jurisdictional area. Direct emissions from motor vehicles are regulated by the CARB.

CARB Airborne Toxic Control Measure/Asbestos. Asbestos is listed as a toxic air contaminant by CARB and as a Hazardous Air Pollutant by the EPA. Asbestos occurs naturally in surface deposits of several types of rock formations. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Crushing or breaking these rocks, through construction or other means, can release asbestoform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. In July 2001, the CARB approved an Air Toxic Control Measure for construction, grading, quarrying and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of best management practices (BMPs) to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification and engineering controls prior to grading, quarrying or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than one acre in size. These projects require the submittal of a "Dust Mitigation Plan" and approval by the air district prior to the start of a project. There is no asbestos in the project area (U.S. Geological Survey 2011).

4.3.2.3 Regional Regulations

Lewis Air Quality Management Act. The 1976 Lewis Air Quality Management Act established the SCAQMD and other air districts throughout the State. The Federal CAA Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the Federal standards in nonattainment areas of the State.

The CARB is responsible for incorporating air quality management plans for local air basins into an SIP for EPA approval. Significant authority for air quality control within them has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans.

Carl Moyer Memorial Air Quality Standards Attainment Program. Since 1998, the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) has provided funding to encourage the voluntary purchase of cleaner engines, equipment, and emission reduction technologies. The Carl Moyer Program plays a complementary role to California's regulatory program by funding emission reductions that are surplus, i.e., early and/or in excess of what is required by regulation. The Carl Moyer Program accelerates the turnover of old highly-polluting engines, speeds the commercialization of advanced emission controls, and reduces air pollution impacts on environmental justice communities. Emission reductions achieved through the Carl Moyer Program are an important component of the California State Implementation Plan.

Regional Air Quality Management Plan (AQMP). The SCAQMD and the SCAG are responsible for formulating and implementing the AQMP, which has a 20-year horizon for the Basin. The SCAQMD and SCAG must update the AQMP every three years. The current regional air quality plan is the Final 2012 Air Quality Management Plan (AQMP) adopted by the SCAQMD on December 7, 2012.

2003 AQMP. One of the purposes of the 2003 AQMP is to lead the Basin and portions of the Salton Sea Air Basin under SCAQMD jurisdiction into compliance with the 1-hour ozone and PM_{10} Federal standards (SCAQMD 2003).

The 2003 AQMP also replaced the 1997 attainment demonstration for the Federal CO standard, provided a basis for a maintenance plan for CO for the future, and updated the maintenance plan for the Federal nitrogen dioxide standard that the Basin has met since 1992 (2003 AQMP, page 1-1).

The 2003 AQMP also incorporated new scientific data in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2003 AQMP utilized complex modeling to show that with the control measures, the Basin would be in compliance with the Federal and State standards for all pollutants by 2010, except for the State ozone and PM_{10} standards and the State ozone and PM_{10} standards after 2010 or by the earliest practicable date, as mandated by the California Health and Safety Code Section 40462. The CARB approved the 2003 AQMP on August 1, 2003. The EPA's adequacy finding on the emissions budgets for conformity determination in the Basin was published in the Federal Register (69 FR 15325-15326).

2007 AQMP. One of the purposes of the 2007 AQMP is to lead the Basin into compliance with the Federal 8-hour ozone and $PM_{2.5}$ standards. The 2007 AQMP was adopted by the SCAQMD on June 1, 2007 (SCAQMD 2007b). On July 13, 2007, the SCAQMD Board adopted the 2007 Final AQMP Transportation Conformity Budgets and directed the Executive Officer to forward them to the CARB for approval and subsequent submittal to the EPA. On September 27, 2007, the CARB adopted the State Strategy for the 2007 State Implementation Plan and the 2007 AQMP as part of the State Implementation Plan. On January 15, 2009, the EPA's regional administrator signed a final rule to approve in part and disapprove in part the SCAQMD 2003 1-hour ozone plan and the nitrogen dioxide maintenance plan. The parts of the plan that were approved strengthen the State Implementation Plan. The Clean Air Act does not require the disapproved portions of the plan, and the disapprovals do not start sanctions clocks.

The 2007 AQMP outlines a detailed strategy for meeting the Federal health-based standards for $PM_{2.5}$ by 2015 and 8-hour ozone by 2024 while accounting for and accommodating future expected growth. The 2007 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling. Most of the reductions will be from mobile sources, which are currently responsible for about 75 percent of all smog and particulate-forming emissions. The 2007 AQMP includes 37 control measures proposed for adoption by the SCAQMD, including measures to reduce emissions from new commercial and residential developments, more reductions from industrial facilities, and reductions from wood-burning fireplaces and restaurant charbroilers.

2012 AQMP. The 2012 AQMP was adopted December 7, 2012 (SCAQMD 2012b). The purpose of the 2012 AQMP for the Basin is to set forth a program that will lead the Basin into compliance with the Federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update of the Basin's projections in meeting the Federal 8-hour ozone standards. The AQMP will be submitted to the EPA as the State Implementation Plan (SIP) once it is approved by the SCAQMD Governing Board and the CARB. Specifically, the AQMP will serve as the official SIP submittal for the Federal 2006 24-hour $PM_{2.5}$ standard, for which the EPA has established a due date of December 14, 2012. In addition, the AQMP will update specific elements of the previously approved 8-hour ozone SIP: 1) an updated emissions inventory, and 2) new control measures and commitments for emissions reductions to help fulfill the Section 182(e)(5) portion of the 8-hour ozone SIP.

The 2012 AQMP states, "The remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs."

The 2012 AQMP proposes Basin-wide $PM_{2.5}$ measures that will be implemented by the 2014 attainment date, episodic control measures to achieve air quality improvements (would only apply during high $PM_{2.5}$ days), Section 182(e)(5) implementation measures (to maintain progress toward meeting the 2023 8-hour ozone national standard), and transportation control measures. Most of the control measures focus on incentives, outreach, and education.

Proposed $PM_{2.5}$ reduction measures in the 2012 AQMP include the following:

- Further NO_X reductions from RECLAIM.
- Further reductions from residential wood-burning devices.
- Further reductions from open burning.
- Emission reductions from under-fired charbroilers.
- Further ammonia reductions from livestock waste.
- Backstop measures for indirect sources of emissions from ports and port-related sources.
- Further criteria pollutant reductions from education, outreach, and incentives.

There are multiple VOC and NO_X reductions in the 2012 AQMP to attempt to reduce ozone formation, including further VOC reductions from architectural coatings, miscellaneous coatings, adhesives, solvents, lubricants, and mold release products.

The 2012 AQMP also contains proposed mobile source implementation measures for the deployment of zero and near-zero emission on-road heavy-duty vehicles, locomotives, and cargo handling equipment. There are measures for the deployment of cleaner commercial harborcraft, cleaner ocean-going marine vessels, cleaner off-road equipment, and cleaner aircraft engines.

The 2012 AQMP proposes the following mobile source implementation measures:

- On-road mobile sources:
    - Accelerated penetration of partial zero-emission and zero-emission vehicles and light-heavy and medium-heavy duty vehicles through funding assistance for purchasing the vehicles.
    - Accelerated retirement of older light-, medium-, and heavy-duty vehicles through funding incentives.
    - Further emission reductions from heavy-duty vehicles serving near-dock railyards through a proposed control measure that calls for a requirement that any cargo container be moved between the Ports of Los Angeles and Long Beach and the nearby railyards with zero-emission technologies.
- Off-road mobile sources:
    - Extension of the SOON provision for construction/industrial equipment, which provides funding to repower or replace older Tier 0 and Tier 1 equipment.
    - Further emission reductions from freight and passenger locomotives calls for an accelerated use of Tier 4 locomotives in the Basin.
    - Further emission reductions from ocean-going marine vessels while at berth.
    - Emission reductions from ocean-going marine vessels.

The 2012 AQMP also relies upon the SCAG regional transportation strategy, which is in its adopted 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and 2011 Federal Transportation Improvement Program, which contains the following sections:

1. Linking regional transportation planning to air quality planning and making sure that the regional transportation plan supports the goals and objectives of the AQMP/SIP.
2. Regional transportation strategy and transportation control measures: The RTP/SCS contains improvements to the regional multimodal transportation system including the following: active transportation (non-motorized transportation, e.g., biking and walking); transportation demand management; transportation system management; transit; passenger and high-speed rail; goods movement; aviation and airport ground access; highways; arterials; and operations and maintenance.
3. Reasonably available control measure analysis.

Diesel Regulations. The Ports of Long Beach and Los Angeles and the CARB have adopted regulations aimed at reducing the amount of diesel particulate. These programs are the Ports of Los Angeles and Long Beach "Clean Truck Program,[1] the CARB Drayage Truck Regulation,[2] and the CARB statewide On-road Truck and Bus Regulation.[3] Each of these regulatory programs will require an accelerated introduction of "clean trucks" into the statewide truck fleet that will result in substantially lower diesel emissions during the 2008 to 2020 timeframe.

- *Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 horsepower and Greater.* Effective February 19, 2011, each fleet shall comply with weighted reduced particulate matter emission fleet averages by compliance dates listed in the regulation.
- *CARB Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling adopts new Section 2485 within Chapter 10, Article 1, Division 3, Title 13 in the California Code of Regulations.* The measure limits the idling of diesel vehicles to reduce emissions of toxics and criteria pollutants. The driver of any vehicle subject to this section: (1) shall not idle the vehicle's primary diesel engine for greater than five minutes at any location; and (2) shall not idle a diesel-fueled auxiliary power system for more than five minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle if it has a sleeper berth and the truck is located within 100 feet of a restricted area (homes and schools).
- *CARB Final Regulation Order, Requirements to Reduce Idling Emissions from New and In-Use Trucks,* requires that new 2008 and subsequent model-year heavy-duty diesel engines be equipped with an engine shutdown system that automatically shuts down the engine after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged. If the parking brake is not engaged, then the engine shutdown system shall shut down the engine after 900 seconds of continuous idling operation once the vehicle is stopped and the transmission is set to "neutral" or "park." Any project trucks manufactured after 2008 would be consistent with this rule, which would ultimately reduce air emissions.
- *CARB Regulation for In-Use Off-Road Diesel Vehicles.* On July 26, 2007, the CARB adopted a regulation to reduce diesel particulate matter and NOX emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The CARB is enforcing that part of the rule with fines up to $10,000 per day for each vehicle in

[1] http://www.portoflosangeles.org/ctp/idx_ctp.asp.
[2] http://www.arb.ca.gov/msprog/onroad/porttruck/porttruck.htm.
[3] http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm.

violation. Performance requirements of the rule are based on a fleet's average NO_X emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirements making the first compliance deadline January 1, 2014 for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501-5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

Toxic Air Contaminants. A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The California Almanac of Emissions and Air Quality presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. These TACs are as follows: acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, paradichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (diesel PM).

TAC measurements, available at the SCAQMD Riverside Rubidoux monitoring station (14 miles northeast of the project site) can be used to characterize the "background" health risks from regional TAC emission sources. Table 4.3.E provides this summary of TAC levels in the project area and health risk information.

Some studies indicate that diesel PM poses the greatest health risk among the TACs listed in Table 4.3.E. In 2008, the SCAQMD released the third iteration of the Multiple Air Toxics Exposure Study (MATES-III). The MATES-III report includes monitoring of various air toxic compounds in the Basin, establishes and updates existing baseline toxic air contaminants, and simulates cancer risk in the Basin. The study focuses on the carcinogenic risk from exposure to air toxics. It does not estimate mortality or other health effects from particulate exposures. The SCAQMD MATES-III report indicates that overall in the Basin, diesel PM contributes 83.6 percent of the risk. The risk basin-wide is 1,194 per million based on average at fixed monitoring sites. A 10-year research program (CARB 1998) demonstrated that diesel PM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to diesel PM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

Diesel PM differs from other TACs in that it is not a single substance but a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. The CARB has made preliminary concentration estimates based on a diesel PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. Within the Basin, in addition to diesel PM, there are emissions of benzene, formaldehyde, acetaldehyde, naphthalene, ethylbenzene, acrolein, toluene, hexane, propylene, and xylene from a variety of sources located within the Basin that contribute to health risks.

As shown in Figure 4.3.8, the project area experienced an increase of between 51 and 250 in one million from 1998–99 to 2005.

Table 4.3.E: Toxic Air Contaminant Concentration Levels and Associated Health Effects (Riverside, California)

TAC	Concentration[A] / Health Risk[B]	2007	2008	2009	Health Effects
Acetaldehyde	Mean	1.08	0.99	1.22	Acetaldehyde is a carcinogen that also causes chronic non-cancer toxicity in the respiratory system. Symptoms of chronic intoxication of acetaldehyde in humans resemble those of alcoholism. The primary acute effect of inhalation exposure to acetaldehyde is irritation of the eyes, skin, and respiratory tract in humans. At higher exposure levels, erythema, coughing, pulmonary edema, and necrosis may also occur. Acute inhalation of acetaldehyde resulted in a depressed respiratory rate and elevated blood pressure in experimental animals.
	Health Risk	5	5	5	
Benzene	Mean	0.40	0.33	ID	Benzene is highly carcinogenic and occurs throughout California. Benzene also has non-cancer health effects. Brief inhalation exposure to high concentrations can cause central nervous system depression. Acute effects include central nervous system symptoms of nausea, tremors, drowsiness, dizziness, headache, intoxication, and unconsciousness. Neurological symptoms of inhalation exposure to benzene include drowsiness, dizziness, headaches, and unconsciousness in humans. Ingestion of large amounts of benzene may result in vomiting, dizziness, and convulsions in humans. Exposure to liquid and vapor may irritate the skin, eyes, and upper respiratory tract in humans. Redness and blisters may result from dermal exposure to benzene. Chronic inhalation of certain levels of benzene causes disorders in the blood in humans. Benzene specifically affects bone marrow (the tissues that produce blood cells). Aplastic anemia, excessive bleeding, and damage to the immune system (by changes in blood levels of antibodies and loss of white blood cells) may develop. Increased incidence of leukemia (cancer of the tissues that form white blood cells) has been observed in humans occupationally exposed to benzene.
	Health Risk	37	30	ID	
Chromium Hex	Mean	0.35	ID	ID	In California, hexavalent chromium has been identified as a carcinogen. There is epidemiological evidence that exposure to inhaled hexavalent chromium may result in lung cancer. The principal acute effects are renal toxicity, gastrointestinal hemorrhage, and intravascular hemolysis. The respiratory tract is the major target organ for chromium (VI) following inhalation exposure in humans. Other effects noted from acute inhalation exposure to very high concentrations of chromium (VI) include gastrointestinal and neurological effects, while dermal exposure causes skin burns in humans. Chronic inhalation exposure to chromium (VI) in humans results in effects on the respiratory tract, with perforations and ulcerations of the septum, bronchitis, decreased pulmonary function, pneumonia, asthma, and nasal itching and soreness reported. Chronic human exposure to high levels of chromium (VI) by inhalation or oral exposure may produce effects on the liver, kidneys, gastrointestinal and immune systems, and possibly the blood.
	Health Risk	52	ID	ID	
Para-Dichlorobenzene	Mean	ID	ID	ID	In California, para-dichlorobenzene has been identified as a carcinogen. Acute exposure to 1,4-dichlorobenzene via inhalation results in irritation to the eyes, skin, and throat in humans. In addition, long-term inhalation exposure may affect the liver, skin, and central nervous system in humans (e.g., cerebellar ataxia, dysarthria, weakness in limbs, and hyporeflexia).
	Health Risk	ID	ID	ID	

Table 4.3.E: Toxic Air Contaminant Concentration Levels and Associated Health Effects (Riverside, California)

TAC	Concentration[A] / Health Risk[B]	2007	2008	2009	Health Effects
Formaldehyde	Mean	2.88	2.88	3.12	The major toxic effects caused by acute formaldehyde exposure via inhalation are eye, nose, and throat irritation and effects on the nasal cavity. Other effects seen from exposure to high levels of formaldehyde in humans are coughing, wheezing, chest pains, and bronchitis. Chronic exposure to formaldehyde by inhalation in humans has been associated with respiratory symptoms and eye, nose, and throat irritation. Animal studies have reported effects on the nasal respiratory epithelium and lesions in the respiratory system from chronic inhalation exposure to formaldehyde. Occupational studies have noted statistically significant associations between exposure to formaldehyde and increased incidence of lung and nasopharyngeal cancer. This evidence is considered "limited" rather than "sufficient" due to possible exposure to other agents that may have contributed to the excess cancers. EPA considers formaldehyde to be a probable human carcinogen (cancer-causing agent) and has ranked it in EPA's Group B1. In California, formaldehyde has been identified as a carcinogen.
	Health Risk	21	21	23	
Methylene Chloride	Mean	0.19	0.2	ID	Case studies of methylene chloride poisoning during paint-stripping operations have demonstrated that inhalation exposure to extremely high levels can be fatal to humans. Acute inhalation exposure to high levels of methylene chloride in humans has resulted in effects on the central nervous system, including decreased visual, auditory, and psychomotor functions, but these effects are reversible once exposure ceases. Methylene chloride also irritates the nose and throat at high concentrations. The major effects from chronic inhalation exposure to methylene chloride in humans are effects on the central nervous system, such as headaches, dizziness, nausea, and memory loss. In addition, chronic exposure can lead to bone marrow, hepatic, and renal toxicity. EPA considers methylene chloride to be a probable human carcinogen and has ranked it in EPA's Group B2. California considers methylene chloride to be carcinogenic.
	Health Risk	0.7	0.7	ID	
Perchloroethylene	Mean	0.035	0.024	ID	In California, perchloroethylene has been identified as a carcinogen. Perchloroethylene vapors are irritating to the eyes and respiratory tract. Following chronic exposure, workers have shown signs of liver toxicity, as well as kidney dysfunction and neurological disorders.
	Health Risk	1	1	ID	
Diesel PM	Mean	No Monitoring Data Available			In its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Using information from OEHHA's assessment, the ARB estimates that diesel-particle levels measured in California's air in 2000 could cause 540 "excess" cancers (beyond what would occur if there were no diesel particles in the air) in a population of 1 million people over a 70-year lifetime. Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.
	Health Risk				

Table 4.3.E: Toxic Air Contaminant Concentration Levels and Associated Health Effects (Riverside, California)

TAC	Concentration[A] / Health Risk[B]	2007	2008	2009	Health Effects
					Note: There have been some studies that suggest the risk from diesel PM is exaggerated, as discussed elsewhere in this EIR.

ID = Insufficient data
A = Concentrations for Hexavalent Chromium are expressed as µg/m^3, and concentrations for Diesel PM are expressed as µg/m^3. Concentrations for all other TACs are expressed as ppb.
B = Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available
Source: CARB 2011 for the SCAQMD Riverside-Rubidoux air monitoring station.

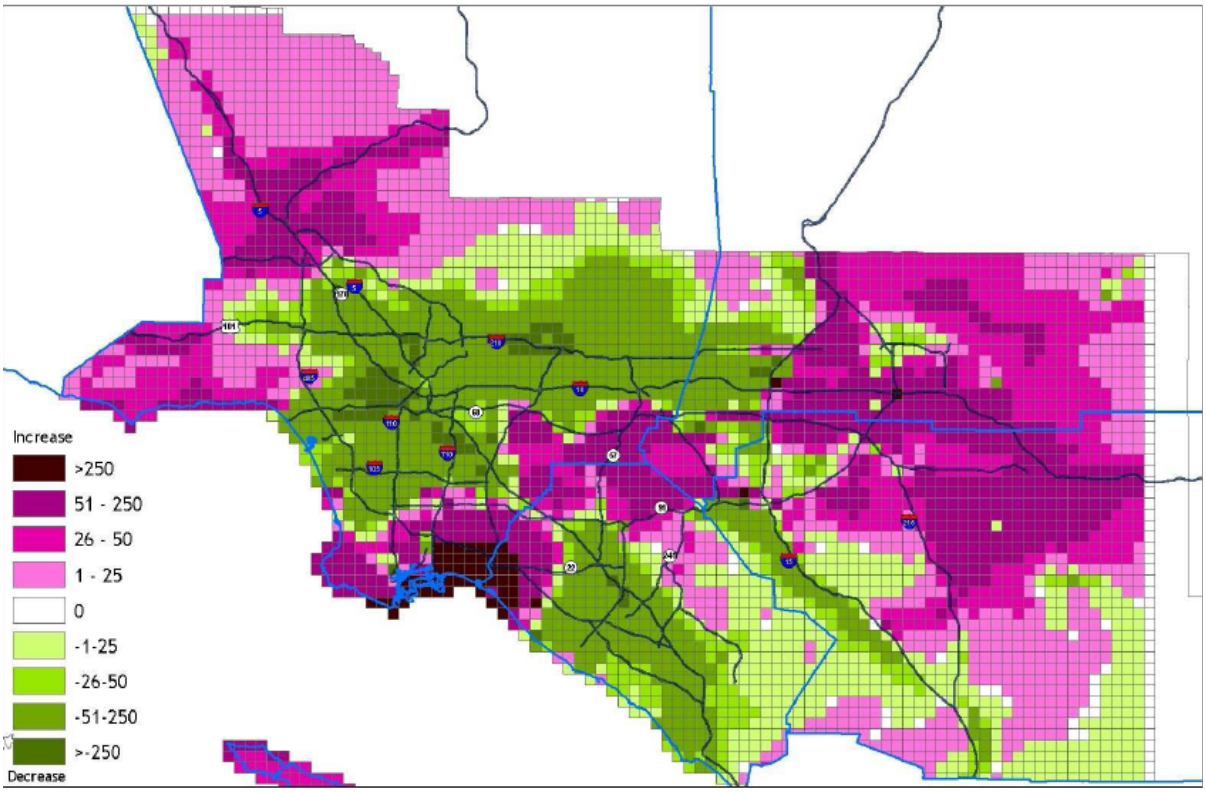

Figure 4.3.8: Change in Air Toxics Simulated Risk from 1998–99 to 2005
Source: South Coast Air Quality Management District, MATES-III report

Figure 4.3.8 depicts the cancer risk estimates as a "snapshot in time." That is, the cancer risks are derived from air dispersion models and are based on the emissions of various TACs during the years 1998 and 2005. The basic tenet used to estimate cancer risk assumes that the public will be exposed to these TAC emissions during an entire 70-year lifetime. However, the SCAQMD, CARB, and the EPA have adopted numerous regulations that have resulted in significant reductions in pollutant emissions with the attendant reductions in prevailing air quality levels since 1998 and 2005 as noted above. The benefits of substantial emission reductions derived from the adoption and application of SCAQMD, CARB, and EPA regulations are not reflected in the estimate of 70-year lifetime cancer risks referred to in Figure 4.3.8.

Alternate Views on Diesel PM Risk. Some researchers, such as Dr. James E. Enstrom (2008), believe that the risk from diesel PM is exaggerated. Enstrom calls into question some of the basic research on the declaration of diesel exhaust as a toxic air contaminant. In particular, the article states the following:

> *There is substantial new epidemiologic evidence relevant to the health effects of diesel exhaust that was not considered when the 1998 toxic air contaminant declaration was made. For instance, the 2007 paper by Francine Laden et al. measured death rates during 1985–2000 among 54,000 members of the unionized U.S. trucking industry. … This cohort, which included 36,000 diesel truck drivers, had death rates from all causes and all cancer that were substantially below the rates among US males. Furthermore, unlike earlier evidence that was used in the TAC declaration, this cohort did not have a substantially elevated lung cancer death rate.*

Dr. Enstrom also indicates that the premature mortality calculation in the report, "Quantification of the Health Impacts and Economic Valuation of Air Pollution from Ports and Goods Movement in

California," is exaggerated. Dr. Enstrom's analysis "found no relationship between $PM_{2.5}$ and mortality in elderly Californians during 1983–2002."

Moreover, the current methodological protocols required by the SCAQMD and CARB when studying the health risk posed by diesel PM assume the following: (1) 24-hour constant exposure; (2) 350 days a year (the OEHHA assumption that allows for a 2-week period away from home each year); (3) for a continuous period lasting 70 years. These are extremely conservative assumptions that are not replicated in reality. Most people are indoors for 18–20 hours a day (at their place of employment or home) and most people do not live in the same location for a 70-year period. In fact, the OEHHA observed that perhaps only 5 to 10 percent of the population has a continuous residency of greater than 30 years (OEHHA 2012). Thus, the health risk assessments prepared pursuant to these protocols overestimate the risk of cancer associated with diesel PM exposure.

4.3.2.4 Local Policies

City of Moreno Valley General Plan Policies. Chapter 9 of the City's General Plan defines goals and policies related to air quality within the City of Moreno Valley. The specific policies of the General Plan that are relevant to the proposed project are as follows:

Objective 6.7 Reduce mobile and stationary source air pollutant emissions.

Policy 6.7.1 Cooperate with regional efforts to establish and implement regional air quality strategies and tactics.

Policy 6.7.2 Encourage the financing and construction of park and ride facilities.

Policy 6.7.4 Locate heavy industrial and extraction facilities away from residential areas and sensitive receptors.

Policy 6.7.5 Require grading activities to comply with South Coast Air Quality Management District's Rule 403 regarding the control of fugitive dust.

Policy 6.7.6 Require building construction to comply with the energy conservation requirements of Title 24 of the California Administrative Code.

4.3.3 Methodology

The *Air Quality, Greenhouse Gas, and Health Risk Assessment Report* contained in Appendix D (Michael Brandman Associates, January 2013)[1] evaluated the air quality impacts associated with the development of the proposed project including the following:

- Determine the short-term construction air quality impacts on both on-site and off-site sensitive receptors based on SCAQMD assessment methodologies and significance thresholds;
- Determine the long-term air quality impacts, including vehicular traffic, on both on-site and off-site sensitive uses based on SCAQMD assessment methodologies and significance thresholds; and
- Determine the required mitigation measures to reduce short-term and long-term on-site air quality impacts from all sources.

Air quality in the project area would be affected by air pollutant emissions from stationary sources and mobile sources related to the proposed project. On February 3, 2011, the SCAQMD released the California Emissions Estimator Model (CalEEMod). The purpose of this new model is to calculate air quality and greenhouse gas (GHG) emissions more accurately from direct and indirect sources

[1] *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, Michael Brandman Associates, January 2013.

associated with the project and quantify applicable air quality and GHG reduction achieved from mitigation measures. The latest version of CalEEMod (version 2011.1.1) was utilized to predict these project-related air quality impacts.

4.3.3.1 Construction

Construction-related emissions are expected from various activities associated with the construction of the project such as rough grading, infrastructure construction, asphalt paving, building construction, architectural coatings, and construction workers commuting. Construction emissions for construction worker vehicles traveling to and from the project site, in addition to vendor trips (construction materials delivered to the project site) and haul trips (dump trucks and concrete trucks) were also accounted for in the analysis. Localized air quality in the project area would be affected by both heavy-duty construction equipment usage on site as well as local traffic due to the equipment delivery and construction worker commuting. The anticipated construction equipment and construction schedule are identified in Section 3.0, *Project Description*, in Table 3.C. The SCAQMD CEQA methodology[1] was used to analyze the criteria pollutant emissions from these activities.

4.3.3.2 Operation

Air quality in the project area would be affected by long-term air emissions from stationary sources and mobile sources related to the proposed project once it commences operations. The stationary source emissions would come from consumption of natural gas and electricity while mobile source emissions would come from vehicular emissions from automobiles and trucks traveling to, from, and within the project site and from landscape maintenance equipment used to maintain the site. To determine mobile source emissions associated with the project, the trip generation rates were derived from the *Traffic Impact Analysis Report* prepared by Parsons Brinckerhoff (December 2012) and are based on the trip generation rates contained in the Institute of Transportation Engineers Trip Generation Manual, 9th Edition. It is important to note that Appendix E of the CalEEMod Manual states the following regarding trip rates for large warehouses and distribution centers, and demonstrates that the trip rate applied for this project is appropriate, since the project is a Specific Plan containing more than 10 warehouse buildings:

> *In the case that air quality is evaluated for multiple warehouses (>10), such as in an analysis for a general plan, the average rate of 1.44 trips per TSF from the ITE 8th Edition Trip Generation manual is acceptable. This lower value may be more appropriate as on average, a small portion of warehouses can be expected to operate at varying levels of service, including some warehouses experiencing temporary partial or complete vacancy.* (SCAQMD 2011f)

The trip generation rate applied in this assessment for high cube warehouses (1.68 trips per thousand square feet) is greater than the average rate of 1.44 trips per thousand square feet recommended by the SCAQMD thereby providing a more conservative estimate of vehicle trips (i.e., larger number of trips) and hence higher estimate of air quality impacts than the SCAQMD-recommended trip rate. The CalEEMod model was used to predict these project-related long-term impacts. Localized air quality impacts in the project area would be affected by increased traffic flow due to the proposed project. The EPA AERMOD air dispersion model, the Caltrans CALINE4 model, and the CARB EMFAC 2011 mobile source emission model were used to assess the project's impact on the local air quality concentrations.

For the criteria air pollutant analysis, emission factors for the year 2012 as embedded in CalEEMod (EMFAC2007) are used for the "worst-case" scenario. CalEEMod file runs for 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, and 2022 were conducted for both local and long-haul trips.

[1] *CEQA Air Quality Handbook*, April 1993 and subsequent additions to the Handbook.

The emission factors for the truck CalEEMod files were modified to reflect the project design feature that requires the use of model year 2010 or newer trucks for all medium-heavy and heavy-heavy duty diesel trucks associated with the project. These factors were derived from EMFAC2011 for running exhaust emissions and replaced the respective emission factor entries in CalEEMod, which are based on the outdated CARB EMFAC2007 mobile source emission model. The CARB EMFAC2007 emission factors reflect a vehicle population that spans almost 25 years.

4.3.3.3 Localized Construction/Operation

SCAQMD has developed Localized Significance Threshold (LST) methodology that can be used to determine whether or not a project may generate significant adverse localized air quality impacts and substantially affect sensitive receptors. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable Federal or State AAQS and are developed based on the ambient concentrations of that pollutant for each source receptor area identified by the SCAQMD. SCAQMD's current guidelines, *Final Localized Significance Threshold Methodology* (June 2003) and subsequent additions, were adhered to in the assessment of local air quality impacts from the proposed project. The emissions of concern from construction and operational activities are NO_X, CO, PM_{10}, and $PM_{2.5}$ combustion emissions from construction equipment and fugitive PM_{10} dust from construction site preparation activities.

The localized significance threshold analysis evaluated two scenarios:

- *Scenario 1:* Existing + Project: this scenario in assumes that the project is fully built out in 2012, the year that the Notice of Preparation for the project was published.
- *Scenario 2:* Proposed Development Schedule: this scenario examines the proposed development of the two-phased project with development buildout years of 2017 for Phase 1 and 2022 for Phase 2 as compared to the existing 2012 year.

Scenario 1 represents a worst-case scenario since the project could not be physically built out in its entirety in a single year and does not reflect the fact that the project would be expected to be developed over a time period of at least 10 years depending on market demands for warehouse space. This assumption also does not account for the fact that emissions from mobile sources particularly from heavy duty diesel trucks are expected to decline significantly over the next 10 to 15 years as a result of emission controls already mandated by the CARB specifically for these vehicles.

In Scenario 1, emissions from the project were estimated for the year 2012 as the existing condition (date of publication of the Notice of Preparation) assuming the full buildout of the project in 2012. Scenario 1 also provides consistency with the project traffic and noise impact analyses reports which examine the Existing (2012) plus project condition and corresponds to the year when the Notice of Preparation was published for the project. Emission factors for the project were derived from the EMFAC2011 mobile source emission model for the year 2012. Information from the project traffic report was used to derive estimates of vehicle trips from within the project and from the local roadways that are within and along the boundaries of the Specific Plan as if the project were fully built out in 2012. This is a worst-case scenario because it assumes that all the trucks and vehicles accessing the project would consist of the fleet of today instead of the fleet of the future. The fleet of today has more emissions because there are older vehicles and trucks on the road that would be replaced in the future.

Scenario 2 represents the proposed project development including the localized impacts during construction and operation over the time period of 2013 to 2022. These results are compared to the existing air quality levels in 2012.[1] Scenario 2 examined three time periods:

- The year 2013, which is the year with the highest construction emissions.
- The year 2017, which is the year with the highest total emissions from both construction and operation and the first year during which project construction and the Phase 1 buildout operations would overlap.
- The year 2022, which is the first year with the complete build out of the project.

4.3.3.4 Health Risk Assessment

The Health Risk Assessment (HRA) builds upon the methodology described above in the localized air quality assessment by examining the regional nature of the project's potential health risk impacts. The HRA methodology applies a risk characterization model to the results from the air dispersion model to estimate potential health risks at each sensitive receptor location. However, unlike the localized assessment, which looks at impacts within a specific year, the HRA examines the impacts over extended exposure time, which, in the case of cancer risk, is typically a 70-year lifetime exposure. Because of the pervasive nature of diesel particulate matter (diesel PM) in contributing to estimated health risks in California, the focus of this assessment is on estimating the health risks from diesel PM. While the project activities may result in the emission of other TACs (e.g., TACs from gasoline-powered vehicles), diesel PM from the project was found to contribute approximately 98 percent of the total cancer risk from project operations (see *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, Appendix D of this EIR).

The methodology applied in calculating cancer risk from TACs has been published by the SCAQMD and the California Office of Environmental Health Hazard Assessment (OEHHA). In this regard, cancer risk is expressed as the probability of an individual developing cancer due to exposure to TAC emissions out of a population of 1 million individuals. Thus, a receptor calculated to have a cancer risk of 1 in one million means that this receptor has a probability of 1 in 1 million of developing cancer from the continuous exposure to TACs.

The methodology assumes that a person is exposed continuously to a project's TAC emissions for a period of 350 days per year, 24 hours per day over a 70-year lifetime period. The SCAQMD has established a significance threshold of 10 in 1 million for cancer risk attributable to exposure to a project's emissions. Project-related cancer risks at sensitive receptors exceeding this significance threshold are considered by the SCAQMD to result in significant health risk impacts for purposes of CEQA compliance.

Risk characterization for non-cancer health risks from TACs is expressed as a hazard index (HI). The HI is a ratio of the predicted concentration of a project's emissions to a concentration considered acceptable to public health professionals, termed the Reference Exposure Level (REL). A significant risk is defined by the SCAQMD as an HI of 1 or greater. The California OEHHA has assigned a chronic non-cancer REL of 5 $\mu g/m^3$ for diesel PM (OEHHA 2011). Diesel PM has effects on the respiratory system, which accounts for essentially all of its potential chronic non-cancer hazards. Therefore, the only HI calculated was for the respiratory system.

Two health risk analysis scenarios were examined to assess potential cancer risks to nearby sensitive receptors as follows:

[1] The existing air quality levels in 2012 are actually represented by the highest monitored levels at the SCAQMD Riverside air monitoring station during the past three years (2009, 2010, and 2011). No air quality data summaries have been published by the CARB or SCAQMD for the complete year for 2012.

- Scenario 1: the "No Project" scenario in which cancer risks are estimated given vehicle traffic and diesel PM emissions spanning the 70-year cancer risk exposure time period from the existing condition 2012 to 2081 under the assumption that existing land uses plus other past, present, and reasonably foreseeable projects (both land development and roadway improvements) are implemented in 2017, 2022, and 2035. Within the City of Moreno Valley full buildout of the General Plan was assumed in 2035, except for the project site, which was assumed to be unchanged from existing conditions.
- Scenario 2: the "With Project" scenario shows the effect of project-related construction and operational traffic diesel PM emissions if the project were built out in accordance with its proposed phased buildout schedule and then added to the No Project scenario during the 70-year cancer exposure time period from 2012 to 2081. This scenario forms the basis of comparison with the "No Project" scenario to quantify the incremental impacts from the project.

The DPM emissions and annual average DPM impacts for the Scenario 1, "No Project" scenario, were based on traffic information provided in the *Traffic Impact Analysis Report* for the existing condition (2012), buildout of Phase 1 (2017), final buildout of Phases 1 and 2 (2022), and the long-term planning year (2035). The existing condition scenario was based on the land uses as they exist today (2012).

For the year 2017 scenarios other past, present, and reasonably foreseeable projects in the study area were added to existing land uses. The 2017 scenarios also included the assumption of 2 percent annual growth in background traffic. Because including the other past, present, and reasonably foreseeable projects and a growth factor for background traffic represents a double-counting of growth, this ensures a conservative approach to estimating near-term future traffic. The scenarios analyzing longer-term conditions required the use of longer-term forecasts for land use in the Inland Empire based on the SCAG 2012 Regional Transportation Plan (RTP). A listing of other existing past, present, and reasonably foreseeable projects in the study area can be found in Appendix E of the *Air Quality, Greenhouse Gas, and Health Risk Assessment Report* (Appendix D of this EIR).

The diesel PM emission factors for the vehicle traffic were derived from the CARB EMFAC2011 mobile source emission model for each assessment year. The emission factors and traffic information were interpolated for the time period 2012 to 2035 for the years for which traffic information was not provided. Finally, since the EMFAC2011 mobile source emission model does not provide emission factors beyond the year 2035, vehicle traffic volumes, diesel PM emission factors, and annual average diesel PM impacts for the years beyond 2035 were set to the year 2035 levels to complete the 70-year cancer risk exposure time period (2012 to 2081). The exposure levels averaged over each individual year (of the 70 total years) were then also averaged to get a total 70-year average. For example, the exposure levels for each day in 2012 were averaged (365 values) to get an average exposure for just 2012. Then, all the annual averages for 2012 through 2081 (i.e., over 70 years) were averaged to generate the 70-year average. The average diesel PM annual average was then used to estimate cancer risks.

For Scenario 2, annual average diesel PM emissions and impacts were calculated for each year starting from 2012 to 2081 to correspond to an exposure time period of 70 years required for estimating cancer risk for sensitive receptors. Specifically, annual average diesel PM concentrations were estimated from the diesel PM construction emissions for each year of construction from 2013 to 2021 according to the construction schedule and equipment usage projected for each year of construction. Zero project emissions were assumed in 2012 as the project does not exist in 2012. Annual average diesel PM emissions and impacts during operation were estimated for the years 2017, 2022, and 2035, years for which detailed traffic information was available from the traffic impact report. The annual average operational diesel PM impacts were then interpolated among these three calculation years based on the amount of square-footage of buildings brought online during each year. Finally, since the EMFAC2011 mobile source emission model does not provide emission factors

beyond the year 2035, annual average diesel PM concentrations for the years beyond 2035 were set to the year 2035 levels.

During years when both construction and operations occur simultaneously (2017 to 2021), the annual diesel PM concentrations at the sensitive receptors from construction were added to the annual diesel PM concentrations from operations to provide a total impact assessment of all diesel PM emissions from the project. The resulting total annual average diesel PM concentrations calculated each year for the 70-year exposure time period (70 individual annual averages) were then averaged to obtain an average diesel PM air concentration for the 70-year time period for use in estimating health risks.

4.3.4 Thresholds of Significance

Based on Appendix G of the *CEQA Guidelines*, air quality impacts would occur if the proposed project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Create objectionable odors affecting a substantial number of people.

In addition to the Federal and State AAQS, there are daily emissions thresholds for construction and operation of a proposed project in the Basin. The Basin is administered by the SCAQMD, and guidelines and emissions thresholds established by the SCAQMD in its *CEQA Air Quality Handbook*[1] and subsequent additions to the Handbook were used in this analysis. It should be noted that the emissions thresholds were established based on the attainment status of the air basin with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (EPA), these emissions thresholds are regarded as conservative and would overstate an individual project's contribution related to air quality and health risks.

4.3.4.1 Thresholds for Construction Emissions

The following CEQA significance thresholds for construction emissions have been established by the SCAQMD for the Basin:

- 75 pounds per day of reactive organic compounds (ROC).
- 100 pounds per day of NO_X.
- 550 pounds per day of CO.
- 150 pounds per day of PM_{10}.
- 150 pounds per day of SO_X.
- 55 pounds per day of $PM_{2.5}$.

[1] *CEQA Air Quality Handbook*, April 1993.

Projects in the Basin with construction-related emissions that exceed any of the emission thresholds are considered to be significant under CEQA.

4.3.4.2 Thresholds for Operational Emissions

Projects with operation-related emissions that exceed any of the emission thresholds listed below are considered significant under the SCAQMD guidelines.

- 55 pounds per day of ROC.
- 55 pounds per day of NO_X.
- 550 pounds per day of CO.
- 150 pounds per day of PM_{10}.
- 150 pounds per day of SO_X.
- 55 pounds per day of $PM_{2.5}$.

4.3.4.3 Federal 1-Hour NO_2 Standard

On January 22, 2010, the EPA revised the primary nitrogen dioxide (NO_2) NAAQS in order to provide requisite protection of public health. Specifically, the EPA established a new 1-hour standard at a level of 100 ppb (188.68 µg/m^3), based on the 3-year average of the annual 98th percentile of the daily maximum 1-hour concentrations (form of the standard), in addition to the existing annual secondary standard (100 µg/m^3). EPA has also established requirements for an NO_2 monitoring network that will include monitors at locations where maximum NO_2 concentrations are expected to occur, including within 50 meters of major roadways, as well as monitors sited to measure the area-wide NO_2 concentrations that occur more broadly across communities.

The effective date of the new 1-hour standard was 60 days after the final rule was published in the Federal Register. The final rule was published in the Federal Register on February 9, 2010, with an effective date of April 12, 2010.

4.3.4.4 Air Pollutant Standards for CO with Localized Effects

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and Federal CO standards (previously referenced Table 4.2.A). If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or Federal standard, project emissions are considered significant if they increase one-hour CO concentrations by 1.0 ppm or more or eight-hour CO concentrations by 0.45 ppm or more. The Basin meets State and Federal attainment standards for CO; therefore, the proposed project would have a significant CO impact if project emissions result in an exceedance of State or Federal one-hour or eight-hour standard. The following emission concentration standards for CO, based on the SCAQMD *CEQA Air Quality Handbook* (1993), apply to the proposed project:

- California State one-hour CO standard of 20.0 ppm.
- California State eight-hour CO standard of 9.0 ppm.

4.3.4.5 Localized Significance Thresholds

The SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003, revised July 2008) and *Final Methodology to Calculate Particulate Matter (PM) 2.5 and $PM_{2.5}$ Significance Thresholds* (October 2006), recommending that all air quality analyses include a localized assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. LSTs represent the maximum emissions from a project site that are not expected to result in an exceedance of Federal or State AAQS. LSTs are based on the ambient concentrations of that pollutant within the Source Receptor Area (SRA) where a project is located and the distance to the nearest sensitive receptor. The project site is located in the northern portions of SRAs 24 (Moreno Valley) and 28 (San Jacinto).

In the case of CO and NO_2, if ambient levels are below the air standards for these pollutants, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or Federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM_{10} and $PM_{2.5}$, both of which are nonattainment pollutants in the Basin. For these latter two pollutants, the significance criteria are the pollutant concentration thresholds presented in SCAQMD Rules 403 and 1301. The Rule 403 threshold of 10.4 $\mu g/m^3$ applies to construction emissions (and may apply to operational emissions at aggregate handling facilities). The Rule 1301 threshold of 2.5 $\mu g/m^3$ applies to non-aggregate handling operational activities.

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. There are currently seven occupied single-family homes and associated ranch/ farm buildings in various locations on the proposed project site. These residences are existing on-site sensitive receptors. The nearest off-site existing sensitive receptors in the vicinity of the proposed project site are the residences located along Bay Avenue, Merwin Street, and west of Redlands Boulevard.

Following the SCAQMD LST methodology, for sites larger than 5 acres, dispersion modeling needs to be conducted. Because the project site greatly exceeds 5 acres, the localized significance for project air pollutant emissions was determined by performing dispersion modeling to determine if the pollutant concentrations would exceed relevant significance thresholds established by the SCAQMD.

The following LSTs were applied to the construction and operation of the project:

- 0.18 ppm (State 1-hour); 0.100 ppm (Federal 1-hour); and 0.03 ppm (Annual) of NO_X for construction or operations.
- 20 ppm (1-hour) and 9.0 ppm (8-hour) of CO for construction or operation.
- 10.4 $\mu g/m^3$ (24-hour) and 1 $\mu g/m^3$ of PM_{10} (Annual) for construction.
- 2.5 $\mu g/m^3$ (24-hour) and 1.0 ppm (Annual) of PM_{10} for operations.
- 10.4 $\mu g/m^3$ (24-hour) of $PM_{2.5}$ for construction.
- 2.5 $\mu g/m^3$ (24-hour) of $PM_{2.5}$ for operation.

4.3.4.6 Diesel Exhaust Health Risk Thresholds

For pollutants without defined significance standards or air contaminants not covered by the standard criteria cited above, the definition of substantial pollutant concentrations varies. For toxic air contaminants (TAC), "substantial" is taken to mean that the individual cancer risk exceeds a threshold considered to be a prudent risk management level. If best available control technology for toxics (T-BACT) has been applied, the individual cancer risk to the maximum exposed individual (MEI) must not exceed 10 in 1 million if an impact is to be considered less than significant.

The following limits for maximum individual cancer risk (MICR), cancer burden and non-cancer acute and chronic hazard indices (HI) from project emissions of TACs have been established for the Basin:

- **MICR.** MICR is the estimated probability of a potential maximally exposed individual contracting cancer as a result of exposure to TACs over a period of 70 years for residential and 40 years for worker receptor locations. The MICR calculations include multipathway consideration, when applicable. .

  The total increase in MICR that is the sum of the calculated MICR values for all TACs emitted from the project will not result in an increased MICR greater than 10 in 1 million (1.0×10^{-5}) at any receptor location (assumes the project will be constructed with T-BACT).

  (A)

- **Chronic HI.** This is the ratio of the estimated long-term level of exposure to a TAC for a potential maximally exposed individual to its chronic reference exposure level. The chronic HI calculations include multipathway consideration, when applicable.

  The cumulative increase in total chronic HI for any target organ system due to total emissions from the project will not exceed 1.0 at any receptor location.

- **Acute HI.** This is the ratio of the estimated maximum one-hour concentration of a TAC for a potential maximally exposed individual to its acute reference exposure level.

  The cumulative increase in total acute HI for any target organ system due to total emissions from the project will not exceed 1.0 at any receptor location.

4.3.5 Less than Significant Impacts

The following impacts were determined to be less than significant. For each of the following issues, either no impact would occur (therefore, no mitigation would be required) or adherence to established regulations, standards, and policies would reduce potential impacts to a less than significant level.

4.3.5.1 Odors

Threshold	Would the proposed project create objectionable odors affecting a substantial number of people?

SCAQMD Rule 402 dictates that air pollutants discharged from any source shall not cause injury, nuisance, or annoyance to the health, safety, or comfort of the public. With the exception of short-term construction-related odors (e.g., equipment exhaust, paint, and asphalt odors), the proposed uses that would be developed on the proposed site do not include uses that are generally considered to generate offensive odors (e.g., agricultural uses, wastewater treatment plants, or landfills). While the application of architectural coatings and installation of asphalt may generate odors, these odors are temporary and not likely to be noticeable beyond the project boundaries. SCAQMD Rules 1108 and 1113 identify standards regarding the application of asphalt and architectural coatings, respectively.

SCAQMD Rule 1108 sets limitations on ROG (reactive organic gases), which are similar to and for the purposes of this EIR equivalent to and therefore interchangeable with volatile organic compounds (VOC) content in asphalt. This rule is applicable to any person who supplies, sells, offers for sale, or manufactures any asphalt materials for use in the Basin. Rule 1113 of the SCAQMD deals with the selling and application of architectural coatings. Rule 1113 is applicable to any person who supplies, sells, offers for sale, or manufactures any architectural coating for use in the Basin that is intended to be applied to buildings, pavements, or curbs. This rule is also applicable to any person who applies or

solicits the application of any architectural coating within the Basin. Rule 1113 sets limits on the amount of VOC emissions allowed for all types of architectural coatings, along with a time table for tightening the emissions standards in the future. Compliance with Rule 1113 means that architectural coatings used during construction would have VOC emissions that comply with these limits.

The SCAQMD indicates that the number of overall complaints has declined over the last five years. Over the last four years, odor complaints make up 50 to 55 percent of the total nuisance complaints. Over the past decade, odor complaints from paint and coating operations have decreased from 27 to 7 percent and odor complaints from refuse collection stations have increased from 9 to 34 percent (SCAQMD 2007a).

Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors. Diesel exhaust would also be emitted during operation of the project from the long-haul trucks that would visit the project site. However, the concentrations would not be at a level to result in a negative odor response at nearby sensitive receptors.

During blow-down maintenance activities, natural gas odors will be present around the SDG&E Compressor Plant located on the project site. When this portion of the WLC Specific Plan is developed, these odors will occasionally be detectable from the industrial warehouse properties adjacent to the SDG&E facility. These odors will be infrequent and odorized natural gas will not be present in high concentrations. Therefore, potential odor impacts from on-site natural gas operations are considered to be less than significant and do not require mitigation.

Adherence to applicable provisions of these rules is standard for all development within the Basin. In addition, conditions for the design of waste storage areas on the proposed site would be established through the permit process to ensure enclosures are appropriately designed and maintained to prevent the proliferation of odors. Solid waste generated by the proposed on-site uses will be collected by a contracted waste hauler, ensuring that any odors resulting from on-site uses would be adequately managed. Therefore, impacts associated with this issue would be less than significant and no mitigation is required.

4.3.5.2 Long-Term Microscale (CO Hot Spot) Emissions

Threshold	Would the proposed project violate any air quality standard or contribute substantially to an existing or projected air quality violation? For CO, the applicable thresholds are: - California State one-hour CO standard of 20.0 ppm; and - California State eight-hour CO standard of 9.0 ppm.

Vehicular trips associated with the development of the proposed project could contribute to congestion at intersections and along roadway segments in the project vicinity resulting in potential local CO “hot spot” impacts. The primary mobile source pollutant of local concern is CO, which is a direct function of vehicle travel speeds and idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, schoolchildren, etc.). High CO concentrations are typically associated with roadways or intersections operating at unacceptable levels of service or with very high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project’s effect on local CO levels.

Carbon monoxide (CO) "hot spot" thresholds ensure that emissions of CO associated with traffic impacts from a project in combination with CO emissions from existing and forecast regional traffic do not exceed State or Federal standards for CO at any traffic intersection affected by the project. Project concentrations may be considered significant if a CO hot spot intersection analysis determines that project-generated CO concentrations cause a localized violation of the State CO 1-hour standard of 20 ppm, State CO 8-hour standard of 9 ppm, Federal CO 1-hour standard of 35 ppm, or Federal CO 8-hour standard of 9 ppm.

A CO hot spot is a localized concentration of CO that is above the State or Federal 1-hour or 8-hour CO ambient air standards. Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. To provide a worst-case scenario, CO concentrations are estimated at project intersections where the concentrations would be the greatest.

This analysis follows guidelines recommended by the CO Protocol (University of California, Davis 1997) and the SCAQMD. According to the CO Protocol, intersections with Level of Service (LOS) E or F require detailed analysis. In addition, intersections that operate under LOS D conditions in areas that experience meteorological conditions favorable to CO accumulation require a detailed analysis. The SCAQMD recommends that a local CO hot spot analysis be conducted if the intersection meets one of the following criteria: (1) the intersection is at LOS D or worse and where the project increases the volume to capacity ratio by 2 percent, or (2) the project decreases LOS at an intersection from C to D.

For this project analysis, the intersections with the highest traffic volumes and the LOS E or F before mitigation were identified for 2022 using information from the table in the traffic study "Intersection LOS under 2022 Plus Project Conditions." In addition, intersection 103 was added because after mitigation, the LOS at the a.m. peak hour is E; the rest of the intersections are at D or better. The five intersections with the greatest LOS before mitigation were also identified for 2035 using information from the table in the traffic study "Intersection LOS under 2035 Plus Project Conditions."

The CO concentrations were estimated using the CALINE4 model using 2012 emission factors. The emission factors are for "all" vehicle classes and are not adjusted for a project-specific fleet to provide a worst-case scenario. In addition, the emission factors do not take into account the project design feature reductions from requiring that medium-heavy duty trucks and heavy-heavy duty diesel trucks are model year 2010 or newer.

Table 4.3.F shows estimated CO concentrations at buildout (year 2022 plus project) traffic conditions. The estimated CO concentrations at year 2035 are shown in Table 4.3.G. As shown in the tables, the estimated 1-hour and 8-hour average CO concentrations from project-generated and cumulative traffic plus the background concentrations are below the State and Federal standards. No CO hot spots are anticipated because of traffic-generated emissions by the project in combination with other anticipated development in the area. Therefore, the mobile emissions of CO from the project are not anticipated to contribute substantially to an existing or projected air quality violation of CO. Therefore, according to this criterion, air pollutant emissions during operation would result in a less than significant impact. No mitigation is required.

Table 4.3.F: Carbon Monoxide Concentrations at Intersections, Buildout

Intersection	Peak Hour	CO Concentration (ppm)		Significant Impact?
		1 Hour	8 Hour	
10. Redlands Boulevard/Locust Avenue	P.M.	4.1	2.6	No
13. Redlands Boulevard/SR-60 Westbound Ramps	P.M.	4.2	2.7	No
103. Ramona Expressway/Evans Road	A.M.	4.7	3.0	No
124. SR-79 (Sanderson Avenue) Northbound/Gilman Springs Road	A.M.	3.8	2.4	No
125. SR-79 (Sanderson Avenue) Southbound/Gilman Springs Road	A.M.	4.0	2.5	No
134. Redlands Boulevard/San Timoteo Canyon Road	P.M.	4.6	3.0	No

- ppm = parts per million
- The traffic volumes are from the traffic study from the figure, "Turning Movement Volumes under 2022 Plus Project Conditions."
- The concentrations are derived from the CALINE4 model using emission factors for the year 2012.
- The 1-hour concentration is the CALINE4 output (see Appendix B for model output) includes the 1-hour background concentration of 3 ppm (from Table 4).
- The 8-hour project increment was calculated by multiplying the 1 hour CALINE4 value by 0.7 (persistence factor) and adding a background concentration of 1.84 ppm.
- The existing background concentrations are appropriate because CO emissions in the future are expected to decrease.
- A significant impact would occur if the estimated CO concentration is over the 1-hour State standard of 20 ppm or the 8-hour State/Federal standard of 9 ppm.

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

Table 4.3.G: Carbon Monoxide Concentrations at Intersections, 2035

Intersection	Peak Hour	CO Concentration (ppm)		Significant Impact?
		1 Hour	8 Hour	
12. Theodore Street/Ironwood Avenue	P.M.	4.0	2.5	No
123. Gilman Springs Road/Bridge Street	P.M.	4.5	2.9	No
124. SR-79 (Sanderson Avenue) Northbound/Gilman Springs Road	P.M.	4.3	2.8	No
125. SR-79 (Sanderson Avenue) Southbound/Gilman Springs Road	P.M.	4.5	2.9	No
134. Redlands Boulevard/San Timoteo Canyon Road	P.M.	4.4	2.8	No

- ppm = parts per million
- The traffic volumes are from the traffic study from the figure, "Turning Movement Volumes under 2022 Plus Project Conditions."
- The concentrations are derived from the CALINE4 model using emission factors for the year 2012.
- The 1-hour concentration is the CALINE4 output (see Appendix B for model output) includes the 1-hour background concentration of 3 ppm (from Table 4).
- The 8-hour project increment was calculated by multiplying the 1-hour CALINE4 value by 0.7 (persistence factor) and adding a background concentration of 1.84 ppm.
- The existing background concentrations are appropriate because CO emissions in the future are expected to decrease.
- A significant impact would occur if the estimated CO concentration is over the 1-hour State standard of 20 ppm or the 8-hour State/Federal standard of 9 ppm.

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

4.3.6 Significant Impacts

The following impacts were determined to be potentially significant. In each of the following issues, mitigation measures have been recommended to reduce the significance of the identified impacts.

4.3.6.1 Air Quality Plan Management Plan Consistency

Impact 4.3.6.1: *Implementation of the proposed project has the potential to conflict with implementation of the SCAQMD 2012 AQMP.*

Threshold	Would the proposed project conflict with or obstruct implementation of the applicable air quality plan?

According to the 1993 SCAQMD Handbook, there are two key indicators of consistency with the Air Quality Management Plan (AQMP):

1. Indicator: Whether the project would result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
2. Indicator: A project would conflict with the AQMP if it would exceed the assumptions in the AQMP in 2010 or increments based on the year of project buildout and phase. The Handbook indicates that key assumptions to use in this analysis are population number and location and a regional housing needs assessment. The parcel-based land use and growth assumptions and inputs used in the SCAG Regional Transportation Model that generated the mobile inventory used by the SCAQMD for AQMP are not available; however, the emissions for the land uses identified in the General Plan are compared with the project's emissions as shown below.

Considering the recommended criteria in the SCAQMD's 1993 Handbook, this analysis utilizes the following criteria to address this potential impact:

- Project's contribution to air quality violations (SCAQMD's first indicator);
- Assumptions in AQMP (SCAQMD's second indicator); and
- Compliance with applicable emission control measures in the AQMPs.

Project's Contribution to Air Quality Violations. According to the SCAQMD, the project is consistent with the AQMP if it would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP (SCAQMD 1993, page 12-3). As shown in the proceeding analyses, the project could violate air quality standards and contribute substantially to an existing or projected air quality violation.

If a project's emissions exceed the SCAQMD regional thresholds for NO_X, VOC, PM_{10}, or $PM_{2.5}$, it follows that the emissions could cumulatively contribute to an exceedance of a pollutant for which the Basin is in nonattainment (ozone, nitrogen dioxide, PM_{10}, and $PM_{2.5}$) at a monitoring station in the Basin.

The thresholds are criteria for determining environmental significance and are discussed in the SCAQMD's 1993 Handbook for Air Quality Analysis. An exceedance of a nonattainment pollutant at a monitoring station would not be consistent with the goals of the AQMP to achieve attainment of pollutants.

As discussed in the analyses below, the project would exceed the regional emission significance thresholds for VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$. This means that project emissions of VOC and NO_X could combine with other sources and could result in an ozone, nitrogen dioxide, PM_{10}, or $PM_{2.5}$ exceedance at a nearby monitoring station. The Basin in which the project is located is in nonattainment for these pollutants; therefore, the project would not be consistent with the AQMP. The project does not meet this criterion.

Assumptions in AQMP. The analyses in the AQMP use demographic growth forecasts for various socioeconomic categories (e.g., population, housing, and employment by industry) developed by the SCAG for its RTP. Although it is uncertain what precise assumptions were used to generate the modeling in the AQMPs, for purposes of this analysis, it is assumed that the AQMPs use the assumptions from the current Moreno Highlands Specific Plan (MHSP).

The MHSP, adopted in 1992, had the land use acreages as displayed in Section 3.0, *Project Description* (Table 3.A). The emissions from the Specific Plan were estimated using CalEEMod (for assumptions, refer to the Air Quality, Greenhouse Gas, and Health Risk Assessment Report). Table 4.3.H shows the operational emissions for the MHSP.

Table 4.3.H: Operational Regional Air Pollutant Emissions for Moreno Highlands Specific Plan

Source	Summer Emissions (pounds per day)				
	VOC	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Motor Vehicles	435	1.000	4,210	1,213	68
Natural Gas	8	65	33	5	5
Painting	123	—	—	—	—
Consumer Products	516	—	—	—	—
Natural Gas Hearths	14	0	1	10	10
Landscaping	18	7	609	3	3
Total	**1,114**	**1,072**	**4,853**	**1,231**	**86**
Significance Threshold	55	55	550	150	55
Significant Impact?	Yes	Yes	Yes	Yes	Yes

- PM_{10} and $PM_{2.5}$ emissions include exhaust and road dust.
- Sulfur oxides emissions are under the 150 pounds per day significance threshold and at buildout total approximately 12 pounds per day.
- Winter emissions are similar to summer emissions and are contained in Appendix A of the Air Quality, Greenhouse Gas, and Health Risk Assessment Report.

VOC = volatile organic compounds NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

Table 4.3.I shows a comparison of the project operational emissions with the MHSP operational emissions is shown in Table 4.3.I. As shown in the table, the project would result in a net decrease in VOC and CO emissions but an increase in NO_X, PM_{10}, and $PM_{2.5}$. This is primarily due to the number of heavy-duty trucks that would serve the project site. Although there may be fewer trips, the heavy-duty trucks are assumed to travel a farther distance. In addition, heavy-duty trucks have greater NO_X, PM_{10}, and $PM_{2.5}$ emissions compared with automobiles.

Compliance with Emission Control Measures. The second indicator of whether the project could conflict with or obstruct implementation of the AQMP is by assessing the project's compliance with the control measures in the AQMPs and the State Implementation Plan (SIP).

Table 4.3.I: Net Changes in Operational Emissions with Project Compared With Moreno Highlands Specific Plan

Operational Emission Source	Summer Emissions (pounds per day)				
	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
Moreno Highlands Specific Plan	1,114	1,072	4,853	1,213	86
Proposed Project (Buildout)	733	3,064	3,524	1,705	153
Net Change With Project	**-381**	**1,992**	**-1,329**	**474**	**67**
Significance Threshold	55	55	550	150	55
Significant Impact?	No	Yes	No	Yes	Yes

- PM_{10} and $PM_{2.5}$ emissions include exhaust and road dust.
- Sulfur oxides emissions are under the 150 pounds per day significance threshold and at buildout total approximately 12 pounds per day.
- Winter emissions are similar to summer emissions and are contained in Appendix A of the Air Quality, Greenhouse Gas, and Health Risk Assessment Report.

VOC = volatile organic compounds NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

2003 AQMP. The 2003 AQMP contains a number of land use and transportation control measures including the SCAQMD's Stationary and Mobile Source Control Measures; State Control Measures proposed by the CARB; and SCAG Transportation Control Measures (TCMs). The CARB's strategy for reducing mobile source emissions includes new engine standards; reduction of emissions from in-use fleet; requiring clean fuels; supporting alternative fuels and reduction of petroleum dependency; working with the EPA to reduce emissions from Federal and State sources; and pursuit of long-term advanced technology measures (AQMP 2003, page 4-25). SCAG TCMs include those contained in the Regional Transportation Plans (RTPs), the most current version of which is the 2008 RTP, which has control measures to reduce emissions from on-road sources by incorporating strategies such as high occupancy vehicle interventions, transit, and information-based technology interventions (AQMP 2003, page 4-19). The project indirectly would comply with the control measures set by the CARB and SCAG.

2007 AQMP. The focus of the 2007 AQMP is to demonstrate attainment of the Federal $PM_{2.5}$ ambient air quality standard by 2015 and the Federal 8-hour ozone standard by 2024, while making expeditious progress toward attainment of State standards. This is to be accomplished by building upon improvements from the previous plans and incorporating all feasible control measures while balancing costs and socioeconomic impacts. The 2007 AQMP indicates that $PM_{2.5}$ is formed mainly by secondary reactions or sources. Therefore, instead of reducing fugitive dust, the strategy for reducing $PM_{2.5}$ focuses on reducing precursor emissions of SO_X, directly emitted $PM_{2.5}$, NO_X, and VOC.

The 2007 AQMP control measures consist of four components: The first component is SCAQMD's Stationary and Mobile Source Control Measures. The Final 2007 AQMP includes 30 short-term and mid-term stationary and seven mobile source control measures for SCAQMD implementation. A complete listing of the measures is in the 2007 AQMP and includes measures such as VOC reductions from gasoline transfer and dispensing facilities, further NO_X reductions from space heaters, localized control program for PM emission hot spots, urban heat island, energy efficiency and conservation, etc. Some of the measures will become new rules and some will be amendments to existing rules. When the rules pass, the owner-operator will follow the applicable rules.

The second component is the CARB's Proposed State Strategy, which includes short- and mid-term control measures aimed at reducing emissions from sources that are primarily under State jurisdiction, including on-road and off-road mobile sources, and consumer products. These measures

are required in order to achieve the remaining emission reductions necessary for $PM_{2.5}$ attainment. The CARB's strategy includes measures such as improvements to California's Smog Check Program, expanded passenger vehicle retirement, cleaner in-use heavy-duty trucks, reductions from port-related sources, cleaner off-road equipment, evaporative and exhaust strategies, pesticide strategies, etc. When these measures are implemented by the CARB, the project would be required to follow them.

The third component is the SCAQMD Staff's Proposed Policy Options to Supplement CARB's Control Strategy. SCAQMD staff believes that a combination of regulatory actions and public funding is the most effective means of achieving emission reductions. As such, the 2007 Final AQMP proposes three policy options for the decision-makers to consider in achieving additional reductions. The first option is to incorporate the SCAQMD-proposed additional control measures as a menu of selections further reducing emissions from sources primarily under State and Federal jurisdiction. The second option is to have the State fulfill its NO_X emission reduction obligations under the 2003 AQMP by 2010 for its short-term defined control measures plus additional reductions needed to meet the NO_X emission target between 2010 and 2014. The third option is based on the same rate of progress under Policy Option 1, but it relies heavily on public funding assistance to achieve the needed NO_X reductions via accelerated fleet turnover to post-2010 on-road emission standards or the cleanest off-road engine standards in effect today. This strategy does not apply to the project.

The fourth component consists of Regional Transportation Strategy and Control Measures provided by SCAG. Transportation plans within the Basin are statutorily required to conform to air quality plans in the region, as established by the 1990 Federal Clean Air Act and reinforced by other Acts. The region must demonstrate that its transportation plans and programs conform to the mandate to meet the Federal ambient air quality standards in a timely manner. The SCAG RTP is developed every 4 years with a 20-year planning horizon to meet the long-term transportation planning requirements for emission reductions from on-road mobile sources within the Basin. The biennial Regional Transportation Improvement Program (RTIP) requires that SCAG meet the short-term implementation requirements of the Transportation Conformity Rule. The first 2 years of the program are fiscally constrained and demonstrate timely implementation of a special category of transportation projects called Transportation Control Measures (TCMs). In general, TCMs are those projects that provide emission reductions from on-road mobile sources, based on changes in the patterns and modes by which the regional transportation system is used. Strategies are grouped into three categories: high occupancy vehicle strategy, transit and systems management, and information-based technology (traveling during a less congested time of day). SCAG approved the transportation measures in the RTP, which have been included in the region's air quality plans. The TCMs will be implemented and will subsequently reduce emissions in the Basin.

2012 AQMP. The 2012 AQMP was adopted in December 2012. The purpose of the 2012 AQMP for the Basin is to set forth a comprehensive and integrated program that will lead the Basin into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update of the Basin's projections in meeting the Federal 8-hour ozone standards. The 2012 AQMP states, "The remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs."

Similar to the prior AQMPs, the project would comply with all applicable rules and regulations enacted as part of the AQMP. In addition, as discussed in Section 2.2.2 of the 2012 AQMP, the AQMP relies upon the SCAG regional transportation strategy, which is in its adopted 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and 2011 Federal Transportation Improvement Program. Included in the RTP/SCS are regional transportation strategy and transportation control measures including active transportation (non-motorized transportation, e.g., biking and walking); transportation demand management; transportation system management; transit;

passenger and high-speed rail; goods movement; aviation and airport ground access; highways; arterials; and operations and maintenance.

The project would be involved in goods movement. The heavy-duty trucks would access local highways and arterials.

State Implementation Plans. Geographical areas in the State that exceed the Federal air quality standards are called nonattainment areas. The project area is in nonattainment for ozone, PM_{10}, $PM_{2.5}$, and nitrogen dioxide. SIPs show how each area will attain the Federal standards. To do this, the SIPs identify the amount of pollutant emissions that must be reduced in each area to meet the standard and the emission controls needed to reduce the necessary emissions. On September 27, 2007, the CARB adopted its State Strategy for the 2007 SIP. In 2009, the SIP was revised to account for emissions reductions from regulations adopted in 2007 and 2008 and clarifies CARB's legal commitment.

In 2008, the EPA revised the lead national ambient air quality standard by reducing it to 0.15 $\mu g/m^3$. On December 31, 2010, the Los Angeles County portion of the Basin was designated as nonattainment for the 2008 lead national standard as a result of exceedances measured near a large lead-acid battery recycling facility. The 2012 Lead SIP for Los Angeles County was prepared by the SCAQMD and addresses the recent revision to the lead national standard, and outlines the strategy and pollution control activities that demonstrate attainment of the lead national standard before December 31, 2015. The 2012 Lead SIP was approved May 4, 2012.

The SIP takes into account CARB rules and regulations. The project will comply with applicable rules and regulations. Because the project would comply with all applicable rules and regulations, the project complies with this criterion.

Summary. Although the project would be consistent with the policies, rules, and regulations in the AQMPs and SIPs, it must meet all the criteria to be consistent with the AQMPs. The project could impede AQMP attainment because its construction and operation emissions exceed the SCAQMD regional significance thresholds, so the project is considered to be inconsistent with the AQMP.

Mitigation Measures. To facilitate monitoring and compliance, applicable SCAQMD regulatory requirements are restated in the mitigation identified below in Section 4.3.6.2 and 4.3.6.3. These measures shall be incorporated in all project plans, specifications, and contract documents. Typical mitigation measures identified to reduce the level of emissions of criteria pollutants include those identified below in Section 4.3.6.2 and 4.3.6.3.

Level of Significance After Mitigation. As noted above, implementation of the proposed project would exceed applicable thresholds for all criteria pollutants, with the exception of SO_X. Despite the implementation of mitigation measures, emissions associated with the proposed project cannot be reduced below the applicable thresholds. In the absence of feasible mitigation to reduce the proposed project's emission of criteria pollutants to below SCAQMD thresholds, potential air quality impacts resulting from exhaust from construction equipment will remain significant and unavoidable.

4.3.6.2 Construction Equipment Exhaust Emissions

Impact 4.3.6.2: *Construction of the proposed project has the potential to exceed applicable daily thresholds that may affect sensitive receptors.*

Threshold	Would the proposed project violate any AAQS or contribute to an existing or projected air quality violation; or expose sensitive receptors to pollutants? For construction operations, the applicable daily thresholds are: - 75 pounds per day of ROC; - 100 pounds per day of NO_X; - 550 pounds per day of CO; - 150 pounds per day of PM_{10}; - 150 pounds per day of SO_X; and - 55 pounds per day of $PM_{2.5}$.

Grading and other construction activities produce combustion emissions from various sources such as site grading, utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions during these construction activities will vary daily as construction activity levels change. The use of construction equipment on site would result in localized exhaust emissions. Activity during peak grading days typically generates a greater amount of air pollutants than other project construction activities.

While the actual details of the future construction schedule are not known, it is expected that project construction would occur in two phases with seven discrete activities in Phase 1 and eight discrete activities in Phase 2. For Phase 1, the following activities are assumed to occur over the course of four years in the analysis: 1) rough grading, which includes mass site grading; 2) finish grading; 3) building construction; 4) infrastructure construction which includes utility installation; 5) curb, gutter, sidewalk, subgrade preparation, drop rock, and paving activities; 6) asphalt paving; and 7) landscaping. For Phase 2, the same activities are assumed to occur over the course of five years in the analysis; however, Phase 2 includes interchange construction as the eighth activity. Appendix D of this EIR includes details of the emission factors and other assumptions.

Table 4.3.J identifies projected emissions resulting from grading and construction activities for the proposed project and shows the estimated maximum daily construction emissions over the course of project construction.

The construction emissions estimates summarized in Table 4.3.J are based on the assumed construction scenario described in Section 3.0, *Project Description*, of this EIR. Using emission factors from the CalEEMod model, Table 4.3.J indicates that construction emissions of criteria pollutants would exceed the SCAQMD daily emission thresholds for all criteria pollutants, with the exception of SO_X.[1] This is a significant impact requiring mitigation.

Fugitive dust emissions are generally associated with land clearing and exposure of soils to the air and wind, and cut-and-fill grading operations. Dust generated during construction varies substantially by project, depending on the level of activity, the specific operations and equipment, local soils, and weather conditions at the time of construction. The proposed project will be required to comply with SCAQMD Rules 402 and 403 to control fugitive dust. There are a number of feasible control measures that can be reasonably implemented to significantly reduce PM_{10} emissions from construction.

As identified in Table 4.3.J, fugitive dust emissions (i.e., PM_{10}) during the anticipated peak construction day for the proposed project would exceed SCAQMD daily construction thresholds.

[1] The project would emit SO_X from construction equipment exhaust; however, the maximum emissions (6.8 pounds per day) are less than significant as they are far below the threshold of 150 pounds per day.

Table 4.3.J: Short-Term Regional Construction Emissions

Year	Maximum Daily Pollutant Emissions (lbs/day)				
	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
2013	705	5,793	2,867	377	284
2014	472	2,335	1,353	167	136
2015	443	2,084	1,250	149	123
2016	343	1,331	934	110	91
2017	547	4,076	2,411	286	194
2018	400	1,781	1,334	133	96
2019	377	1,608	1,248	117	86
2020	270	942	873	76	57
2021	270	942	873	76	57
SCAQMD Threshold	**75**	**100**	**550**	**150**	**55**
Exceeds Threshold?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

- Exceedances of the threshold are shown as shaded.
- Sulfur oxide (SOx) emissions are contained in the CalEEMod output in Appendix A; the maximum emissions would be 6.8 pounds per day, substantially under the threshold of 150 pounds per day.
- The emissions assume all construction activities (mass grading, fine grading, building, utilities, curbing, landscaping, painting, paving, and/or interchange) occur on the same day, depending on the year in which the activity occurs.
- Assumes 15 hours per day of all construction equipment in the "on" position.
- Emissions assume compliance with SCAQMD Rule 403.

VOC = volatile organic compounds NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

The proposed project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 402 requires implementation of dust-suppression techniques to prevent fugitive dust from creating a nuisance off site. SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors. The applicable Rule 403 measures are as follows:

- All clearing, grading, earthmoving, or excavation activities shall cease when winds exceed 25 miles per hour per SCAQMD guidelines in order to limit fugitive dust emissions.
- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the project are watered at least three times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.
- Cover all trucks hauling dirt, sand, soil, or other loos materials, or maintain at least 0.6 meter (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicular Code Section 23114.
- The contractor shall ensure that traffic speeds on unpaved roads and project site areas are 15 miles per hour or less to reduce fugitive dust haul road emissions.

As previously discussed, SCAQMD Rule 1113 regulates the sale and application of architectural coatings. Rule 1113 is applicable to any person who applies or solicits the application of any architectural coating within the Basin. Rule 1113 sets limits on the amount of ROG or VOC emissions

allowed for all types of architectural coatings. Compliance with Rule 1113 means that architectural coatings used during construction would have ROG or VOC emissions that comply with these limits.

Mitigation Measures. The following measures are recommended to reduce the level of emissions of criteria pollutants:

4.3.6.2A During construction of any development within the WLCSP, the following measures shall be implemented by each developer to the satisfaction of the City Planning Department. Construction equipment maintenance records and data sheets of equipment design specifications (including the emission control tier of the equipment) shall be kept on site during construction subject to inspection by the City and provided to the City on a monthly basis by the applicant or construction manager depicting that the mitigation measures are being met.

a) Prior to the year 2017, off-road diesel-powered construction equipment greater than 50 horsepower shall meet or exceed United States Environmental Protection Agency (EPA) Tier 3 off-road emissions standards.

b) In the year 2017 and thereafter, off-road diesel-powered construction equipment greater than 50 horsepower shall implement one of the following: meet EPA Tier 4 emissions standards, meet EPA Tier 4 Interim emissions standards, or meet EPA Tier 3 standards with California Air Resources Board verified Level 3 filters to reduce 85 percent diesel particulate matter. If a good faith effort to rent Tier 4 equipment within 200 miles of project has been conducted but has been unsuccessful, then Tier 3 equipment (without filters) can be used. Written verification of the Tier 4 equipment search of three or more rental companies shall be provided by the project applicant to the City verifying the results of the search prior to the use of Tier 3 construction equipment.

c) Off-road diesel-powered equipment during all construction shall be limited to 10 hours per day in the on position and in compliance with the project Noise Reduction Compliance Plan with regards to the timing and location of grading operations. There are no restrictions for equipment powered by natural gas or electricity.

d) Construction equipment shall be properly maintained according to manufacturer specifications.

e) Contractors shall turn off all construction equipment and delivery vehicles when not in use or limit on-site idling to 5 minutes or less in any one hour.

f) On-site electrical hook ups to power grid shall be provided for electric construction tools including saws, drills and compressors, where feasible, to reduce the need for diesel-powered electric generators.

g) The project shall demonstrate compliance with South Coast Air Quality Management District Rule 403 concerning fugitive dust and provide appropriate documentation to the City of Moreno Valley.

h) Off-site construction shall be limited to the hours between 6a.m. to 8 p.m. on weekdays only. Construction during City holidays shall not be permitted.

4.3.6.2B Prior to issuance of any grading permits for development within the WLCSP, the developer shall provide a traffic control plan to the City that describes in detail the location of equipment staging areas, stockpiling/storage areas, construction parking areas, safe detours around the project construction site, as well as provide temporary traffic control (e.g., flag person) during construction-related truck hauling activities. The traffic control plan is intended to minimize traffic congestion and delays that

increase idling and acceleration emissions. The developer shall maintain one copy on site in the construction trailer to the satisfaction of the City.

4.3.6.2C During construction of any development within the WLCSP, the following measures shall be applied to construction activities as indicated:

a) Use paints with a volatile organic compound (VOC) content 100 grams per Liter or lower for both interior and exterior surfaces, if painted.

b) Recycle leftover paint. Take any leftover paint to a household hazardous waste center; do not mix leftover water-based and oil-based paints.

c) Keep lids closed on all paint containers when not in use to prevent VOC emissions and excessive odors.

d) For water-based paints, clean up with water only. Whenever possible, do not rinse the clean-up water down the drain or pour it directly into the ground or the storm drain. Set aside the can of clean-up water and take it to the hazardous waste center (www.cleanup.org).

e) Use compliant low VOC cleaning solvents to clean paint application equipment.

f) Keep all paint and solvent-laden rags in sealed containers to prevent VOC emissions.

4.3.6.2D During construction of any development within the WLCSP, grading shall not occur on days with an Air Quality Index forecast greater than 150 for particulates or ozone (unhealthy for sensitive groups, unhealthy, very unhealthy, or hazardous conditions). Air Quality Index forecasts can be obtained at www.airnow.gov and/or www.enviroflash.info.

Level of Significance After Mitigation. There are several methods to reduce daily construction emissions, one of which is to increase the tier of the off-road construction equipment. The unmitigated construction emissions assumed CalEEMod default equipment tiers. Beginning in the year 2011, new off-road mobile engines sold that are greater than 175 horsepower (hp) and non-emergency stationary engines less than 10 liters per cylinder and greater than 175 hp are required to meet Tier 4 Interim standards. Tier 4 Final for engines greater than 130 hp will not be required for new construction equipment until the year 2014. The availability of Tier 3 and Tier 4 equipment varies; therefore, it is not always feasible to use Tier 3 and Tier 4 equipment. Therefore, **Mitigation Measure 4.3.6.2A** allows for flexibility in requiring higher-tiered equipment.

As shown in Table 4.3.K, construction emissions are still significant after mitigation. Although mitigation reduces emissions of all pollutants during construction, potential air quality impacts resulting from exhaust from construction equipment will remain significant and unavoidable.

Table 4.3.K: Mitigated Short-Term Regional Construction Emissions

Year	Maximum Daily Pollutant Emissions (lbs/day)				
	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
2013	260	1,594	1,716	169	114
2014	350	1,709	1,834	179	121
2015	219	860	974	85	60
2016	160	547	650	61	41
2017	248	1,529	1,653	86	32
2018	351	1,745	1,868	94	36
2019	221	902	1,024	45	17

Table 4.3.K: Mitigated Short-Term Regional Construction Emissions

Year	Maximum Daily Pollutant Emissions (lbs/day)				
	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
2020	146	509	616	31	11
2021	146	509	616	31	11
SCAQMD Threshold	**75**	**100**	**550**	**150**	**55**
Exceeds Threshold?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

- Exceedances of the threshold are shown as shaded.
- Sulfur oxide (SOx) emissions are contained in the CalEEMod output in Appendix A of the Air Quality, Greenhouse Gas, and Health Risk Assessment Report; the maximum emissions would be 3 pounds per day after mitigation, substantially under the threshold of 150 pounds/day.
- Mitigation Measures 4.3.6.2A(a) and (b) were estimated by CalEEMod using its mitigation module. Tier 4 Interim standards would reduce $PM_{2.5}$ emissions by at least 85 percent compared with Tier 3, according to the emission factors in Appendix D of the CalEEMod manual, Table 3.5. Therefore, since Tier 4 would reduce emissions more than diesel PM filters, the result of Tier 3 with the 85 percent reduction from diesel PM filters is used in this analysis to estimate the mitigated emissions.
- Mitigation Measure 4.3.6.2A(c) restricts equipment from operating more than 10 hours per day in the on position, which is estimated by reducing the hours of operation from 15 hours to 10 hours in CalEEMod.
- Mitigation Measures 4.3.6.2A(d) through (f) and 4.3.6.2B are not quantified.
- Mitigation Measure 4.3.6.2A(g) is assumed in the unmitigated and mitigated estimates.
- Mitigation Measure 4.3.6.2C reduces VOC emissions during painting and is calculated as demonstrated in the spreadsheets in Appendix A of the Air Quality, Greenhouse Gas, and Health Risk Assessment Report.

VOC = volatile organic compounds NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, MBA 2013, Table 51, January 2013.

4.3.6.3 Localized Construction and Operational Air Quality Impacts

Impact 4.3.6.3: *Construction and operation of the proposed project has the potential to exceed localized daily thresholds that may affect sensitive receptors.*

Threshold	Would the proposed project violate any AAQS or contribute to an existing or projected air quality violation; or expose sensitive receptors to pollutants? The applicable localized thresholds are: - 20 ppm (1 hour) and 9 ppm (8 hours) of CO during construction or operation; - 0.18 ppm (State 1 hour), 0.100 ppm (National 1 hour), and 0.030 ppm (Annual) of NO_X during construction or operation; - 10.4 µg/m^3 (24 hours) 1.0 µg/m^3 (Annual) of PM_{10} during construction - 2.5 µg/m^3 (24 hours) and 1.0 µg/m^3 (Annual) of PM_{10}; during operation and - 2.5 µg/m^3 (24 hours) of $PM_{2.5}$ during operation

As previously identified, the localized analysis focused on two scenarios:

1. Scenario 1: Existing Conditions plus Project, which shows what effect the project-related traffic emissions would have if the project were built out in full in 2012 and no other changes occurred to land uses or the roadway system; and
2. Scenario 2: Construction and operations of the project as a 2-phase development with the buildout of Phase 1 in 2017 and the final buildout in 2022.

Scenario 1 represents the absolute worst-case condition in that the project physically could not be built-out in 2012 or, in fact, in any single year due to the size of the project. This scenario also does not account for the fact that vehicle emissions are expected to decline significantly over the next ten years in response to mandated motor vehicle emission controls adopted by the CARB and EPA. Thus, consideration of this scenario will significantly overestimate the project's potential air quality impacts.

Scenario 2 represents the logical and realistic development of the project over a period of 10 years as represented by the project applicant. The LST analysis is presented for both scenarios below.

Pursuant to the SCAQMD's LST methodology, only emissions generated from within and along the project boundaries are included in the LST assessment. Table 4.3.L compares the project's local emissions assuming the worst case of full buildout in 2012 along with the existing (No Project) emissions in 2012.

Table 4.3.L: Comparison of Existing and Project Local Emissions, 2012

Pollutant	Existing (No Project) 2012 Emissions (pounds/hour)	Project 2012 Emissions Increment (pounds/hour)
NO_X	2.4 (pounds/hour)	136.6 (pounds/hour)
CO	18.1 (pounds/hour)	112.1 (pounds/hour)
PM_{10}	10.2 Emissions (pounds/day)	57.0 Emissions (pounds/day)
$PM_{2.5}$	3.1 Emissions (pounds/day)	18.5 Emissions (pounds/day)

Notes: Includes emissions from sources located within or along the boundaries of the WLC Specific Plan
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

The project's emissions then served as input into the AERMOD air dispersion model to derive estimate of the project's localized air quality impacts for Scenario 1. These results are shown in Table 4.3.M along with a comparison to the SCAQMD's localized significance thresholds. The significance thresholds for CO and nitrogen dioxide are derived from the measured ambient air quality data from the SCAQMD Riverside air monitoring station and serve as the measure of existing air quality in 2012.[1]

Table 4.3.M: Localized Assessment – Scenario 1: Existing (2012) Plus Project Emissions Maximum Impacts within the WLC Specific Plan

Pollutant	Averaging Time, Units	Existing Background in 2012[A]	Unmitigated Air Concentration		Standard/ Threshold	Total Impact Exceeds Threshold in 2012?
			Project Local Impact in 2012	Total (Background + Project) 2012		
Carbon Monoxide	1 hour, ppm	2.64	0.28	2.92	20	No
	8 hour, ppm	1.84	0.17	2.01	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.078	0.100	0.178	0.18	No
	National 1 hour, ppm	0.060	0.082	0.142	0.100	Yes
	Annual, ppm	0.017	0.032	0.049	0.030	Yes
PM_{10}	24 hour, $\mu g/m^3$	NA	12.7	12.7	2.5	Yes
	Annual, $\mu g/m^3$	NA	7.8	7.8	1.0	Yes
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	4.7	4.7	2.5	Yes

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
A = Background data for 2012 for CO and nitrogen dioxide derived as the highest air quality measured data during the 3-year time period of 2009 to 2011 since air quality measurements for the entire year 2012 are not yet available
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, Table 40, MBA, January 2013.

[1] A full year of air quality data was not available for the year 2012 at the time of the preparation of this report. Therefore, in keeping with the SCAQMD recommendations, the highest air quality measurement for the years 2009, 2010, and 2011 served as a measure of the existing background air quality data for NO_2 and CO.

The maximum project local impacts for the sensitive receptors located within the boundaries of the WLC Specific Plan are shown in Table 4.3.M. Table 4.3.N provides the highest impacts for any sensitive receptor located outside of the boundaries of the Specific Plan. These latter impacts were found within the residential areas located near the southwest corner of the project

Table 4.3.N: Localized Assessment – Scenario 1: Existing (2012) Plus Project Emissions Maximum Impacts Outside of the Specific Plan

Pollutant	Averaging Time, Units	Existing Background in 2012[A]	Unmitigated Air Concentration		Standard/ Threshold	Total Impact Exceeds Threshold in 2012?
			Project Local Impact in 2012	Total (Background + Project) 2012		
Carbon Monoxide	1 hour, ppm	2.64	0.21	2.85	20	No
	8 hour, ppm	1.84	0.09	1.93	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.078	0.055	0.133	0.18	No
	National 1 hour, ppm	0.060	0.048	0.108	0.100	Yes
	Annual, ppm	0.017	0.008	0.025	0.030	No
PM_{10}	24 hour, $\mu g/m^3$	NA	3.1	3.1	2.5	Yes
	Annual, $\mu g/m^3$	NA	0.8	0.8	1.0	No
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	1.2	1.2	2.5	No

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
A. Background data for 2012 for CO and nitrogen dioxide derived as the highest air quality measured data during the 3-year time period of 2009 to 2011 since air quality measurements for the entire year 2012 are not yet available
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, MBA, January 2013.

As noted from Table 4.3.M, for worst-case Scenario 1, the project would exceed the SCAQMD's localized significance thresholds for nitrogen dioxide, $PM_{2.5}$, and PM_{10}, realizing again, that this scenario reflects an impossible situation that assumes that the project is built out in its entirety in 2012 and that the existing receptors located within the Specific Plan remain in place. The exceedances of the PM_{10} and $PM_{2.5}$ thresholds are due in large part to the inclusion of entrained road dust into the estimate of the project's mobile source PM_{10} and $PM_{2.5}$ emissions. As shown in Table 4.3.N, the thresholds for NO_X and PM_{10} would be exceeded at sensitive receptors located outside of the WLC Specific Plan.

Scenario 1 assumes that future emissions from the project would remain at their 2012 levels. The majority of the project's operational emissions are from on-road mobile sources, more particularly, heavy-duty trucks that contribute a disproportionate amount of emissions compared to passenger vehicles. Emissions from on-road mobile sources are regulated at the State and Federal levels and, therefore, are outside of the control of local agencies such as the City and the SCAQMD. For example, the CARB is working closely with the EPA, engine and vehicle manufacturers, and other interested parties to identify programs that will reduce emissions from heavy-duty diesel vehicles in California. In its "Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles," the CARB presented a blueprint for achieving a 75 percent reduction in diesel particulates by 2010 and an 85 percent reduction by 2020 from the 2000 baseline (CARB 2000). The emission reductions would arise from a combination of measures including the use of ultra-low sulfur diesel fuel, new emission standards for large diesel engines, restrictions on diesel engine idling, addition of post-combustion filter and catalyst equipment, and retrofits for business and government diesel truck fleets. The implementation of these emission reductions will also result in reductions of other pollutants such as NO_X, VOC, and CO. As these emission reduction programs are implemented

and there is a turnover in the use of older vehicles with newer and cleaner vehicles, the project's operational emissions are expected to decline significantly in the future.

A recent study (University of California, Riverside 2012) found that "emissions from cooking hamburgers on commercial charbroilers are a very significant uncontrolled source of directly-emitted particulate matter if left uncontrolled they emit more than twice than all of the heavy-duty diesel trucks. For comparison, the average diesel-engine truck on the road today would have to drive 10 miles on the freeway to put out the same mass of particles as a single charbroiled hamburger patty." This is in part to the variety of regulations for the heavy-duty trucks that have been enacted over the years.

Emission controls on mobile source vehicles already adopted by the CARB particularly dealing with NO_X and PM_{10} controls on heavy duty trucks will reduce truck emissions significantly over the next 10 years. As an example, the per-mile rate of NO_X emissions from the largest category of heavy duty diesel trucks is estimated to decline from an average of 9.75 grams/mile in 2012 to 3.17 grams/mile by 2022, a decline of 67 percent from 2012 levels. Similarly, the per-mile running exhaust rate of PM_{10} emissions from the largest category of heavy duty diesel trucks is estimated to decline from an average of 0.39 gram/mile in 2012 to 0.10 gram/mile in 2022, a decline of 66 percent from 2012 levels. Thus, Scenario 1 represents a highly conservative estimate (in terms of overestimating) of the project's operational impacts.

Scenario 2 examined potential local project impacts considering the proposed construction and build out schedule of the project over a time period of 10 years. This scenario examined three specific time periods:

- The year 2013, which is the first year of the construction of Phase 1 and is the year with the highest construction emissions;
- The year 2017, which is the first year of the construction of Phase 2 and the first year of full operation of Phase 1; and
- The year 2022, which is the first operational year of the complete build out of both Phases 1 and 2.

Localized Impact Analysis, 2013. The project proposes to commence construction of Phase 1 starting in 2013. During this year, the project would conduct extensive mass grading and earth movement of the project area, fine grading of the development pads, installation of curbing and utilities, construction of the first buildings, and landscaping. The CalEEMod land use emission model was used to estimate the maximum daily and annual construction emissions.

The localized impacts for the short-term construction activities were analyzed using an air dispersion model (EPA AERMOD Model) to simulate the transport and dispersion of project-related emissions through the air. These impacts were then compared to the applicable SCAQMD localized concentration thresholds.

The estimated maximum localized air quality impacts from the construction of the project in 2013 are summarized in Table 4.3.O. These maximum impacts were found at the locations of the existing residences within the boundaries of the Specific Plan. Table 4.3.P summarizes the highest air quality impacts for sensitive receptors located outside of the boundary of the Specific Plan. As noted from these two tables, project construction would exceed the significance thresholds for NO_X, PM_{10}, and $PM_{2.5}$ and thus represents a significant impact without mitigation.

Table 4.3.O: Localized Assessment – Scenario 2: Construction, Year 2013 Maximum Impacts Within the WLC Specific Plan

Pollutant	Averaging Time, Units	Existing Background in 2012[A]	Unmitigated Air Concentration		Standard/ Threshold	Total Impact Exceeds Threshold?
			Project Local Impact	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.64	1.70	4.34	20	No
	8 hour, ppm	1.84	0.75	2.59	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.078	0.158	0.236	0.18	Yes
PM_{10}	24 hour, $\mu g/m^3$	NA	45.2	45.2	10.4	Yes
	Annual, $\mu g/m^3$	NA	6.9	6.9	1.0	Yes
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	37.1	37.1	10.4	Yes

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit), ppm = parts per million (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
A = Background data for 2012 for CO and nitrogen dioxide derived as the highest air quality measured data during the 3-year time period of 2009 to 2011 since air quality measurements for the entire year 2012 are not yet available
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, MBA January 2013.

Table 4.3.P: Localized Assessment – Scenario 2: Construction, Year 2013 Maximum Impacts Outside the Specific Plan

Pollutant	Averaging Time, Units	Existing Background in 2012[A]	Unmitigated Air Concentration		Standard/ Threshold	Total Impact Exceeds Threshold?
			Project Local Impact	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.64	0.84	3.48	20	No
	8 hour, ppm	1.84	0.28	2.12	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.078	0.111	0.189	0.18	Yes
PM_{10}	24 hour, $\mu g/m^3$	NA	15.4	15.4	10.4	Yes
	Annual, $\mu g/m^3$	NA	0.3	0.3	1.0	No
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	11.9	11.9	10.4	Yes

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit), ppm = parts per million (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
A. Background data for 2012 for CO and nitrogen dioxide derived as the highest air quality measured data during the 3-year time period of 2009 to 2011 since air quality measurements for the entire year 2012 are not yet available
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, MBA January 2013

Localized Air Quality Impact Analysis, 2017. The year 2017 represents a time period when both construction and operations would overlap. As a result, the highest emissions from the project construction and operations would generally occur during this year. The project's maximum combined impacts from construction and operations during 2017 are shown in Table 4.3.Q for the existing sensitive receptors located within the Specific Plan along with the SCAQMD-recommended significance thresholds.[1] Table 4.3.R shows the maximum combined impacts for sensitive receptors

[1] Note that even though construction would occur during 2017, the SCAQMD recommends the application of the operational significance thresholds, which allows a significantly lower level of particulate matter levels than do the construction significance thresholds.

located outside of the Specific Plan. These latter impacts were found within the residential areas located to the west of the project across Redlands Boulevard. As shown in these tables, the project would exceed the SCAQMD's significance thresholds for nitrogen dioxide, PM_{10}, and $PM_{2.5}$.

Table 4.3.Q: Localized Assessment – Scenario 2: Construction and Operation, Year 2017 Maximum Impacts Within WLC Specific Plan

Pollutant	Averaging Time, Units	Existing Background in 2012[A]	Unmitigated Air Concentration		Standard/ Threshold	Total Impact Exceeds Threshold?
			Project Local Impact	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.64	1.56	4.20	20	No
	8 hour, ppm	1.84	0.77	2.61	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.078	0.169	0.247	0.18	Yes
PM_{10}	24 hour, $\mu g/m^3$	NA	41.0	41.0	2.5	Yes
	Annual, $\mu g/m^3$	NA	9.1	9.1	1.0	Yes
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	37.1	37.1	2.5	Yes

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
A = Background data for 2012 for CO and nitrogen dioxide derived as the highest air quality measured data during the 3-year time period of 2009 to 2011 since air quality measurements for the entire year 2012 are not yet available
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

Table 4.3.R: Localized Assessment – Scenario 2: Construction and Operation, Year 2017 Maximum Impacts Outside the WLC Specific Plan

Pollutant	Averaging Time, Units	Existing Background in 2012[A]	Unmitigated Air Concentration		Standard/ Threshold	Total Impact Exceeds Threshold?
			Project Local Impact	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.64	1.00	3.64	20	No
	8 hour, ppm	1.84	0.38	2.22	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.078	0.143	0.221	0.18	Yes
PM_{10}	24 hour, $\mu g/m^3$	NA	19.8	19.8	2.5	Yes
	Annual, $\mu g/m^3$	NA	0.8	0.8	1.0	No
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	11.5	11.5	2.5	Yes

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
A. Background data for 2012 for CO and nitrogen dioxide derived as the highest air quality measured data during the 3-year time period of 2009 to 2011 since air quality measurements for the entire year 2012 are not yet available
Source: Air Quality, Greenhouse Gas, and Health Risk Assessment Report, January 2013.

Localized Air Quality Impact Analysis, 2022. The year 2022 represents the time period when both phases of the project would be fully in operation. Operational emissions during 2022 were estimated based on the project's trip generation and project-related travel along the local roadway network within and along the boundaries of the WLC Specific Plan. Table 4.3.S shows the maximum localized air quality impacts for 2022 relative to the background air quality levels in 2012 at the existing

sensitive receptors located within the WLC Specific Plan. Table 4.3.T identifies the highest localized impacts for sensitive receptors located outside of the Specific Plan. These latter impacts were found within the residential areas located to the west of the project across Redlands Boulevard. As shown in these tables, the concentrations of PM_{10} and $PM_{2.5}$ exceed the SCAQMD's significance thresholds due principally to the inclusion of entrained road dust in the impact assessment and would, therefore, represent a significant impact without mitigation.

Table 4.3.S: Localized Assessment – Scenario 2: Operation, Year 2022 Maximum Impacts Within the Specific Plan

Pollutant	Averaging Time, Units	Existing Background in 2012[A]	Unmitigated Air Concentration		Standard/ Threshold	Total Impact Exceeds Threshold?
			Project Local Impact	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.64	0.12	2.76	20	No
	8 hour, ppm	1.84	0.07	1.91	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.078	0.039	0.117	0.18	No
	National 1 hour, ppm	0.060	0.035	0.095	0.100	No
	Annual, ppm	0.017	0.012	0.029	0.030	No
PM_{10}	24 hour, $\mu g/m^3$	NA	10.8	10.8	2.5	Yes
	Annual, $\mu g/m^3$	NA	6.5	6.5	1.0	Yes
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	3.1	3.1	2.5	Yes

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
A = Background data for 2012 for CO and nitrogen dioxide derived as the highest air quality measured data during the 3-year time period of 2009 to 2011 since air quality measurements for the entire year 2012 are not yet available
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

Table 4.3.T: Localized Assessment – Scenario 2: Operation, Year 2022 Maximum Impacts Outside of the Specific Plan

Pollutant	Averaging Time, Units	Existing Background in 2012[A]	Unmitigated Air Concentration		Standard/ Threshold	Total Impact Exceeds Threshold?
			Project Local Impact	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.64	0.08	2.72	20	No
	8 hour, ppm	1.84	0.04	1.88	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.078	0.021	0.099	0.18	No
	National 1 hour, ppm	0.060	0.019	0.079	0.100	No
	Annual, ppm	0.017	0.002	0.019	0.030	No
PM_{10}	24 hour, $\mu g/m^3$	NA	2.7	2.7	2.5	Yes
	Annual, $\mu g/m^3$	NA	0.7	0.7	1.0	No
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	0.8	0.8	2.5	No

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
A = Background data for 2012 for CO and nitrogen dioxide derived as the highest air quality measured data during the 3-year time period of 2009 to 2011 since air quality measurements for the entire year 2012 are not yet available
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

Summary. The localized significance analysis demonstrates that without mitigation, the project would exceed the localized significance thresholds for NO_2, PM_{10}, and $PM_{2.5}$ for both the worst-case Scenario 1 and for the proposed development Scenario 2. Therefore, according to this criterion, the air pollutant emissions would result in a significant impact and could exceed or contribute to an exceedance of the ambient air quality standards for NO_2, PM_{10}, and $PM_{2.5}$.

Mitigation Measures. Mitigation measures identified previously under Impact 4.3.6.2 (**Mitigation Measures 4.3.6.2A**, **4.3.6.2B**, and **4.3.6.2D**) to reduce construction emissions of criteria pollutants are required. The project will also be required to comply with SCAQMD Rules 402 and 403. Additionally, the following mitigation measures are required to reduce emissions of criteria pollutants during project operations.

4.3.6.3A Prior to issuance of occupancy permits for each warehouse building within the WLCSP, the developer shall demonstrate to the City that vehicles can access the building using paved roads and parking lots.

4.3.6.3B All applications for development shall be subject to the following conditions of approval:

Prior to the issuance of a Certificate of Occupancy

a) Post signs informing truck drivers about the health effects of diesel particulates, the California Air Resources Board diesel idling regulations, and the importance of being a good neighbor by not parking in residential areas.

b) Post signs in all dock and delivery areas containing the following: truck drivers shall turn off engines when not in use; trucks shall not idle for more than five minutes; telephone numbers of the building facilities manager and the California Air Resources Board to report violations.

c) Prior to issuance of occupancy permits, signs shall be installed at each exit driveway, providing directional information to the City's truck route. Text on the sign shall read "To Truck Route" with a directional arrow. Truck routes shall be clearly marked per the City's Municipal Code.

On an Ongoing Basis

d) Tenants shall maintain records on their fleet equipment and vehicle engine maintenance to ensure that equipment and vehicles serving the warehouses within the project are in good condition and in proper tune pursuant to manufacturer's specifications. The records shall be maintained on site and be made available for inspection by the City.

e) Tenants will ensure that site enforcement staff in charge of keeping vehicle records will be trained/certified in diesel health effects and technologies, for example, by requiring attendance at California Air Resources Board approved courses (such as the free, one-day Course #512). Documentation of said training shall be maintained on-site and be available for inspection by the City.

f) Tenants will be encouraged to become a SmartWay Partner.

g) Tenants will be encouraged to maximize the number of truck trips will be carried by SmartWay 1.0 or greater carriers.

All of the measures above shall be incorporated into conditions of approval for each future development project within the WLCSP.

4.3.6.3C The 2012 Regional Transportation Plan includes a zero/near-zero emissions truck corridor along State Route 60. The WLC project shall provide for the establishment of

onsite alternative fueling infrastructure (electric charging stations and/or natural gas fueling), which will help facilitate the use of these low-emitting trucks. An alternative fueling facility to serve the WLCSP will be in place prior to the issuance of building permits for more than 25 million total square feet of logistics warehousing within the WLC Specific Plan. This facility may be on or offsite, subject to review and approval by the City.

4.3.6.3D The WLC project shall provide a site for the sale of food, fuel, and convenience items to minimize the need for trucks to travel off-project to purchase these goods and services. This facility shall be in place within the project area prior to the issuance of building permits for more than 25 million total square feet of logistics warehousing within the WLC Specific Plan to minimize the need for trucks to traverse through residential neighborhoods.

Level of Significance After Mitigation. For Scenario 1, which reflects the worst-case of full build of the project in 2012, there are no mitigation measures that can be logically applied. Therefore, the project's impact would remain significant and unavoidable.

For Scenario 2, even after mitigation, both the daily and annual emissions of all pollutants would exceed the SCAQMD's regional emission significance levels and would also continue to exceed the localized significance thresholds as well for nitrogen dioxide, PM_{10}, and $PM_{2.5}$ during construction and PM_{10} during operations. In the absence of feasible mitigation to reduce the proposed project's emission of criteria pollutants to below SCAQMD thresholds, potential localized air quality impacts will remain significant and unavoidable.

4.3.6.4 Long-Term Operational Emissions

Impact 4.3.6.4: *Implementation of the proposed project may have the potential to exceed applicable daily thresholds for operational activities.*

Threshold	Would the proposed project violate any AAQS or contribute to an existing or projected air quality violation; or expose sensitive receptors to pollutants? For long-term operations, the applicable daily thresholds are: - 55 pounds of VOC; - 55 pounds of NO_X; - 550 pounds of CO; - 150 pounds of PM_{10}; - 55 pounds of $PM_{2.5}$; and - 150 pounds of SO_X.

Long-term air pollutant emission impacts that would result from the proposed project are those associated with stationary sources and mobile sources involving any project-related change (e.g., emissions from landscape maintenance activities and other facility maintenance operations and the use of motor vehicles by project-generated traffic). This analysis assesses the mobile source emissions generated by vehicles driving to and from the proposed land uses, as well as area source emissions generated by project maintenance operations. Projected emissions resulting from operational activities of the proposed project are identified in Table 4.3.U.

Table 4.3.U: Operational Regional Air Pollutant Emissions (Worst-Case Scenario)

Scenario	Source	Summer Emissions (pounds per day)				
		VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
Buildout, 2012 Factors	Vehicles: Local	283	346	3,861	683	42
	Vehicles: Long-haul trucks	1,129	14,510	5,995	1,473	622
	Area Source	260	7	6	1	1
	Total	**1,672**	**14,863**	**9,862**	**2,157**	**665**
	Significance Threshold	55	55	550	150	55
	Significant Impact?	Yes	Yes	Yes	Yes	Yes

- PM_{10} and $PM_{2.5}$ emissions include exhaust and road dust.
- Area source emissions include natural gas, painting, and consumer products. Landscaping emissions are negligible.
- Sulfur oxides emissions are under the 150 pounds per day significance threshold and at buildout total approximately 30 pounds per day (24 for long-haul + 6 for local).

VOC = volatile organic compounds NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, MBA January 2013.

Emissions from the existing on-site residences and fugitive dust are not included in this regional analysis. In addition, there may be minor emissions of VOC from the fueling station, depending on what type of fuel is used. However, details regarding the fueling station are currently unknown so the emission source is not estimated.

This is a worst-case analysis because it assumes that the entire project would be built-out in 2012. The motor vehicle and truck emission factors are from 2012, which assumes a "dirtier" fleet than would be the case in later years. The emission factor models assume that later on, the average fleet would be newer as people purchase newer cars, which are more efficient and have fewer air pollutants. In addition, no reductions are taken for the model year 2010 trucks that would be accessing the project pursuant to project design features.

As identified in Table 4.3.U, operational emissions for the proposed project would exceed SCAQMD daily operational thresholds for all criteria pollutants with the exception of SO_X for the "worst-case" 2012 scenario. Table 4.3.V demonstrates that although the number of vehicles and trucks would increase year by year, the emissions do not increase dramatically because the per-vehicle emission factors decrease over time.

Table 4.3.V: Operational Regional Air Pollutant Emissions (Year by Year, pounds per day)

Year	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2014	108	388	645	3	218	25
2015	222	838	1,288	6	462	54
2016	290	1,121	1,643	8	613	72
2017	415	1,638	2,289	11	885	105
2018	554	2,215	2,957	15	1,210	107
2019	626	2,528	3,237	17	1,390	123
2020	678	2,772	3,409	19	1,533	137
2021	721	2,998	3,577	21	1,663	149
2022	733	3,064	3,524	21	1,705	153
SCAQMD Threshold	55	55	550	150	150	55
Significant?	Yes	Yes	Yes	No	Yes	Yes

- Emissions are from local vehicles, trucks, natural gas, painting, and consumer products.
- PM_{10} and $PM_{2.5}$ emissions include exhaust and road dust.
- Landscaping emissions are negligible.

VOC = volatile organic compounds NO_X = nitrogen oxides SO_2 = sulfur dioxide CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

There would be overlapping of construction and operational emissions with project implementation. The operational emissions as shown in Table 4.3.V were added to the construction emissions and are shown in Table 4.3.W, which shows all pollutants for all years exceed the SCAQMD thresholds, with the exception of SO_X emissions. SO_X are not shown in the table as they are far below the significance threshold of 150 pounds per day.

Table 4.3.W: Combined Construction and Operational Regional Air Pollutant Emissions (Year by Year, pounds per day)

Year	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
2013	705	5,793	2,867	377	284
2014	580	2,723	1,998	385	161
2015	665	2,922	2,538	611	177
2016	633	2,452	2,577	723	163
2017	962	5,714	4,700	1,171	299
2018	954	3,996	4,291	1,343	203
2019	1,003	4,136	4,485	1,507	209
2020	948	3,714	4,282	1,609	194
2021	991	3,940	4,450	1,739	206
2022	733	3,064	3,524	1,705	153
SCAQMD Threshold	55	55	550	150	55
Significant?	Yes	Yes	Yes	Yes	Yes

- Year 2013 contains construction emissions only; year 2022 contains operational emissions only
- Sulfur oxide (SOx) emissions are contained in the CalEEMod output in Appendix A; the emissions are substantially under the threshold of 150 pounds per day

VOC = volatile organic compounds NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

As identified in the preceding tables, project-related air quality impacts for all criteria pollutants, with the exception of SO_X, would be significant and mitigation measures are required.

Mitigation Measures. The mitigation measures previously identified under Impact 4.3.6.3 (**Mitigation Measures 4.3.6.3A** through **4.3.6.3D**) would reduce operational emissions of criteria pollutants associated with the project. Additionally, the following mitigation measure is required:

4.3.6.4A Prior to the issuance of a building permit for each development within the WLCSP, the developer shall demonstrate to the satisfaction of the City that the project incorporates the following:

a) All tenants shall participate in Riverside County's Rideshare Program. The purpose of the program would be to discourage single-occupancy vehicle trips and encourage alternate modes of transportation such as carpooling, transit, walking, and biking. The program shall provide employees with assistance in using alternate modes of travel, including carpooling encouragement, ride-matching assistance, and vanpool assistance.

b) Storage lockers shall be provided in each building for a minimum of three percent of the full-time equivalent employees based on a ratio of 0.60 employee per 1,000 square feet of building area.

c) Class II bike lanes shall be incorporated into the design for Gilman Springs Road (SR-60 to Alessandro Boulevard), Theodore Street (SR-60 to project), Eucalyptus Avenue (Redlands Boulevard to Theodore Street), and the main

roads in the project (Street A, Street B, Street C, Street D, Street E, and Street F).

d) The project shall incorporate pedestrian pathways between on-site uses.

e) Site design and building placement shall provide pedestrian connections between internal and external facilities.

f) The project shall provide pedestrian connections to residential uses within 0.25 mile from the project site.

g) A minimum of two electric vehicle-charging stations for automobiles or light-duty trucks shall be provided at each building.

h) Each building shall provide secure bicycle storage space equivalent to five percent of the automobile parking spaces provided.

i) Each building shall provide a minimum of two shower and changing facilities within 200 yards of a building entrance.

j) Each building shall provide preferred parking for low-emitting and fuel-efficient vehicles equivalent to at least eight percent of the required number of parking spaces.

k) All discretionary approvals for development shall include a 250-foot setback along the western portion of the site adjacent to Redland Boulevard, Bay Avenue and Merwin Street, from the CDFW property, and between residentially zoned property and logistics buildings in the WLC Specific Plan along Redlands Boulevard, Bay Avenue, and Merwin Street.

l) Electrical power sources shall be provided for service equipment and docking of trucks to minimize idling emissions and emissions from transportation refrigeration units if such units are to be used. The project applicant shall include in all new lease documents the requirement that tenants shall use only trucks with transportation refrigeration units capable of utilizing electrical hook-ups.

It is important to note that, in addition to the operational activity mitigation measures identified previously, future development would need to incorporate physical attributes and operational programs that will act to generally reduce operational-source pollutant emissions including GHG emissions. These project characteristics are identified in Section 4.7, *Climate Change and Greenhouse Gas Emissions*, of this EIR.

Level of Significance after Mitigation. The project may employ workers locally from the City. This has the benefit of improving the local jobs/housing balance leading to air quality benefits in terms of shorter trip lengths, which lead to lower emissions than if the workforce was derived from distant locations. Mitigated operational emissions for full buildout are shown in Table 4.3.X. Local motor vehicle emissions are reduced from 3 percent pursuant to **Mitigation Measure 4.3.6.4A** (see greenhouse gas analysis for description of mitigation reductions). However, even with mitigation, emissions are still significant. Despite implementation of mitigation measures, emissions of criteria pollutants would still exceed SCAQMD significance thresholds resulting in a significant and unavoidable operational air quality impact. Therefore, there could be cumulative health effects from ozone, PM_{10}, and PM2.5 as described earlier in this section.

Table 4.3.X: Operational Regional Air Pollutant Emissions (Worst-Case 2022 Scenario) - Mitigated

Scenario	Source	Summer Emissions (pounds per day)				
		VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
Buildout, (2022)	Vehicles: Local	147	139	1,889	665	31
	Vehicles: Long-haul trucks	322	2,913	1,571	1,019	121
	Area Source	260	7	6	1	1
	Total	**729**	**3,059**	**3,466**	**1,685**	**153**
	Significance Threshold	55	55	550	150	55
	Significant Impact?	Yes	Yes	Yes	Yes	Yes

- PM_{10} and $PM_{2.5}$ emissions include exhaust and road dust.
- Area source emissions include natural gas, painting, and consumer products; landscaping emissions are negligible.
- Sulfur oxides emissions are under the 150 pounds per day significance threshold and at buildout total approximately 23 pounds per day (13 for long-haul + 10 for local).
- Mitigation measure 4.3.6.3C would reduce emissions from local vehicles, as calculated by CalEEMod; refer to greenhouse gas analysis for details.

VOC = volatile organic compounds NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

During overlap of construction and operation, VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$ would continue to exceed SCAQMD significance thresholds after mitigation, as shown in Table 4.3.Y. Therefore, impacts are significant and unavoidable.

Table 4.3.Y: Combined Construction and Operational Regional Air Pollutant Emissions (Year by Year, pounds per day) – Mitigated

Year	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
2013	260	1,594	1,716	169	114
2014	457	2,096	2,466	394	145
2015	439	1,696	2,237	542	114
2016	448	1,666	2,262	666	113
2017	661	3,163	3,900	960	136
2018	901	3,956	4,773	1,289	143
2019	843	3,426	4,205	1,419	140
2020	819	3,277	3,966	1,545	147
1,147	862	3,503	4,132	1,674	160
2022	729	3,060	3,466	1,684	152
SCAQMD Threshold	55	55	550	150	55
Significant?	Yes	Yes	Yes	Yes	Yes

- Year 2013 contains construction emissions only; year 2022 contains operational emissions only
- Sulfur oxide (SOx) emissions are contained in the CalEEMod output in Appendix A; the emissions are substantially under the threshold of 150 pounds per day.

VOC = volatile organic compounds NO_X = nitrogen oxides SO_2 = sulfur dioxide CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013

4.3.6.5 Impacts to Sensitive Receptors

Impact 4.3.6.5: *Implementation of the proposed project may have the potential to result in impacts to sensitive receptors.*

Threshold	Would the proposed project expose sensitive receptors to substantial pollutant concentrations? For localized air quality impacts, the applicable thresholds are: - - 20 ppm (1 hour) and 9 ppm (8 hours) of CO during construction and operation; - - 0.18 ppm (State 1 hour), 0.100 ppm National 1 hour), and 0.030 ppm (Annual) of NO_X during construction and operation; - - 10.4 µg/m^3 (24-hours) and 1 µg/m^3 (Annual) of PM_{10} during construction - - 2.5 µg/m^3 (24 hours) and 1.0 µg/m^3 (Annual) of PM_{10} during operations; and - - 2.5 µg/m^3 (24 hours) of $PM_{2.5}$ during operations. For health risk impacts, the applicable thresholds are: - Maximum Individual Cancer Risk: An increased cancer risk greater than 10 in 1 million (1.0×10^5) at any receptor location; or - Non-cancer chronic hazard indices (HI): A cumulative increase for any target organ system exceeding 1.0 at any receptor location.

Localized Air Quality Impacts. The construction and operation of the project would result in the emissions of carbon monoxide, oxides of nitrogen, and particulate matter. As noted in the discussion of **Impact 4.3.6.3**, construction and operation of the proposed project have the potential to exceed localized air quality significance thresholds for oxides of nitrogen and particulate matter (PM_{10} and $PM_{2.5}$) that may expose sensitive receptors to substantial pollutant concentrations. These impacts are shown in Table 4.3.M to Table 4.3.T.

Health Risk Impacts. The construction and operation of the project would result in the emissions of several toxic air contaminants, the most ubiquitous being diesel particulate matter (diesel PM), which constitutes in excess of 80 percent of the estimated airborne inhalation cancer risk in the Basin. Exposures to diesel PM can have both short-term and long term health effects. The construction and operation of the project would not emit any toxic chemicals in any significant quantity other than vehicle exhaust. While there may be other toxic substances in use on site, compliance with State and Federal handling regulations will bring these emissions to below a level of significance.

Exposure to diesel exhaust can have immediate health effects, such as irritation of the eyes, nose, throat, and lungs, and can cause coughs, headaches, light headedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. However, according to the rulemaking on *Identifying Particulate Emissions from Diesel-Fueled Engines as a Toxic Air Contaminant* (CARB 1998), the available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute non-cancer health risk guidance value. While the lung is a major target organ for diesel exhaust, studies of the gross respiratory effects of diesel exhaust in exposed workers have not provided sufficient exposure information to establish a short-term non-cancer health risk guidance value for respiratory effects. Therefore, the potential for short-term acute exposure from diesel exhaust are considered to be less than significant and no mitigation is required.

Cancer Risks. As noted in Section 4.3.3, *Methodology*, the project health risk assessment examined two scenarios:

- Scenario 1: "No Project" scenario in which cancer risks are estimated given vehicle traffic and diesel PM emissions spanning the 70-year cancer risk exposure time period from the existing condition 2012 to 2081 under the assumption that existing land uses plus other past, present, and reasonably foreseeable projects (both land development and roadway improvements) are implemented in 2017, 2022, and 2035. Within the City of Moreno Valley, full buildout of the General Plan was assumed in 2035, except for the project site, which was assumed to be unchanged from existing conditions.
- Scenario 2: the "With Project" scenario shows the effect of project-related construction and operational traffic diesel PM emissions if the project were built out in accordance with its proposed phased buildout schedule and then added to the No Project scenario during the 70-year cancer exposure time period from 2012 to 2081. This scenario forms the basis of comparison with the "No Project" to quantify the incremental impacts from the project.

Table 4.3.Z compares the total operational diesel PM emissions estimated for Scenario 1 "No Project" and Scenario 2 "With Project" including project truck yards, local roadway network internal to the project site, local surface streets, and freeway mainline segments in this assessment for the years 2012, 2017, 2022, and 2035.

Table 4.3.Z: Operational Diesel PM Emissions (pounds per day)

	Daily Diesel PM Emissions (pounds per day)		
Year	**Scenario 1 (No Project)**	**Scenario 2 (With Project)**	**Project Increment**
2012	823	823	0
2017	265	289	24
2022	260	314	54
2035	362	413	51

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

Of note from the above table is that diesel PM emissions decline significantly from the existing condition in 2012 throughout the future years due to the effects of mandated emission controls on heavy duty diesel vehicles. Further, the Scenario 2 "With Project" emissions for 2017, 2022, and 2035 are all less than the existing 2012 emissions. Note further that the future decline in emissions would even be greater than indicated except that the emission totals reflect growth in future vehicle traffic that offsets some of the emission declines resulting simply from the mandated emission controls.

Table 4.3.AA compares the maximum cancer risks for Scenario 1, "No Project," Scenario 2, "With Project," and the project's incremental impact at three locations: at the maximum individual cancer risk anywhere in the area covered by the dispersion model, at the sensitive receptors located within the boundaries of the WLC Specific Plan, and at the sensitive receptors located in the residential areas to the west of the project across Redlands Boulevard. Note that each scenario quantified cancer risks over the 2012–2081 70-year risk exposure time period. Note further that the project's incremental impacts include both construction and operational emissions.

Table 4.3.AA: Estimated Cancer Risks, Without Mitigation

Receptor Location	Cancer Risk (risk per million)[A]				Project Increment Exceeds Threshold?
	Scenario 1 No Project	Scenario 2 With Project[B]	Project Increment[B]	Significance Threshold	
Maximum Individual Cancer Risk[C]	183.9	190.4	6.5	10	No
Cancer Risk within the Specific Plan[D]	21.0	121.7	100.7	10	Yes
Cancer Risk in Residential Areas Across Redlands Boulevard[E]	25.0	47.2	22.2	10	Yes

A. 70-year lifetime exposures over the 2012 to 2081 time period.
B. Project's incremental impacts assume unmitigated construction diesel PM emissions.
C. The maximum individual cancer risk is located near the intersection of Interstate 10 and State Route 60 near the City of Beaumont.
D. The maximum affected sensitive receptor located within the Specific Plan is located near the Intersection of Theodore Street, Street E and Street F.
E. The maximum impacted sensitive receptor within the residential areas to the west of the project across Redlands Boulevard is located near the intersection of Redlands Boulevard and Eucalyptus Avenue.

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

As noted in Table 4.3.AA, the project's incremental cancer risks exceed the SCAQMD's cancer risk significance threshold of 10 in a million at sensitive receptor locations both within the WLC Specific Plan boundaries (existing residences) as well as within the residential areas located to the west of the WLC Specific Plan across Redlands Boulevard.

Figure 4.3.9 shows a plot of the "No Project" cancer risks while Figure 4.3.10 shows the "With Project cancer risks. Figure 4.3.11 shows a plot of the project's incremental cancer risks compared to the No Project scenario prior to any mitigation. Figure 4.3.12 provides the cancer risk within the immediate vicinity of the project.

As shown in Table 4.3.AA, the estimated cancer risk at the sensitive receptors located within the boundaries of the Specific Plan from the project is 100.7 in one million, above the threshold of 10 in one million. Within the existing residential areas to the west of the project across Redlands Boulevard, the cancer risk from the project is 22.2 in 1 million, also above the threshold of 10 in one million. This is a significant impact and mitigation is required.

A risk level of 1 in a million implies a likelihood that up to one person, out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the specific concentration over 70 years (an assumed lifetime). This risk would be an excess cancer risk that is in addition to any cancer risk borne by a person not exposed to these air toxics.[1]

Mitigation Measures. The mitigation measures previously identified under Impact 4.3.6.2 (**Mitigation Measures 4.3.6.2A**, **4.3.6.2B**, and **4.3.6.2D**) and Impact 4.3.6.3 (**Mitigation Measures 4.3.6.3A** and **4.3.6.3B**) to reduce construction and operational emissions of criteria pollutants would reduce the estimated cancer risks associated with the project.

Level of Significance after Mitigation. Table 4.3.AB summarizes the 70-year lifetime cancer risks after implementation of mitigation for the project-related health risk impacts. As shown, cancer risks

[1] Definition of a 1 in a million cancer risk from the US EPA, Technology Transfer Network Air Toxics, Glossary of Key Terms, Website: www.epa.gov/ttn/atw/natamain/gloss1.html.

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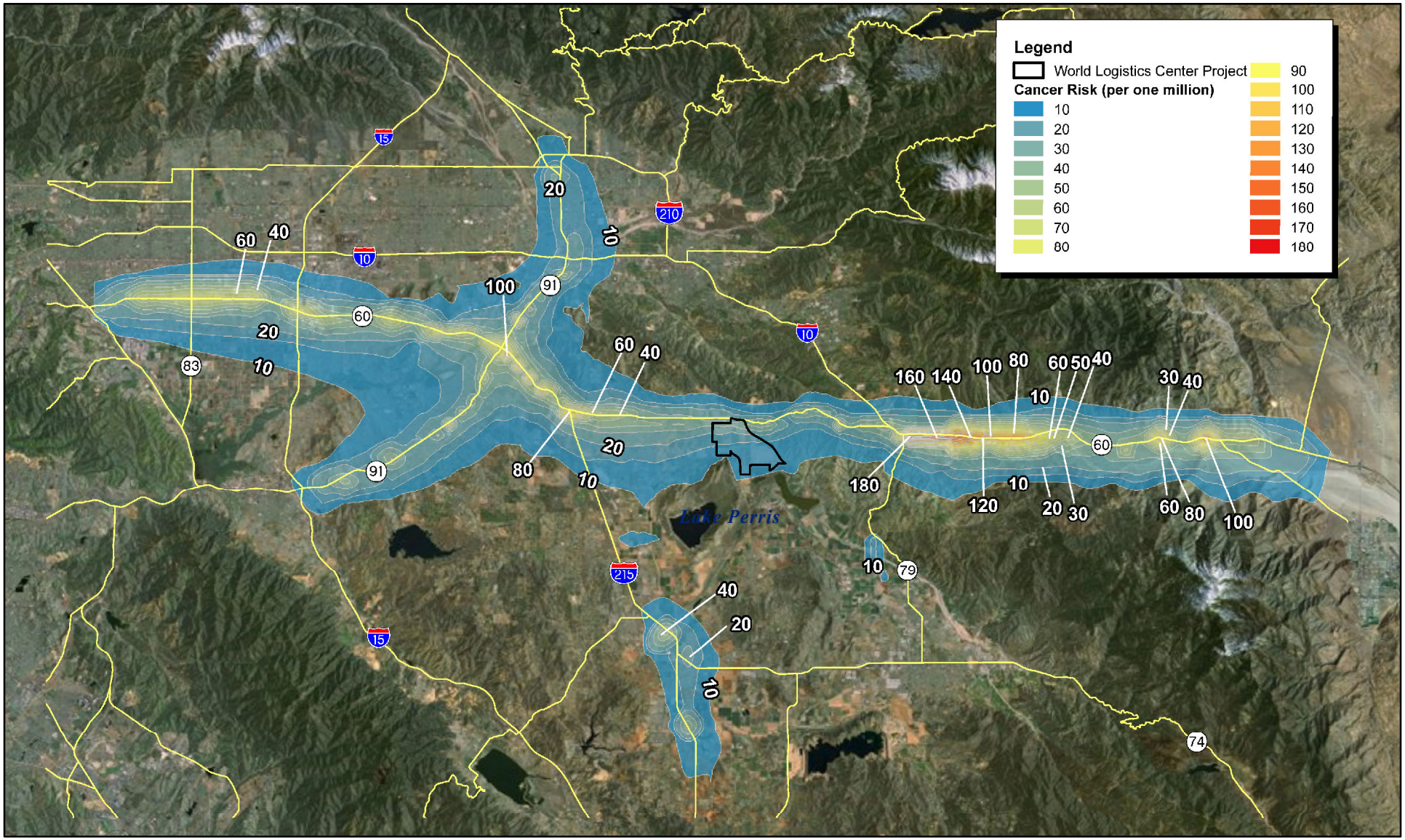

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FIGURE 4.3.9

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SOURCE: County of Riverside, 2011; ESRI World Imagery, 2010; Michael Brandman Assoicates, World Logistics Center Specific Plan, 2012

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World Logistics Center Project
Environmental Impact Report

No Project Cancer Risk

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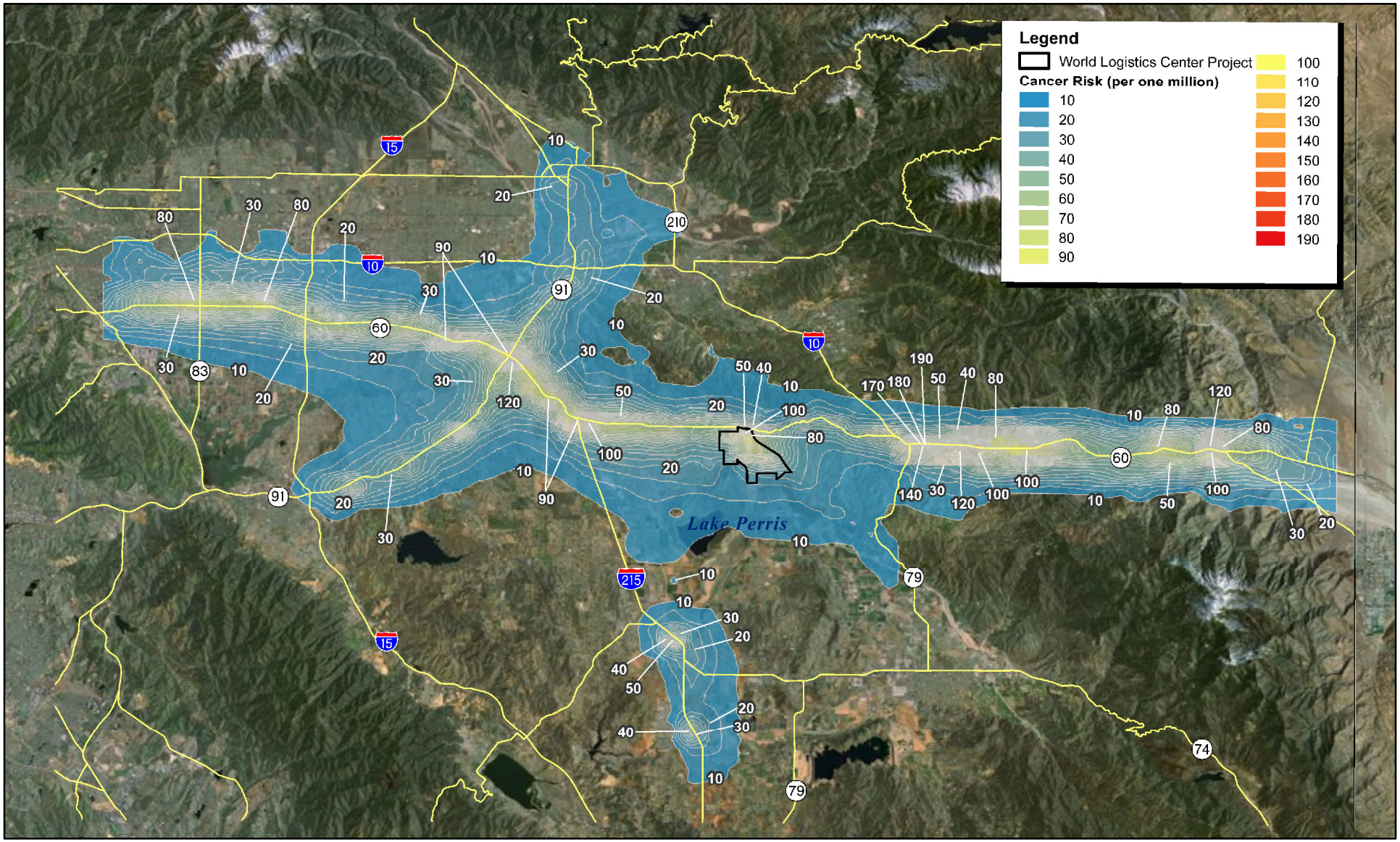

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FIGURE 4.3.10

World Logistics Center Project
Environmental Impact Report

With Project Cancer Risks

SOURCE: County of Riverside, 2011; ESRI World Imagery, 2010; Michael Brandman Assoicates, World Logistics Center Specific Plan, 2012

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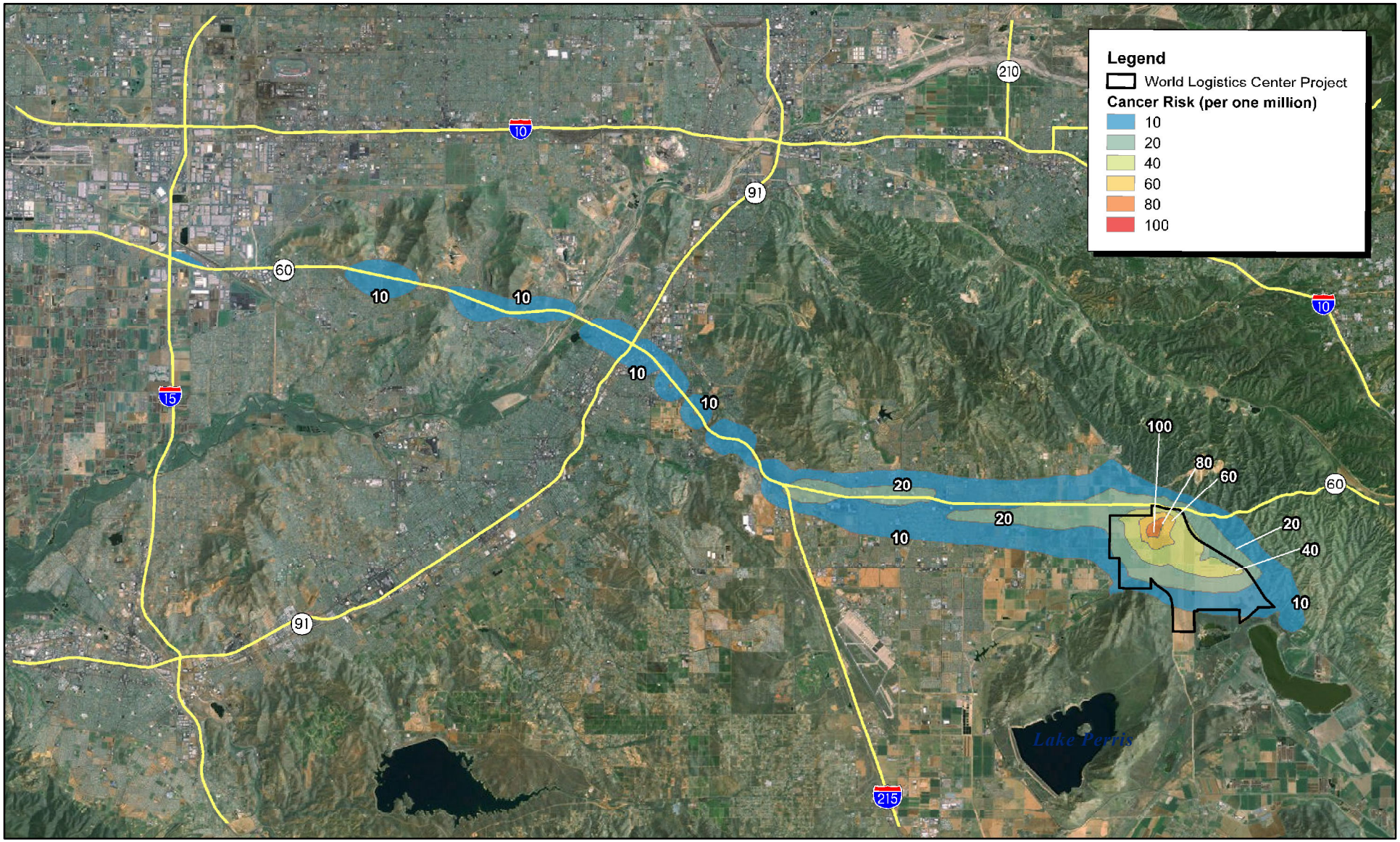

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FIGURE 4.3.11

World Logistics Center Project
Environmental Impact Report

Project Incremental Cancer Risk

SOURCE: County of Riverside, 2011; ESRI World Imagery, 2010; Michael Brandman Assoicates, World Logistics Center Specific Plan, 2012

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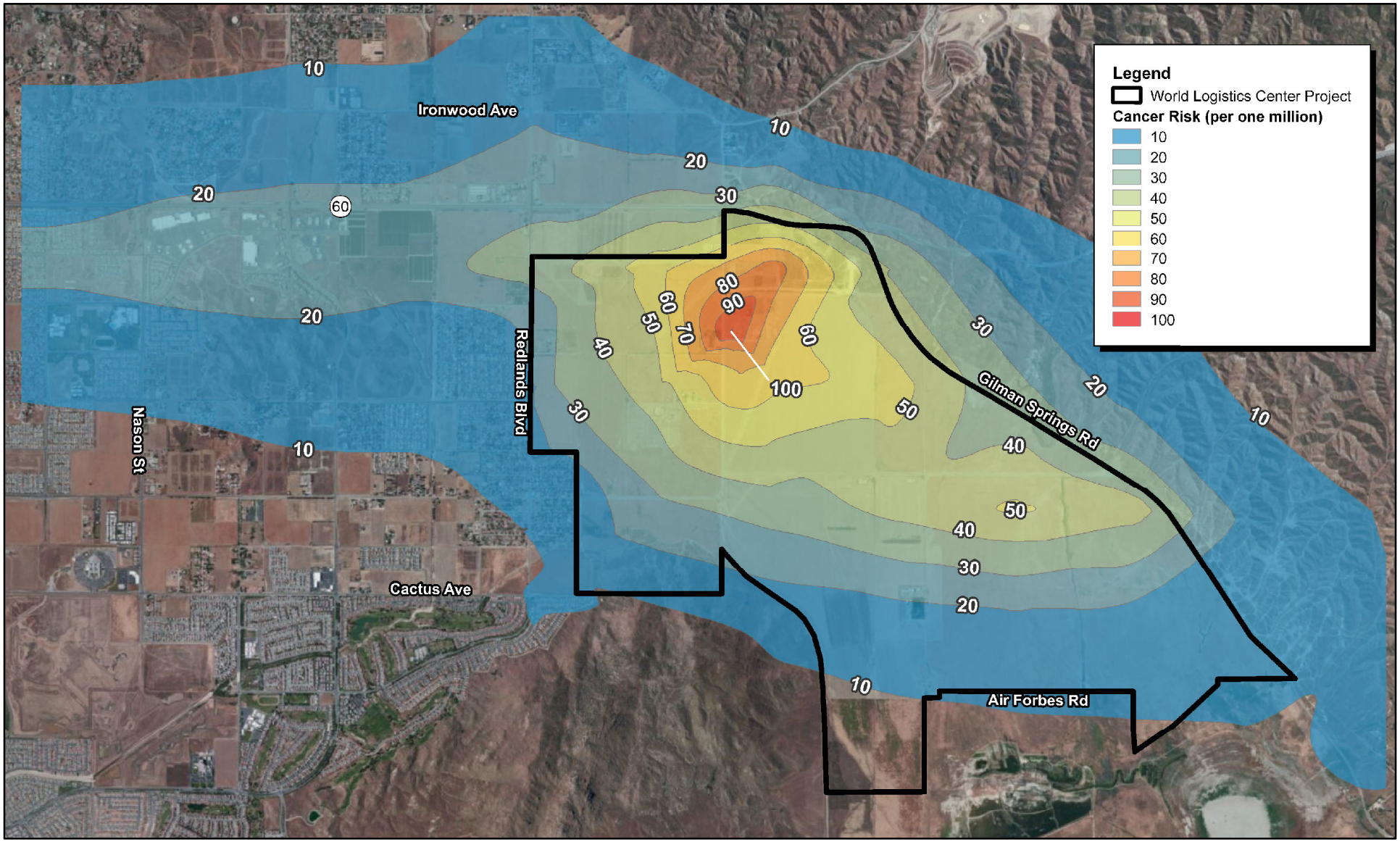

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FIGURE 4.3.12

World Logistics Center Project
Environmental Impact Report

Project Cancer Risk Near Project Area

SOURCE: County of Riverside, 2011; ESRI World Imagery, 2010; Michael Brandman Assoicates, World Logistics Center Specific Plan, 2012

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exceed the threshold of 10 in one million. Despite implementation of mitigation measures, impacts remain significant and unavoidable. Figure 4.3.13 displays the project's cancer risks after mitigation.

Table 4.3.AB: Estimated Cancer Risks for Sensitive Receptors – With Mitigation

Receptor Location	Cancer Risk (risk per million)[A]				Project Increment Exceeds Threshold?
	Scenario 1 No Project	Scenario 2 With Project[B]	Project Increment[B]	Significance Threshold	
Maximum Individual Cancer Risk[C]	183.9	190.2	6.3	10	No
Cancer Risk within the Specific Plan[D]	21.0	97.8	76.8	10	Yes
Cancer Risk in Residential Areas Across Redlands Boulevard[E]	25.0	45.9	20.9	10	Yes

A. 70-year lifetime exposures over the 2012 to 2081 time period.
B. Project's incremental impacts assume unmitigated construction diesel PM emissions.
C. The maximum individual cancer risk is located near the intersection of Interstate 10 and State Route 60 near the City of Beaumont.
D. The maximum affected sensitive receptor located within the Specific Plan is located near the Intersection of Theodore Street, Street E and Street F.
E. The maximum impacted sensitive receptor within the residential areas to the west of the project across Redlands Boulevard is located near the intersection of Redlands Boulevard and Eucalyptus Avenue.

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, January 2013.

4.3.7 Cumulative Impacts

4.3.7.1 Short-Term Air Quality Impacts

The cumulative area for air quality impacts is the Basin. It is generally accepted that if a project exceeds the regional threshold for a nonattainment pollutant, then it would result in a cumulatively considerable net increase of that pollutant and result in a significant cumulative impact. The Basin is currently in nonattainment for ozone, nitrogen dioxide, and particulate matter (PM_{10} and $PM_{2.5}$). The implementation of the project would contribute criteria pollutants to the area during project construction. A number of individual projects in the area may be under construction simultaneously with the proposed project. Depending on construction schedules and actual implementation of projects in the area, generation of fugitive dust and pollutant emissions during construction would result in substantial short-term increases in air pollutants. Each project would be required to comply with the SCAQMD's standard construction measures; however, despite adherence to SCAQMD's standard construction measures and **Mitigation Measures 4.3.6.2A** through **4.3.6.2D** identified previously, project-related emissions would still exceed applicable SCAQMD thresholds for all criteria pollutants. Therefore, cumulative impacts associated with short-term air quality impacts would be significant and unavoidable.

4.3.7.2 CO Hot Spot Impacts

As identified in Section 4.3.5.2, no significant CO hot spot impacts would occur. It is anticipated that CO emissions in the future will decrease with advances in technology. As previously identified, background concentrations in future years are anticipated to continue to decrease as the concerted effort to improve regional air quality progresses. Therefore, CO concentrations in the future years would generally be lower than existing conditions. Based on the analysis, because no CO hot spot impacts would occur, it is reasonable to assume that a less than significant cumulative CO impact would occur.

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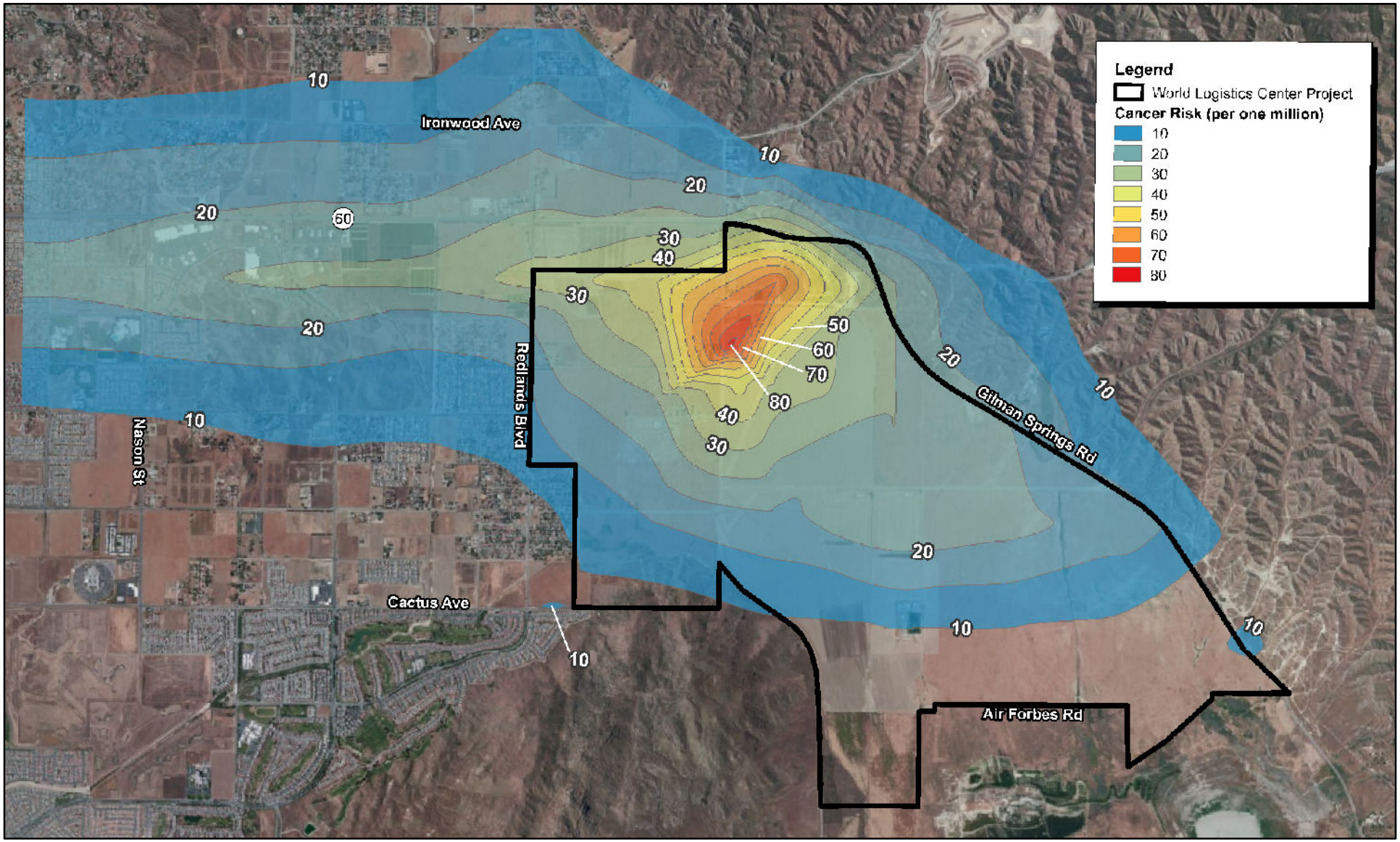

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FIGURE 4.3.13

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World Logistics Center Project
Environmental Impact Report

Project Cancer Risk Near Project Area with Mitigation

SOURCE: County of Riverside, 2011; ESRI World Imagery, 2010; Michael Brandman Assoicates, World Logistics Center Specific Plan, 2012

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4.3.7.3 Long-Term Regional Air Quality Impacts

As previously identified in Tables 4.3.X and 4.3.Y, the long-term operation and the combined construction and operational emissions of the project would contribute to long-term regional air pollutants despite implementation of mitigation measures. The Basin is in nonattainment for ozone, nitrogen dioxide, and particulate matter (PM_{10} and $PM_{2.5}$) at the present time; therefore, the operation of the proposed project would exacerbate nonattainment of air quality standards within the Basin and contribute to adverse cumulative air quality impacts. Implementation of the proposed project would unavoidably contribute to significant long-term cumulative air quality impacts.

4.3.7.4 Health Risk Impacts

As noted from the results shown in previously referenced Table 4.3.AA and Table 4.3.AB, since the project on its own exceeds the SCAQMD's cancer risk significance threshold with mitigation, the project would also result in a cumulatively considerable impact. The cumulative cancer risk noted as the "With Project Scenario (No Project + Project)" is depicted in previously referenced Figure 4.3.13, which shows the maximum cumulative cancer risk is estimated to be 190 in a million and was found to occur near the intersection of Interstate 10 and State Route 60 near Banning, California. Maximum cumulative risk occurs at a different location than the project's maximum risk. At the location of the maximum cumulative risk, the project contributes a risk of approximately 6 in a million or less than 4 percent of the total. The project's maximum cancer risk occurs at the existing sensitive receptors located within the boundaries of the WLC Specific Plan near the intersection of Theodore Street and Street E and Street F. At the location of the project's maximum incremental impact, the project contributes approximately 78 percent of the total cumulative risk.

SCAQMD MATES Studies. The SCAQMD conducted detailed toxic air contaminant emission inventory, air sampling, and dispersion modeling studies: Multiple Air Toxics Exposure Study (MATES-II and (MATES-III). The MATES studies provide health risk estimates of various toxic air contaminants as well as their spatial magnitude and distribution across the Basin. The MATES-III program results indicate that the cancer risks in the area where the project site is located are estimated to be approximately 500 in one million of which diesel PM contributes approximately 84 percent of the total cancer risk. The remaining portion of the total cancer risk consists mainly of exposures to benzene, formaldehyde, acrolein, and 1,3-butadiene. The MATES-III study found that the population weighted cancer risk in the entire Basin was estimated to be 853 in one million.

The MATES risks are estimated using assumptions that are substantially different than used in the assumptions used in the project's impact assessment. The MATES risks represent a snapshot in time based on the inventory of toxic air emissions from the year 2005, which are assumed to remain constant over the next 70 years. In reality, the toxic emissions in the South Coast Air Basin have changed dramatically since 2005 with reductions noted in virtually all toxic levels, including diesel PM emissions. The MATES risks also do not take account of the fact that a number of emission control regulations have been adopted particularly on heavy duty diesel trucks, which will substantially reduce their per mile emissions over the next 10 years. In accordance with guidance from the SCAQMD, the diesel PM emissions from the project as well as from the No Project diesel PM emission sources incorporate the mandated changes in future vehicle emissions. Using comparable emissions assumptions, the MATES risks would be substantially lower than the levels indicated in Table 4.3.AC.

Table 4.3.AC: Comparison of Cancer Risk Values

Receptor Location	Cancer Risk (risk per million)		
	Project Increment	Cumulative	MATES-III
Maximum affected receptor located outside of the boundaries of the WLC Specific Plan	45[1]	193[1]	1,029[2]
Maximum affected sensitive receptor located within of the boundaries of the WLC Specific Plan	76.8	121.1	496
Existing residences located across Redlands Boulevard	20.9	45.9	496

1 The locations of the respective maximum risks are not coincident. The location of the project maximum is near the intersection of Theodore Street and State Route 60. The location of the cumulative maximum is near the intersection of Interstate 10 and State Route 60 near Beaumont, California. At the location of the cumulative maximum, the project's impact is 6 in one million.
2 The MATES maximum risk was focused on the area from the SR-91/SR-60 interchange to Beaumont
Source of project risk: dispersion modeling conducted by Michael Brandman Associates (see tables above).
Source of cumulative risk: dispersion modeling conducted by Michael Brandman Associates (see tables above).
Source of MATES-III risk: South Coast Air Quality Management District (refer to MATES Cancer Risk Exhibit 18.).
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, MBA January 2013.

Figure 4.3.14 displays the cancer risk in the project area as estimated by the SCAQMD MATES-III study and shows the estimated cancer risk on the project site ranges from 497 near the highway to 409 farthest in the southeastern corner of the project site.

Table 4.3.AC displays a summary of the cancer risk values. The project values represent the maximum cancer risk values from project-related diesel emissions. The cumulative values represent the project impact plus the impact of other diesel trucks in the area. The MATES-III values are estimated by the SCAQMD. If the cancer risk values were compared with the project-specific threshold of 10 cancers per million, the cancer risk values would exceed the threshold. In fact, virtually all areas within the SCAQMD would exceed the 10 in a million significance threshold.

The 70-year lifetime cancer risks after implementation of mitigation are summarized in previously referenced Table 4.3.AB for the project-related health risk impacts. As shown, cancer risks exceed the threshold of 10 in one million. The cumulative impacts include the impacts from both the project trucks and motor vehicles and trucks and other motor vehicles from all other existing, planned, and reasonably foreseeable projects. Appling the SCAQMD's cancer risk significance threshold of 10 in a million would result in a cumulative impact that exceeds the threshold. Impacts would remain significant and unavoidable as there are no other feasible mitigations that would reduce health risks associated with implementation of the proposed project.

Worker Exposure. There are a variety of State and Federal programs that protect onsite workers from safety hazards, including high air pollutant concentrations (California Division of Occupational Safety and Health; Centers for Disease Control and Prevention 2012).

On-site workers are not required to be addressed through this health risk assessment process. A document published by the California Air Pollution Control Officers Association (2009), "Health Risk Assessments for Proposed Land Use Projects," indicates that on-site receptors are included in risk assessments if they are persons not employed by the project. Persons not employed by the project would not remain on-site for any significant period. Therefore, a health risk assessment for on-site workers is not required or recommended. With regards to offsite worker exposures, assuming the worker exposure assumptions of 40 years, 8 hours per day, and 49 weeks per year as per the OEHHA recommendations, the highest offsite worker exposure cancer risk due to the project's DPM emissions was found to be 7.0 in a million. This risk level is less than the SCAQMD cancer risk threshold of 10 in one million.

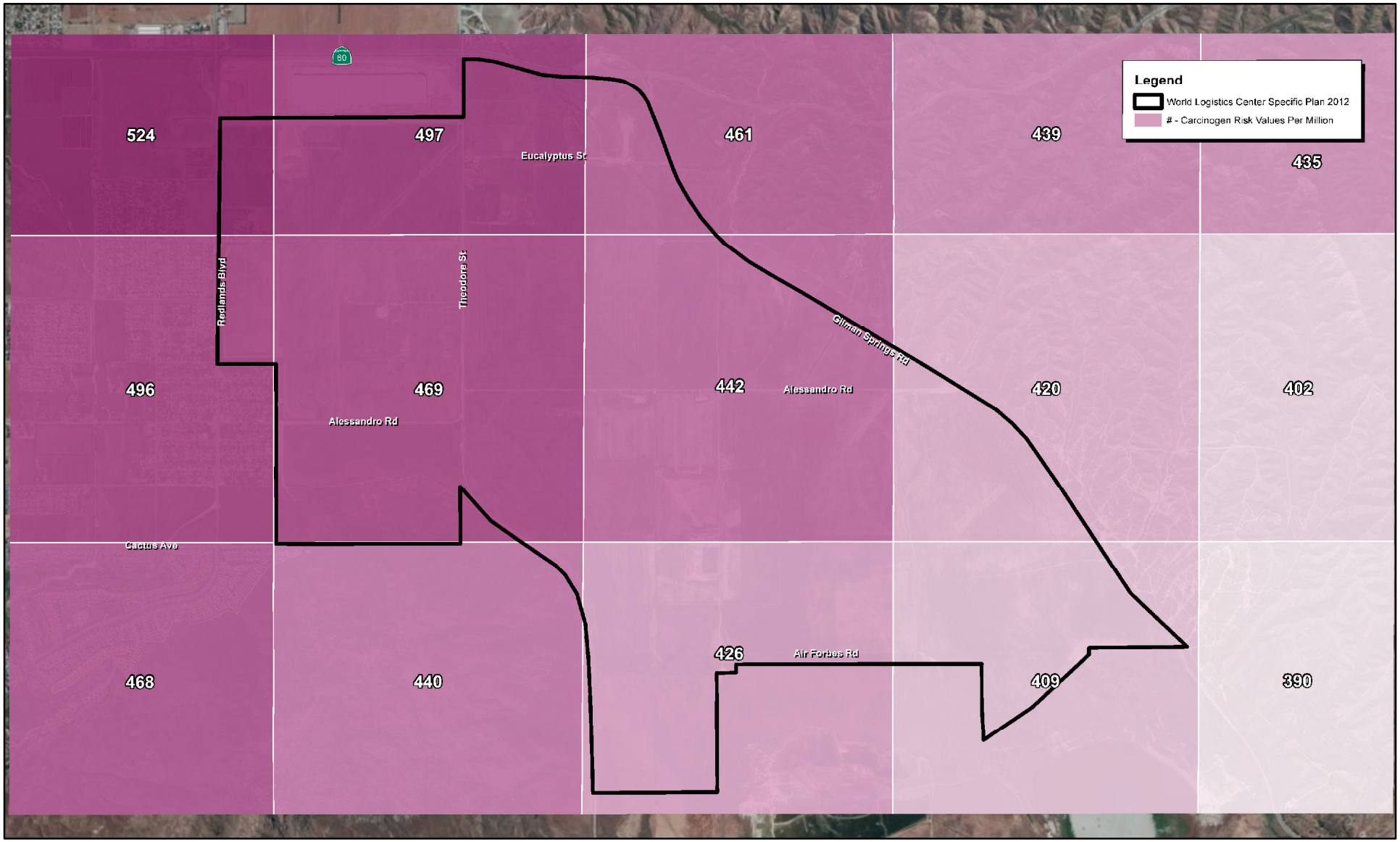

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FIGURE 4.3.14

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World Logistics Center Project
Environmental Impact Report
SCAQMD MATES Cancer Risks for the Proposed Project

SOURCE: County of Riverside, 2011; ESRI World Imagery, 2010; Michael Brandman Assoicates, World Logistics Center Specific Plan, 2012

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Non-Cancer Hazards Impacts. As previously identified, the maximum non-cancer chronic hazard index from the operation of the project is estimated to be less than 0.05 at any location outside of the boundaries of the WLC Specific Plan. This index value is less than the SCAQMD's non-cancer hazard index significance threshold of 1.0. Therefore, the project would have a less than significant non-cancer hazard impact.

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4.4 BIOLOGICAL RESOURCES

This section discusses the potential impacts of development of the proposed project on biological resources. In 2012, Michael Brandman Associates (MBA) conducted a Habitat Assessment, Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis, Habitat Acquisition and Negotiation Strategy (HANS) Review, and California Environmental Quality Act (CEQA) Biological Resources Assessment to comply with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) requirements. The 2012 MBA report summarized the results of several focused surveys conducted since 2004 on the WLC property. Information to evaluate and analyze the proposed project's impacts to biological resources is derived from the following references and studies included in Appendix E:

- *Habitat Assessment, MSHCP Consistency, and HANS Report*, MBA, December 20, 2012.
- *Jurisdictional Delineation of the World Logistics Center,* MBA, October 29, 2012.

In addition, the analysis contained in this section is based on the following reference documents:

- *Conservation Element*, City of Moreno Valley General Plan, adopted in July 2006.
- Western Riverside County MSHCP, adopted October 2003.
- MSHCP Final EIR, certified October 2003.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements that affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

For the purposes of analysis in this section of the EIR, the project area has been divided into three sections. The first includes the Specific Plan area and associated off-site facilities referred to as the Specific Plan area. The second section includes the California Department of Fish and Wildlife (CDFW) conservation area as well as the SDG&E-owned lands and will be referred to as the CDFW Buffer Area.

The third includes a 1,000-foot wide area along the south and east boundaries of the site to examine possible indirect impacts on the San Jacinto Wildlife Area and referred to as the "Off-site Analysis Zone."

The information presented in this section is based on surveys of various portions of the project site conducted by MBA from 2005 to 2012 as referenced above. Development is only proposed on the Specific Plan property; the CDFW and public facilities property are not proposed for development. The habitat assessment information summarized in this section was collected during several site visits to the project area, the CDFW buffer area, the public facilities property, the off-site improvement area, and the 1,000-foot buffer area in 2010 and 2012. Other focused surveys for sensitive species were conducted from 2005 to 2012.

The entire project area is regulated by the MSHCP, which is a regional conservation plan adopted by Riverside County in 2003. The MSHCP establishes core areas identifying important land that supports listed or sensitive species. The MSHCP also establishes criteria cells for land with important resources that need to be protected as part of the overall plan. The MSHCP identifies these critical lands for preservation or for relatively passive open space and utility uses. The MSHCP serves as a regional habitat conservation plan. The MSHCP was created, studied, and adopted by the County, the U.S. Fish and Wildlife Service (USFWS), CDFW, and fourteen cities in Riverside County along with the County. A more complete discussion of the MSHCP is provided in Section 4.4.1.6.

4.4.1 Existing Setting

The project area is located on the fringe of the urbanized development area of the City of Moreno Valley. The majority of the project area has been used for agricultural purposes for decades. Various portions of the area contain structures associated with previous agricultural activities, including residential structures, farm buildings, concrete pads, and fences. There are two small portions of relatively undisturbed vegetation on site, one in the northeastern portion of the site on land owned by Metropolitan Water District, and the second in the southwestern portion of the site in the rocky hills south of Alessandro Road and west of Theodore Street. Many of the off-site facilities such as water and sewer lines and access to potential water reservoirs are proposed along existing rights-of-way in the City of Moreno Valley. Debris basins are proposed along the eastern side of Gilman Springs Road to prevent debris and sediment from the Badlands from disrupting traffic on Gilman Springs Road after significant storm events. The CDFW Conservation Buffer Area south of the Specific Plan area is similar in history and conditions to the project site. The 1,104-acre area has been plowed for decades and portions of it are being actively farmed. The southwestern portion of the Conservation Buffer contains areas of non-native grasslands, although aerial photographs show that the area has been intermittently tilled over last 80 years.

4.4.1.1 Topography and Soils

The project area is located in Rancho Belago, in the eastern portion of the City of Moreno Valley, in western Riverside County. The site is generally located south of SR-60, east of Redlands Boulevard, west of Gilman Springs Road, and north of the San Jacinto Wildlife Area (SJWA). The project site

gently slopes down from north to south, and contains 15 identifiable drainages, as outlined in the jurisdictional delineation.[1]

The soils in the project area have been mapped by the *Soil Survey of Western Riverside Area, California* (1971)[2] and include San Emigdio loam (SgA and SgC) and San Emigdio fine sandy loam (SeC2), with smaller inclusions of Arbuckle loam (AkC), Badland (BaG), Gorgonio loamy sand (GhC), Greenfield sandy loam (GyA, GyC2, GyD2), Hanford coarse sandy loam (HcC and HcD2), Metz loamy sand (MdC and MeD), Metz loamy fine sand (MfA), Metz gravelly sandy loam (MID), Ramona sandy loam (RdD2), Rockland (RtF), San Emigdio fine sandy loam (SeA and SeD2), and San Timoteo loam (SmE2).

The observed surface soils in the area contain evidence of heavy repeated disturbance from agriculture-related activities. None of the soils present in the project area is considered sensitive pursuant to the MSHCP, which includes all of Moreno Valley (i.e., the City is a signatory to the MSHCP).

4.4.1.2 Land Uses

Agricultural fields including dry-land grain farming dominate the project area. Some rural residences are located in the central portion of the area along Theodore Street, and areas of open space are located throughout the southern and northeastern portions of the site. General land uses around the project area include suburban residential development to the west, vacant land and scattered rural residences to the north and east (across SR-60 and Gilman Springs Road, respectively), the SJWA and natural gas distribution facilities to the south, and the Lake Perris State Recreation Area (LPSRA) to the southwest.

4.4.1.3 Vegetation, General

The following data on vegetation in the study area are from the City's *General Plan Final Program EIR*[3] and the *MSHCP Consistency Analysis Report*[4] for the project area. The following describes the vegetation within each of the three main reporting areas: the WLC Project Area (3,300.6 acres); CDFW Conservation Buffer Area (1,104.0 acres); and Off-site Analysis Zone (1,636.6 acres), which includes a 1,000-foot off-site area studied by MBA (2012). Table 4.4.A provides a numerical summary of the various types of vegetation within the WLC planning area.

Table 4.4.A: Summary of Vegetation within the WLC Study Area

Vegetation Type	MBA Project Survey Area		Conservation[1] Areas		Off-site Analysis Zone		Total	
	Acres	%	Acres	%	Acres	%	Acres	%
Extensive Agriculture	2,452.2	74.3	897.2	81.3	118.2	7.2	3,467.6	57.4
Urban/Developed	366.9	11.1	14.7	1.3	136.1	8.3	517.7	8.6
Non-native Grassland	344.1	10.4	151.7	13.7	1,241.1	75.8	1,736.9	28.7
Disturbed	72.5	2.2	20.2	1.8	58.8	3.6	151.5	2.5
Ornamental	2.3	<0.1	3.3	0.3	—	—	—	—
Non-native Subtotal	**3,238.0**	**98.1**	**1,087.1**	**98.5**	**1,554.2**	**94.9**	**5,873.7**	**97.2**
Riversidean Sage Scrub	48.6	1.5	10.8	1.0	39.0	2.4	98.4	1.7

1 *Jurisdictional Delineation of the World Logistics Center,* Michael Brandman Associates, April 23, 2012
2 *Soil Survey of Western Riverside Area, California,* United States Department of Agriculture, November 1971.
3 City of Moreno Valley Final Program EIR Conservation Element, City of Moreno Valley, October 2006.
4 *Habitat Assessment, MSHCP Consistency Analysis, and HANS report*, Michael Brandman Associates, October 2012.

Table 4.4.A: Summary of Vegetation within the WLC Study Area

Vegetation Type	MBA Project Survey Area		Conservation[1] Areas		Off-site Analysis Zone		Total	
	Acres	%	Acres	%	Acres	%	Acres	%
Mule Fat Scrub	8.8	0.3	6.1	0.5	32.1	2.0	47.0	0.8
Non-Vegetated Channel	3.9	0.1	—	—	3.3	0.2	7.2	0.1
Southern Willow Scrub	0.9	<0.1	—	—	6.8	0.4	7.7	0.1
Northern Mixed Chaparral	0.4	<0.1	—	—	—	—	0.4	<0.1
Open Water	—	—	—	—	1.1	<0.1	1.1	<0.1
Native Subtotal	**62.5**	**1.9**	**16.9**	**1.5**	**83.3**	**5.1**	**161.8**	**2.8**
TOTAL	**3,300.5**	**100.0**	**1,104.0**	**100.0**	**1,636.6**	**100.0**	**6,041.1**	**100.0**

[1] includes CDFW and SDG&E land outside of WLC Specific Plan
Source: Summarized from MBA, October 29, 2012

4.4.1.4 Vegetation, MBA Project Survey Area (3,300.6 acres)

There are ten (10) plant communities/vegetation types that occur within the MBA project survey area: extensive agriculture (e.g., dry-land farming), non-native grassland, urban/developed, disturbed, Riversidean sage scrub, mule fat scrub, ornamental, and southern willow scrub (see Figure 4.4.1). Figure 4.4.2 depicts the location of drainage features and Riparian/Riverine areas. The following acreages are for approximately 3,300 acres including the WLCSP (2,710 acres) plus off-site improvements and the existing Highland Fairview Corporate Park (Skechers) property, which was included in some of the historical vegetation surveys for this area. The vegetation of the CDFW/public facilities lands and the Off-site Analysis Zone are addressed following the information on the Project Area (i.e., areas of proposed or existing development).

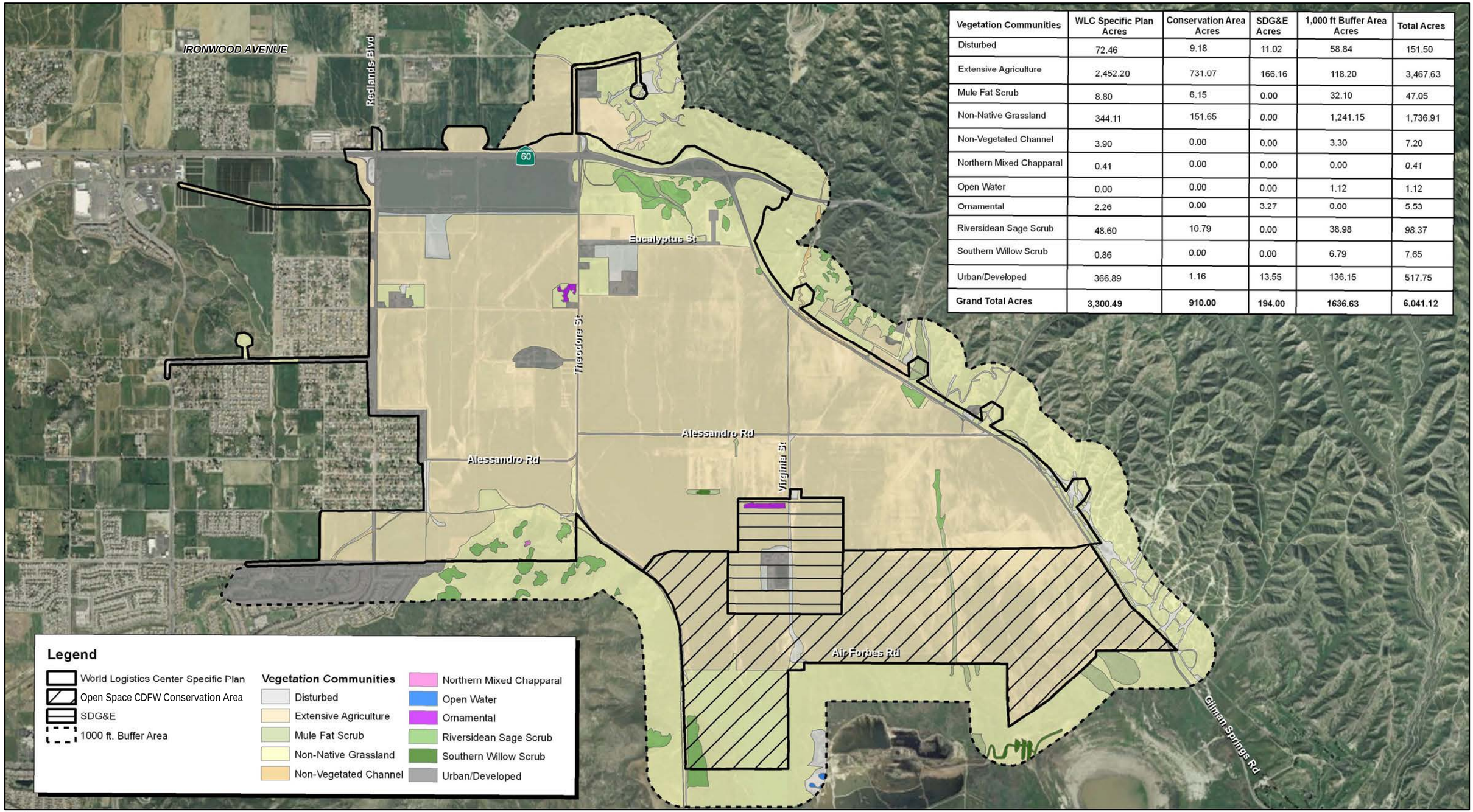
Almost all (3,238 acres or 97%) of the WLC Project Area is disturbed by human activity, mainly dry-land farming, with only 63 acres or 3 percent consisting of native plant communities. The nature and extent of the existing plant communities are discussed below in the order of their presence on the property.

a. Extensive Agriculture

This disturbed plant association covers 2,452.2 acres or 74 percent of the WLC planning area, and includes areas where vegetative cover comprises less than 10 percent of the surface area and where there is evidence of intense soil surface disturbance associated with agricultural uses. Vegetation within disturbed land will have a high predominance of non-native or weedy species that are indicators of heavy, soil disturbance, such as horse nettle (*Solanum elaeagnifolium*), bindweed (*Convolvulus arvensis*), and short-pod mustard (*Hirschfeldia incana*). The extensive agriculture community in the project area also contains various interstitial ditches that are excluded from regular heavy-agricultural equipment disturbances, such as disking.

These areas are less frequently disturbed and contain larger, more established, ruderal vegetation, such as tree tobacco (*Nicotiana glauca*) and tree of heaven (*Ailanthus altissima*), in addition to the fast-growing Russian thistle (*Salsola tragus*), telegraph weed (*Heterotheca grandiflora*), lamb's quarters (*Chenopodium album*), sow thistle (*Sonchus oleraceus*), and short-pod mustard. The interstitial ditch areas do not occupy enough area nor are continuous enough to constitute a separate plant community and are therefore considered part of the extensive agricultural plant community. The majority of the project area is occupied by extensive agriculture and recently disked or heavily grazed, such as in the pasturelands in the northwestern portion of the project area. Most of these areas are disked at least once each year and planted with winter wheat.

Vegetation Communities	WLC Specific Plan Acres	Conservation Area Acres	SDG&E Acres	1,000 ft Buffer Area Acres	Total Acres
Disturbed	72.46	9.18	11.02	58.84	151.50
Extensive Agriculture	2,452.20	731.07	166.16	118.20	3,467.63
Mule Fat Scrub	8.80	6.15	0.00	32.10	47.05
Non-Native Grassland	344.11	151.65	0.00	1,241.15	1,736.91
Non-Vegetated Channel	3.90	0.00	0.00	3.30	7.20
Northern Mixed Chapparal	0.41	0.00	0.00	0.00	0.41
Open Water	0.00	0.00	0.00	1.12	1.12
Ornamental	2.26	0.00	3.27	0.00	5.53
Riversidean Sage Scrub	48.60	10.79	0.00	38.98	98.37
Southern Willow Scrub	0.86	0.00	0.00	6.79	7.65
Urban/Developed	366.89	1.16	13.55	136.15	517.75
Grand Total Acres	**3,300.49**	**910.00**	**194.00**	**1636.63**	**6,041.12**



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SOURCE: Michael Brandman Associates, 08/2012.

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FIGURE 4.4.1

World Logistics Center Project
Environmental Impact Report

Onsite Vegetation Communities

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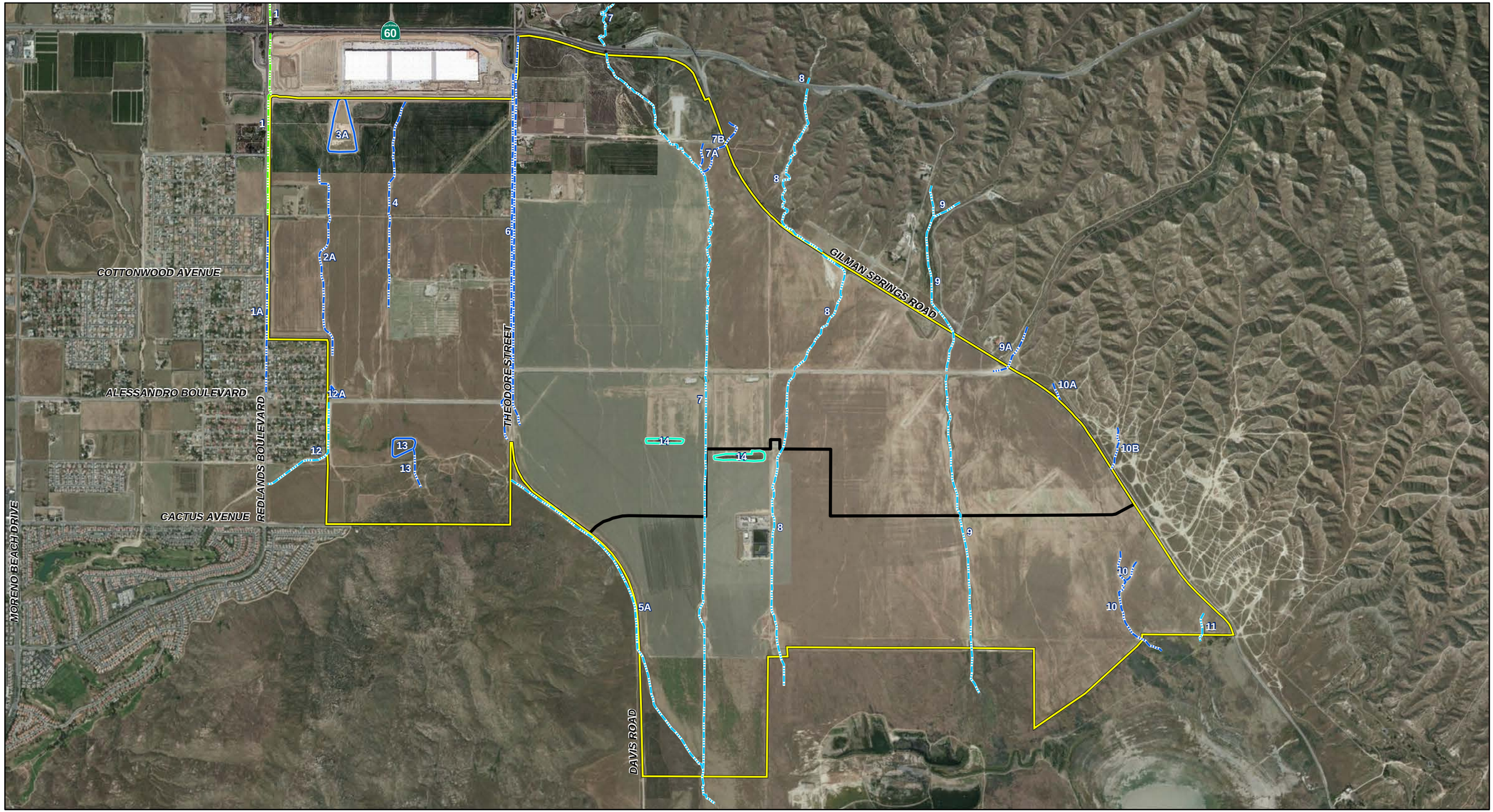

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- Project Boundary
- Specific Plan Boundary
- CDFW/USACE Non-Jurisdictional Detention Basin, RWQCB Jurisdictional Detention Basin
- CDFW/USACE Non-Jurisdictional Detention Basin,
- CDFW Jurisdictional Streambed, USACE/RWQCB Jurisdictional Waters of the U.S.
- CDFW/USACE Non-Jurisdictional Waters
- CDFW Non-Jurisdictional Waters, USACE/RWQCB Jurisdictional Waters of the U.S.

SOURCE: County of Riverside, 2011; ESRI World Imagery & Bing Imagery, 2010; Delineation of Jurisdictional Waters and Wetlands, 2012.

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FIGURE 4.4.3

World Logistics Center Project
Environmental Impact Report

Onsite Drainage Features

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b. Urban/Developed

The urban/developed area includes any form of human disturbance associated with the development of rural residences that has resulted in permanent impacts to natural communities. This land use type comprises approximately 366.9 acres or 11 percent of the WLC project area. By definition, urban/developed areas include roads, buildings and structures, pavement, concrete, landscape vegetation, and windrow vegetation. The isolated occurrences of the urban/developed community occur throughout the study area. The urban/developed area is not associated with any native vegetation and provides only limited habitat value, primarily as cover, nesting, and perching opportunities for birds and common terrestrial wildlife that have adapted to urban, agricultural, or other disturbed areas associated with human activity.

c. Non-native Grassland

Non-native grassland is characterized by a dense to sparse cover of non-native annual grasses often associated with numerous weedy species and native annual forbs (wildflowers), especially in years with plentiful rain. Seed germination occurs with the onset of winter rains. Some plant growth occurs in winter, but most growth and flowering occurs in the spring. Plants then die in the summer, and persist as seeds in the uppermost layers of soil until the next rainy season. Dominant plants include brome (*Bromus* spp.), wild oat (*Avena* spp.), Jimson weed (*Datura stramonium*), and common sunflower. Non-native grassland occupies 344.1 acres or 10.4 percent of the WLC project site, mainly in the southwestern most portion of the project area, adjacent to the CDFW Conservation Buffer land.

d. Disturbed Areas

These areas support sparse ruderal vegetation and an occasional scattering of native plant species. This type of "habitat" is not a plant community and is considered to be of little or no value to wildlife; it does not have a Holland classification code. Disturbed areas include an area in the northern portion of the project site associated with the adjacent rural residences. These areas have been cleared of vegetation. The remaining disturbed areas are associated with dirt access roads and the area surrounding the existing natural gas compressor station. This category occupies 72.5 acres or 2.2 percent of the WLC site.

e. Riversidean Sage Scrub

The dominant species observed within the Riversidean sage scrub (RSS) plant community includes native shrubs such as brittlebush (*Encelia farinosa*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), and coastal goldenbush (*Isocoma menziesii*). Other species observed include four-winged saltbush (*Atriplex canescens*), scalebroom (*Lepidospartum squamatum*), and California aster (*Lessingia filaginifolia*), in addition to non-native grasses such as ripgut brome (*Bromus diandrus*), slender oat (*Avena barbata*), red brome (*Bromus madritensis*), and non-native weedy species such as short-pod mustard. There are 48.6 acres of RSS located within the main drainage feature on the eastern side of the WLC project site (Drainage Feature 9, see Figure 4.4.2). The quality of the habitat on site can generally be considered moderate based on vegetation characteristics such as plant density, diversity of species, and level of disturbance. The stand within Drainage Feature 9 is of low quality due to high levels of disturbance, low density of native species, and sparse coverage. There are small patches of RSS in the northeastern and southwestern corners of the WLCSP project site. Stands of RSS range from fairly open to dense, and are typically dominated by California sagebrush (*Artemisia californica*) and California buckwheat, and are often found integrated with chaparral, scrub, grassland and ruderal type plant communities.

f. Mule Fat Scrub

Mule fat scrub is a widespread natural community throughout California and usually occurs below 2,000 feet. Mule fat scrub occupies approximately 8.8 acres or 0.3 percent of the WLC project area within a portion of Drainage Feature 9 in the southeastern portion of the project area (i.e., the Specific Plan area and the CDFW Conservation Buffer lands). The mule fat scrub in the project area is generally characterized by dense stands of mule fat (*Baccharis salicifolia*) with various shrubs, weeds, and non-native grasses sparsely intermixed.

All areas of mule fat scrub within the drainage feature on the site are relatively undisturbed and contain little trash dumping, agricultural activities, or the presence of domesticated animals. The mule fat scrub plant community provides moderate quality habitat for a number of species. The dominant species observed within the mule fat scrub community were mule fat and tree tobacco. Other species observed include cheeseweed (*Malva parviflora*), wild radish (*Raphanus raphanistrum*), Russian thistle, common sunflower (*Helianthus annuus*), and short-pod mustard, in addition to non-native grasses such as ripgut brome, slender oat, and red brome. Drainage Feature 9 also contains scattered occurrences of scalebroom and four-winged saltbush.

g. Non-vegetated Channel

The non-vegetated channel community occurs within the southwestern corner of the project area, west of Theodore Street and south of Alessandro Road and accounts for 3.9 acres of habitat within the survey area. This habitat contains mainly cobbles and boulders along the channel bottom and banks. The substrate contains sparse sandy deposits with limited vegetative cover and therefore provides low quality habitat for sensitive plant and wildlife species.

h. Ornamental

The area with this vegetation previously contained southern willow scrub, but has recently converted to a dense stand of salt cedar. Wildlife that uses this area has adapted to urban, agricultural, or other disturbed areas associated with human activity and development, and is found within one of two catch basins on the project site. The other is discussed relative to the southern willow scrub community below. This plant group occupies 2.3 acres or less than 0.1 percent of the WLC project site. The vegetation in these areas is artificially irrigated and likely planted several decades ago as part of housing or farm landscaping or gardens. The ornamental area is not associated with any native vegetation and provides only limited habitat value, primarily as cover, nesting, and perching opportunities for birds.

i. Southern Willow Scrub

The southern willow scrub community is characterized by dense, broad-leafed, winter deciduous riparian thickets of vegetation, and is dominated by several species of willow tree. Scattered emergent Freemont cottonwood (*Populus fremontii*) and California sycamore (*Platanus racemosa*) are most closely associated with this community. Most stands are too dense for understory development. This plant community is typically found on loose, sandy, or fine gravelly alluvium soils near stream channels during flood flows. It requires repeated flooding to prevent it from converting to a more mature Southern Cottonwood-Sycamore Riparian Forest community. The CDFW lists it as a sensitive plant community. Plant species identified within the community include sandbar willow (*Salix exigua*), black willow (*Salix goodingii*), mule fat, Freemont's cottonwood, Mexican fan palm (*Washingtonia robusta*), olive (*Olea europea*), phacelia (*Phacelia sp.*), and common sunflower.

There is a single patch of southern willow scrub within the project area that comprises approximately 0.9 acre within an abandoned man-made catch basin south of Alessandro Boulevard west of Virginia

Street (see Figure 4.4.2). This stand is the direct result of nuisance flow and agricultural runoff from concrete cattle containment areas south of the Skechers facility. The concrete cattle containment areas have been removed and the catch basin facilities are no longer functional. Due to the small size of the stand and the geographic isolation from any other riparian habitat in the project area, the plant community on site provides limited staging habitat for migrating avian species, and only poor quality habitat for species commonly occurring in riparian-type habitats.

j. Northern Mixed Chaparral

The northern mixed chaparral community is characterized by broad-leaved shrubs forming dense, often nearly impenetrable vegetation dominated by scrub oak (*Quercus dumosa*), chamise (*Adenostoma fasciculatum*), and any one of several species of manzanitas (*Arctostaphylos)* and lilacs (*Ceanothus*). Plants are typically deep-rooted and little or no understory vegetation is present. This vegetation community is adapted to repeated fires, to which many species respond by stump sprouting. A dense cover of annual herbs may appear during the first growing season after a fire, followed in subsequent years by perennial herbs, short-lived shrubs, and reestablishment of dominance by the original shrub species. There is 0.4 acre of northern mixed chaparral located on a north-facing slope of the hills at the southwestern corner of the project area.

4.4.1.5 Vegetation, CDFW Conservation Buffer Area

Seven plant communities/land use types occur within the 1,104-acre CDFW Conservation Buffer Area: disturbed, extensive agriculture (e.g., dry-land farming), mule fat scrub, non-native grassland, Riversidean sage scrub, and urban/developed. The CDFW Conservation Buffer consists of the 910 acres of land that was placed into conservation in 2001 and the 194-acre SDG&E facility. The CDFW Conservation Buffer Area has been used for agricultural pursuits over many years, but there are a few isolated areas that have been left fallow and these have begun to return to non-native grassland and Riversidean sage scrub.

a. Extensive Agriculture

The “extensive agriculture” plant community includes areas where native vegetative cover comprises less than ten percent of the surface area and where there is evidence of intense soil surface disturbance associated with agricultural uses. Vegetation within disturbed land will have a predominance of non-native or weedy species that are indicators of heavy soil disturbance, such as horse nettle, bindweed, and short-pod mustard. The extensive agriculture community in the project area also contains various interstitial ditches that are excluded from regular heavy-agricultural equipment disturbances, such as disking. These areas are less frequently disturbed and contain larger, more established, ruderal vegetation, such as tree tobacco and tree of heaven, in addition to the fast-growing Russian thistle, telegraph weed, lamb’s quarters, sow thistle, and short-pod mustard. The existing interstitial ditch areas do not occupy enough acreage nor are they continuous enough to constitute a separate plant community; therefore, they are considered part of the extensive agricultural plant community.

The majority of the CDFW Conservation Buffer Area, approximately 897 acres, is occupied by extensive agriculture. These areas include regularly disked areas used for dry-land farming. These areas of extensive agriculture appear to be disked at least once each year and planted with winter wheat, and may support wintering raptors and game birds.

b. Non-native Grassland

The non-native grassland community is characterized by a dense-to-sparse cover of non-native annual grasses often associated with numerous weedy species and native annual forbs (wildflowers), especially in years with plentiful rain. Seed germination occurs with the onset of winter rains. Some plant growth occurs in winter, but most growth and flowering occurs in the spring. Plants then die in the summer and persist as seeds in the uppermost layers of soil until the next rainy season. Dominant plant genera typically found within non-native grasslands include brome, wild oat, fescue (*Vulpia* sp.), and barley (*Hordeum* sp.).

Non-native grassland occupies approximately 151.7 acres of the southwestern most portion of the CDFW Conservation Buffer Area northwest of the SJWA. Plant species observed within the non-native grassland community on the study area include non-native grasses such as ripgut brome, slender oats, and red brome, and weedy species such as shortpod mustard, Jimson weed, and common sunflower.

c. Disturbed

Disturbed areas are characterized by a lack of significant vegetative cover, as the result of previous human disturbance or significant natural disturbance. Although such areas may exhibit patches of sparse ruderal vegetation and an occasional scattering of native plant specimens, this type of "habitat" is not a plant community and is considered to be of little or no value to wildlife. This land type occupies 20.2 acres of the Conservation Buffer Area. Disturbed areas within the CDFW Conservation Buffer Area are associated with dirt access roads and the area surrounding the existing natural gas compressor station.

d. Urban/Developed

The urban/developed area includes any form of human disturbance that has resulted in permanent impacts to natural communities. This land use type comprises approximately 14.7 acres of the project area. By definition, urban/developed areas include roads, buildings and structures, pavement, concrete, landscape vegetation, and windrow vegetation. The urban/developed community within the CDFW Conservation Buffer is limited to the SDG&E compressor station area and associated paved access roads.

e. Riversidean Sage Scrub (RSS)

Riversidean sage scrub is a native plant community that is widespread throughout Riverside County and typically consists of low-growing, drought deciduous and evergreen shrubs that occur on steep and/or gentle sloping topography. This community may be found on xeric sites with severely drained soils, or clays that release stored soil moisture slowly. Stands of RSS range from fairly open to dense, and are typically dominated by California sagebrush and California buckwheat, and are often found integrated with chaparral, scrub, grassland and ruderal type plant communities.

There is one area of 10.8 acres within the CDFW Conservation Buffer that contains RSS. This is located in the extreme southwestern corner of the CDFW Buffer Area along Davis Road. The dominant species observed within the RSS plant community in the area include native shrubs such as brittlebush, California buckwheat, black sage, and coastal goldenbush. Other species observed include four-winged saltbush, scale broom, and California aster, in addition to non-native grasses such as ripgut brome, slender oat, red brome, and non-native ruderal species such as short-pod mustard.

f. Mule Fat Scrub

Mule fat scrub is a riparian scrub community that is strongly dominated by mule fat and is typically associated with intermittent stream channels and moderate depth to the water table. Mule fat scrub is a widespread natural community throughout California and usually occurs below an elevation of 2,000 feet. Mule fat scrub occupies approximately 6.1 acres of the CDFW Conservation Buffer Area within a portion of Drainage Feature 9 south of Alessandro Boulevard. The mule fat scrub in the project area is generally characterized by dense stands of mule fat with various shrubs, weeds, and non-native grasses sparsely intermixed.

All areas of mule fat scrub within the drainage features on site are relatively undisturbed and contain little trash dumping, agricultural activities, or the presence of domesticated animals. The mule fat scrub plant community on the study area provides moderate quality habitat for a number of common wildlife species.

The dominant species observed within the mule fat scrub community are mule fat and tree tobacco. Other species observed include cheeseweed, wild radish, Russian thistle, common sunflower, and short-pod mustard, in addition to non-native grasses such as ripgut brome, slender oat, and red brome. Drainage Feature 9 also contains scattered occurrences of scale broom and four-winged saltbush.

g. Ornamental

The ornamental area includes a dense stand of salt cedar. This vegetation community is found within one of two catch basins within the study area. This land use type comprises approximately 3.3 acres of the study area. The vegetation in catch basin is likely naturally occurring and likely began growing several decades ago. The ornamental area is not associated with any native vegetation and provides only limited habitat value, primarily as cover, nesting, and perching opportunities for birds and common terrestrial wildlife that have adapted to urban, agricultural, or other disturbed areas associated with development.

4.4.1.6 Vegetation, Off-site Analysis Zone

Nine plant communities/land use types occur within the 1,636.6-acre off-site analysis zone. This area was evaluated as an additional 1,000-foot zone beyond the boundaries of the project area to consider potential off-site indirect impacts associated with noise, light, water quality, and air quality concerns beyond the boundary of the actual project area. Only the northern mixed chaparral community is not represented (see Figure 4.4.1).

The study area contains land that has been previously disturbed as a result of development and off-road vehicle trails, minor portions of the duck club ponds, and non-native grassland covered hills.

a. Non-native Grassland

Non-native grassland occupies approximately 1,241.1 acres of the CDFW Conservation Buffer Area and is the dominant vegetation type. Plant species observed within the non-native grassland community in the Off-site Analysis Zone include non-native grasses such as ripgut brome, slender oats, and red brome, and weedy species such as shortpod mustard, Jimson weed, and common sunflower.

b. Urban/Developed

The urban/developed area includes any form of human disturbance that has resulted in permanent impacts to natural communities. It occupies 136.1 acres and is scattered throughout the CDFW Conservation Buffer Area associated with the residential community south of Cactus Avenue in the extreme southwestern portion of this area.

c. Extensive Agriculture

Approximately 118.2 acres of extensive agriculture is present within the buffer. It is located on the east side of Gilman Springs Road, just south of the future Eucalyptus Street intersection.

d. Disturbed

Disturbed areas are characterized by a lack of significant vegetative cover, as the result of previous human disturbance or significant natural disturbance. Although such areas may exhibit patches of sparse ruderal vegetation and an occasional scattering of native plant specimens, this type of "habitat" is not a plant community and is considered to be of little or no value to wildlife. Disturbed areas occupy 58.8 acres of the Off-site Analysis Zone and include dirt access roads and off-road vehicle trails on the east side of Gilman Springs Road.

e. Riversidean Sage Scrub

Riversidean sage scrub occupies 39 acres of the Off-site Analysis Zone and is in small patches scattered throughout the CDFW Conservation Buffer Area and on the east side of Gilman Springs Road.

f. Mule Fat Scrub

Mule fat scrub occupies approximately 32.1 acres of the Off-site Analysis Zone and is found within a drainage course located west of Gilman Springs Road and south of the CDFW Conservation Buffer Area and just north of the margins of Mystic Lake.

g. Southern Willow Scrub

There is a single 6.8-acre patch of southern willow scrub located in a drainage course located between the main portion of Mystic Lake and the duck ponds in the extreme southern portion of the buffer.

h. Non-Vegetated Channel

Non-vegetated channel occurs within the northeastern corner of the CDFW Conservation Buffer Area north of Gilman Springs Road (upper end of Drainage Feature 9) and accounts for 3.3 acres of habitat.

i. Open Water

Open water occurs in the southern portion of the CDFW Conservation Buffer Area south of the SDG&E area. These areas are specifically associated with the artificially created duck ponds located

within the open space CDFW Conservation Buffer Area. These areas are characterized by open water with little to no vegetative cover and occupy 1.1 acres.

4.4.1.7 Wildlife, Specific Plan Area

Despite the disturbed nature of the WLC planning area (i.e., 97% non-native vegetation), common wildlife species that have adapted to human-modified landscapes are present and were observed on site, including the red-tailed hawk (*Buteo jamaicensis*), house finch (*Carpodacus mexicanus*), mourning dove (*Zenaidia macroura*), common raven (*Corvus corax*), coyote (*Canis latrans*), desert cottontail (*Sylvilagus audubonii*), and California ground squirrel (*Spermophilus beecheyi*). A complete list of species observed on site is included in Appendix B of the *MSHCP Consistency Analysis* contained in Appendix E to this EIR. Utilization of agricultural areas by wildlife varies greatly depending upon the type of crop and the time of the year. Due to the amount of agricultural activities over the past decades, there is a limited number of species that are present although many species discussed above occur along the margins of the agricultural fields and along the limited drainage areas. In addition to the more common species discussed above, the San Diego gopher snake (*Pituophis cantenifer annectens*), white-tailed kite (*Elanus leucurus*), barn owl (*Tyto alba*), loggerhead shrike (*Lanius ludovicianus*), and Botta's pocket gopher (*Thomomys bottae*) were recorded to occur within the WLCSP and the off-site facility areas. There is a robust passerine bird population at the site with a severely limited number of mammals, largely due to the extensive agricultural activities.

4.4.1.8 Wildlife, CDFW Conservation Buffer Area

The adjacent San Jacinto Wildlife Area (SJWA) has a very high diversity and abundance of bird species, and is recognized nationally and internationally for its bird population. The amount and diversity of birds in the SJWA contributes to a large degree to the number of different kinds of birds observed in the agricultural areas on the project site and within the CDFW Conservation Buffer Area. Numerous bird and mammal species occur within these agricultural areas and fallow fields may provide foraging opportunities for raptors. The number of passerine birds is high and includes both year-round species and transitory birds associated with the SJWA. There number of mammals is limited probably due to the extensive agricultural pursuits of the past.

4.4.1.9 Wildlife, Off-site Analysis Zone

MBA evaluated this area using direct observations, literature reviews, and information from studies performed on adjacent areas. The area adjacent to Gilman Springs Road on the south end of the planning area was examined by MBA biologists in 2007 (unpublished Burrowing Owl Survey Report, MBA). The distribution of wildlife species at this adjacent 1,636-acre area was similar to the WLCSP and the CDFW Conservation Buffer Area, with a very limited distribution of mammals (primarily burrowing mammals) and a high incidence of passerine birds.

4.4.1.10 Wildlife, SJWA and Mystic Lake

The SJWA is 20,000 acres of man-made wetlands and open water ponds and is the first state wildlife area to utilize reclaimed water to enhance its wetlands. It is located south of the project area and the CDFW Conservation Buffer Area. The SJWA contains several habitat areas, including wetlands, restored riparian habitat, grasslands, sage scrub, and marshes and provides habitat for the several threatened and endangered wildlife species including Stephens' kangaroo rat, Swainson's hawk, and bald eagle. The SJWA contains an important inland wetland, which provides habitat for many wetland plant species and wildlife species including aquatic birds, amphibians, and fish.

According to the CDFW:

> *"The San Jacinto Wildlife Area public lands currently total about 20,000 acres. The Wildlife Area shares a common boundary with the 8,800-acre Lake Perris State Recreation Area. The majority of the Wildlife Area is located in unincorporated Riverside County. The northern portion of the Wildlife Area is included within the city limits of Incorporated City of Moreno Valley. Davis Road, an unimproved dirt road, bisects the Wildlife Area in a north-south direction. This roadway is maintained by DFG on the north and the County of Riverside on the south. Surrounding land users are primarily involved in agriculture principally dry land wheat farming and dairy operations. The private lands immediately north of the Wildlife Area are currently farmed and are included within the City of Moreno Valley jurisdiction. The 150 acre Double Bar "S" Horse Ranch represents the only substantial in-holding within the current Wildlife Area boundary. To the east lies Mystic Lake bed, the most northern portion of which has recently been Incorporated into the Wildlife Area. The south eastern parts of the lake bed remain in private ownership and are used for agriculture when not inundated with flood waters from the San Jacinto River. Numerous privately owned hunt clubs (waterfowl and game bird hunting clubs) are also located on the current eastern boundary of the Wildlife Area. The unincorporated rural communities of Lakeview and Nuevo are located to the south. Much of the land on the immediate southern boundary of the Wildlife Area is currently farmed by the Amway Corporation Nutrilite Division."*

The SJWA is a significant resource for avian species and other wildlife. In 1981–82, the State Wildlife Conservation Board initially purchased 15,000 acres of the Mystic Lake area as mitigation for habitat impacts associated with the construction of the State Water Project (SWP). This area was designated as the SJWA. In 1995, the Board acquired an additional 921 acres of upland farmland within the southern portion of the Moreno Highlands Specific Plan property to incorporate into the SJWA. In 2001, the Board acquired an additional 274 acres in this same area. This land was purchased to provide a buffer between the land surrounding Mystic Lake and the planned urban development within Moreno Valley. The Board action on this purchase indicated the land was to "facilitate restoration of historic water flows back into the lakebed and allow for reversion back to wetlands during wet years, and areas of low vegetation cover during dry years, all providing significant habitat for species using the SJWA, including a number of state and federally listed species."[1]

CDFW Conservation Buffer Area. The entirety of the State-owned land south of the project area is referred to as the SJWA. However, the land purchased out of the Moreno Highlands Specific Plan is referred to in this EIR as the CDFW Conservation Buffer Area to denote the reason for its original purchase. The 1,195 acres acquired by the Wildlife Board during the past twenty years was intended to serve as an effective buffer between the SJWA and the development expected to occur north of the SJWA area (the present mixed-use Moreno Highlands Specific Plan). Currently, this acreage provides not only a buffer area, but also provides open space for raptor and bird foraging habitat, and is actively farmed under CDFW contract. Approximately 909 acres of the land within the project area are identified as Conservation Area (total 1,085 acres) and are owned by the CDFW and support vegetation identified as "Extensive Agriculture" in Section 4.4.1.3, *Vegetation*. The proposed project will permanently designate this CDFW Conservation Buffer Area as Open Space under the City General Plan. It is anticipated the State would maintain its function as a buffer and also as foraging habitat for raptors as long as it is regularly tilled. There are no plans to alter the current agricultural activities on this property.

Mystic Lake. This is a large crescent-shaped, intermittent water body within the SJWA, which serves as a significant wetland habitat for numerous birds including migratory waterfowl such as ducks, grebes, and occasional geese. Seasonal upland game hunting is allowed within the SJWA and Lake Perris State Recreation Area. Other uses of the SJWA include wildlife observation, nature study,

[1] Wildlife Conservation Board minutes from May 18, 2001.

fishing, hiking, photography, field trials, hunting dog training classes, and conservation of wildlife and wildlife habitat. Bird species commonly found at various times of the year in the SJWA include a wide variety of ducks, shore birds and gulls, upland game species, and a variety of passerine birds including those found in the project area and the CDFW Conservation Buffer area.

4.4.1.11 Sensitive Biological Resources

Special status species are plant and animal species or subspecies for which there is concern for population sustainability or that are otherwise considered worthy of consideration for protection by the CDFW, USFWS, local agencies, or special interest groups, such as the California Native Plant Society (CNPS). In addition to species federally or State listed as Endangered or Threatened, these include species that are Candidates or Proposed for listing as Endangered or Threatened, plant species that are State listed as Rare, animal species designated as Fully Protected or Species of Special Concern by the State of California, and plant species designated as California Rare Plant Rank (RPR) 1A, 1B, or 2. California Rare Plant Ranks are assigned by a committee of government agency and non-governmental botanical experts, including experts from CNPS, and are not official State designations of rarity status. Legal protection for sensitive species varies widely, from the comprehensive protection extended to federally-listed threatened and/or endangered species to species without legal protection at the current time.

4.4.1.12 Western Riverside County Multiple Species Habitat Conservation Plan

The MSHCP for western Riverside County is an element of the Riverside County Integrated Project (RCIP), which is an integration of land use, transportation, and conservation planning and implementation to develop a consensus for the future development of Riverside County. The MSHCP is designed to protect over 150 species and conserve over 500,000 acres of land in western Riverside County. The MSHCP was conceived, developed, and is being implemented specifically to address the direct, indirect, cumulative, and growth-related effects on covered species resulting from build out of planned land use and infrastructure, including the proposed project.

The MSHCP involves efforts by the County, State, and Federal governments, the fourteen cities in western Riverside County, and private and public entities engaged in construction activities that potentially affect the species covered under the MSHCP. The plan specifies an obligation of local projects, both public and private, to mitigate their impacts on species. The MSHCP includes incentives for conservation or the purchase of properties from willing sellers and will eventually result in a Conservation Area in excess of 500,000 acres, focusing on conservation of 146 species. The MSHCP Conservation Area includes approximately 347,000 acres of existing Public/Quasi-Public Lands and approximately 153,000 acres of Additional Reserve Land.

The MSHCP Conservation Area[1] is made up of existing and proposed “Core” areas, or large assemblages of public land that contain important habitat and listed or sensitive species populations. The core areas are connected by a series of “linkages” or “corridors” identified across public and private lands to allow wildlife movement and genetic connectivity and diversity among the core areas. The MSHCP identifies conservation areas through a series of “criteria cells” within which certain biological resources (i.e., vegetation and/or physical features) should be preserved over the long term. The MSHCP also establishes various processes to evaluate land development proposals in light of its goals and requirements. The MSHCP also identifies when studies need to be performed within certain criteria cells to determine the presence or absence of listed or otherwise sensitive species of plants or animals.

[1] Not to be confused with the Conservation Area within the WLC planning area

The project site is located within the Reche Canyon/Badlands Area Plan of the MSHCP. Portions of the project area occur in 14 criteria cells of the MSHCP. Therefore the project applicant, the City, and the County[1] are required to use the Habitat Acquisition Negotiation Strategy (HANS) process established in the MSHCP to identify and acquire habitat as part of the development review process. The HANS process involves negotiations between a landowner and the Western Riverside County Regional Conservation Authority (RCA) so the County can acquire land with important habitat or other biological resources while providing fair compensation and/or reasonable development opportunities on the remaining land for the landowner.

The southern portion of the project area (910 acres owned by the CDFW) is the northern portion of the SJWA, which is classified as "Public Conserved Land" under the MSHCP. MSHCP Proposed Core 3 is located to the north and east of the project area, and Existing Core H is located to the south. Small portions of the project area fall within both Core Areas (see Figure 4.4.3). No existing or proposed linkage or constrained linkage areas are within or adjacent to the project area.

The 2012 MBA report focused on sensitive resources that could potentially occur in the overall planning area, including nine Criteria Area plant species, burrowing owl (*Athene cunicularia*), and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*).

4.4.1.13 Endangered, Threatened, and Special Status Species

It is typical to base the presence or likelihood of presence of sensitive species within a specific area on the following criteria:

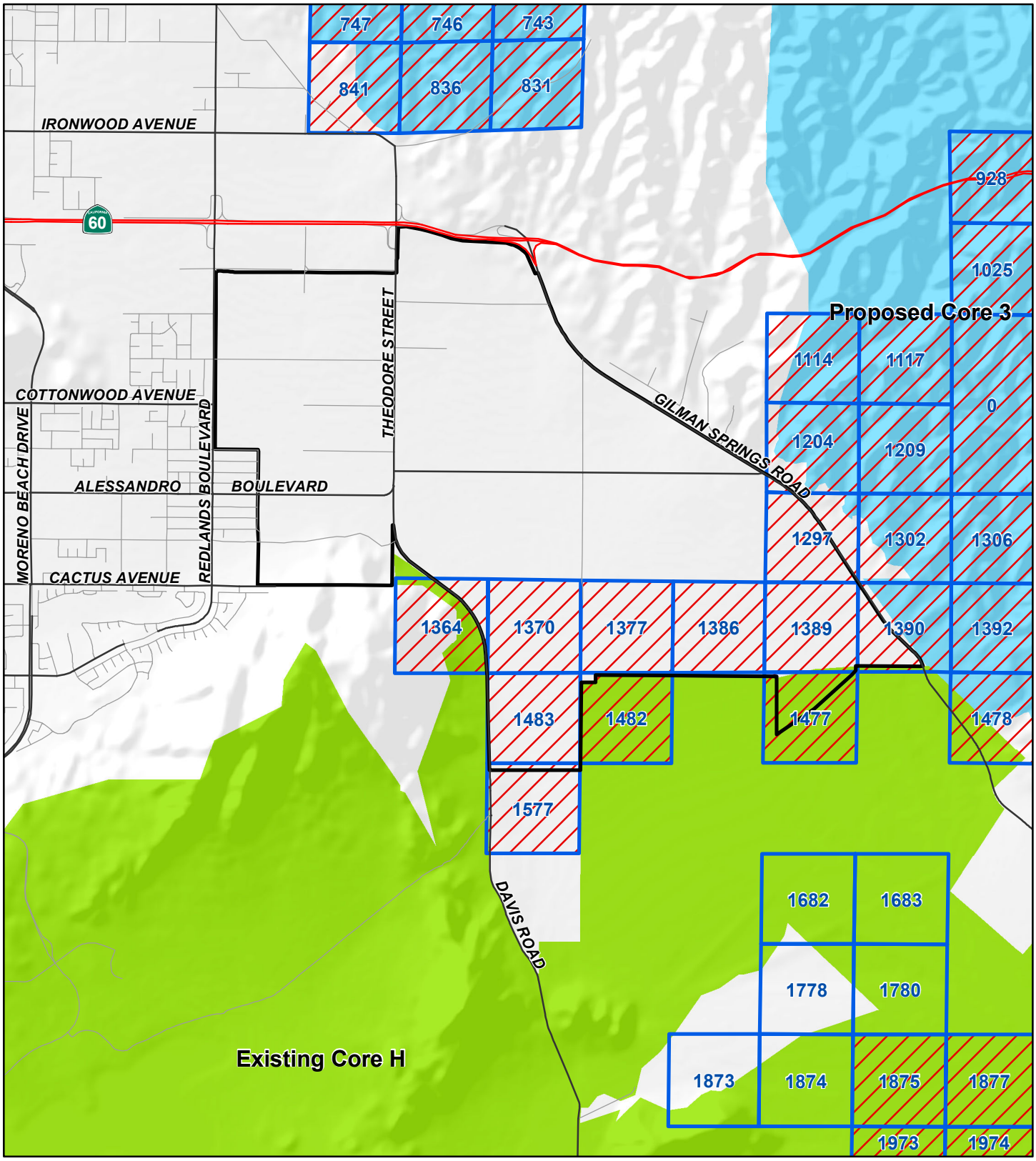
- Direct observation of the species or its sign in the project area or immediate vicinity during site-specific surveys or reported in previous biological studies;
- Sighting by other qualified observers;
- Record reported by the Natural Diversity Data Base (NDDB) published by the CDFW; and/or
- Presence or location of specific species lists provided by private groups (e.g., CNPS).

Threatened and Endangered Species. The USFWS and the CDFW list species as Threatened or Endangered under the Federal and California Endangered Species Acts (FESA and CESA, respectively). An Endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A Threatened species is one that is likely to become endangered in the foreseeable future.

The USFWS may designate "critical habitat" that identifies specific areas, both occupied and unoccupied, that are often necessary to the conservation of a listed species. To make a determination of Critical Habitat, biologists consider physical and biological habitat features needed for life and successful reproduction of the species which include:

- Space for individual and population growth and for normal behavior;
- Cover or shelter;
- Food, water, air, light, minerals, or other nutritional or physiological requirements;
- Sites for breeding and rearing offspring; and
- Habitats that are protected from disturbances or are representative of the historic geographical and ecological distributions of a species.

[1] Western Riverside County Regional Conservation Authority (RCA)



LSA

FIGURE 4.4.3

Project Boundary
CriteriaCells
Reche Canyon/Badlands Area Plan
Existing Core
Proposed Core

0 2,000 4,000
FEET

World Logistics Center Project
Environmental Impact Report

MSHCP Areas

SOURCE: Riverside County, 2011.

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Critical Habitat areas may require special management considerations or protections.

The project site is not located within any USFWS designated Critical Habitat area, and no Threatened or Endangered species were observed within the project site during the field surveys.

Table 4.4.B identifies Threatened and Endangered species identified in the City's *General Plan Final EIR,* and in searches of the CDFW's *California Natural Diversity Data Base* (CNDDB) and the CNPS's *Electronic Inventory of Rare and Endangered Vascular Plants of California* that may potentially occur in the WLC planning area and the WLCSP project area (land proposed for development).

Table 4.4.B: Threatened and Endangered Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Potential in WLC Planning Area	MSHCP Status
Plants				
Dodecahema leptoceras Slender-horned spineflower	US: FE CA: SE/1B MSHCP: S	In the Vail Lake area, occurs in gravel soils of Temecula arkose deposits in openings in chamise chaparral. In other areas, occurs in sandy cobbly riverbed alluvium in alluvial fan sage scrub (usually late seral stage), on floodplain terraces and benches that receive infrequent overbank deposits from generally large washes or rivers, where it is most often found in shallow silty depressions dominated by leather spineflower (*Lastarriaea coriacea*) and other native annual species, and is often associatied with cryptogamic soil crusts composed of bryophytes, algae and/or lichens. Occurs at 600 to 2,500 feet elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties, California.	**Absent.** No alluvial fan sage scrub on the WLC project site	Covered
Birds				
Buteo swainsoni (nesting) Swainson's hawk	US: – CA: ST MSHCP: C	Open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Breeds and nests in western North America; winters in South America. Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, and Antelope Valley. In southern California, now mostly limited to spring and fall transient. Formerly abundant in California with wider breeding range. Species is not known to nest within Riverside County.	**Low to Moderate.** Most open habitat of lowlands in the region, including the habitat on site, is potentially suitable foraging habitat for this species, which is not known to nest in Riverside County. The species is likely to forage on the WLC project site only briefly during migration. The SJWR has records of observed raptors in the area from Christmas Bird Counts and other organized SBVAS trips.	Covered

Table 4.4.B: Threatened and Endangered Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Potential in WLC Planning Area	MSHCP Status
Coccyzus americanus occidentalis (nesting) Western yellow-billed cuckoo	US: FC CA: SE MSHCP: S	Breeds and nests in extensive stands of dense cottonwood/willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America; winters in South America.	**Absent**. No extensive stands of riparian habitat on the WLC project site.	Covered
Empidonax traillii extimus Southwestern willow flycatcher	US: FE CA: SE MSHCP: S	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S. and (formerly?) northwestern Mexico. Winters in Central and South America. Below 6,000 feet elevation.	**Absent.** No dense willows on the WLC project site.	Covered
Polioptila californica californica Coastal California gnatcatcher	US: FT CA: SSC MSHCP: C	Inhabits coastal sage scrub in low-lying foothills and valleys in cismontane southwestern California and Baja California.	**Low.** In small amount of coastal sage areas onsite **Absent.** Not present in other vegetation types	Covered
Vireo bellii pusillus Least Bell's vireo	US: FE CA: SE MSHCP: S	Riparian forests and willow thickets. The most critical structural component of Least Bell's Vireo habitat in California is a dense shrub layer 2 to 10 feet above ground. Nests from central California to northern Baja California. Winters in southern Baja California.	**Absent.** No riparian forest or willow thickets on the WLC project site.	Covered
Mammals				
Dipodomys merriami parvus San Bernardino kangaroo rat	US: FE CA: SSC MSHCP: S	Gravelly and sandy soils of alluvial fans, braided river channels, active channels and terraces; San Bernardino Valley (San Bernardino County) and San Jacinto Valley (Riverside County). In Riverside County, this species occurs along the San Jacinto River east of approximately Sanderson Avenue, and along Bautista Creek. Remnant populations may also occur within Riverside County in Reche Canyon, San Timoteo Canyon, Laborde Canyon, the Jurupa Mountains, and the Santa Ana River Wash north of State Route 60.	**Absent.** No alluvial fans or river channels on the WLC project site.	Covered
Dipodomys stephensi Stephens' kangaroo rat	US: FE CA: ST MSHCP: C	Found in plant communities transitional between grassland and coastal sage scrub, with perennial vegetation cover of less than 50%. Most commonly associated with *Artemesia tridentata, Eriogonum fasciculatum,* and *Erodium.* Requires well-drained soils with compaction characteristics suitable for burrow construction. Not found in soils that are highly rocky, less than 20 inches	**Low.** No coastal sage scrub on the WLC project site, but may potentially occur along the southwest edge of the site, near undisturbed scrubland, or possibly in the RSS in the northeast portion of the site.	Covered

Table 4.4.B: Threatened and Endangered Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Potential in WLC Planning Area	MSHCP Status
		deep, or heavily alkaline or clay, or in areas exceeding 25% slope. Occurs only in western Riverside County, northern San Diego County, and extreme southern San Bernardino County, below 3,000 feet elevation. In northwestern Riverside County, known only from east of Interstate 15. Reaches its northwest limit in south Norco, southeast Riverside, and in the Reche Canyon area of Riverside and extreme southern San Bernardino Counties.		

TABLE 4.4.B LEGEND	
US: Federal Classifications	
FE	Taxa listed as Endangered.
FT	Taxa listed as Threatened.
FC	Candidate for listing as Threatened or Endangered.
CA: State Classifications	
SE	Taxa State-listed as Endangered.
ST	Taxa State-listed as Threatened.
SSC	California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
1B	California Rare Plant Rank 1B: Rare, threatened, or endangered in California and elsewhere.
California Rare Plant Ranks are assigned by a committee of government agency and non-governmental botanical experts and are not official State designations of rarity status.	
MSHCP: Western Riverside County MSHCP Status	
S	Species is adequately conserved under the MSHCP, but surveys are required within indicated habitats and/or survey areas.
C	Species is adequately conserved under the MSHCP.

Source: *City of Moreno Valley General Plan Final EIR*, City of Moreno Valley, approved October, 2006; *California Natural Diversity Data Base* records for *Sunnymead* USGS 7.5-minute quadrangle searched on December 16, 2011, using *Rarefind 3* (version 3.1.0, California Department of Fish and Wildlife, dated September 3, 2011); *Electronic Inventory of Rare and Endangered Vascular Plants of California* (online edition, v8-01a, California Native Plant Society, 2011, http://www.rareplants.cnps.org/) records for *Lakeview, Sunnymead* and *El Casco* USGS 7.5-minute quadrangles searched in March 2012.

Federally Endangered Plant Species. Two federally endangered plant species, San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*) and slender-horned spineflower (*Dodecahema leptoceras*), were analyzed for their potential to occur in the project area and the off-site facilities. No evidence of these plant species was found during reconnaissance-level surveys. In addition, no suitable habitat for this species occurs on site due to historic agricultural activities, regular disking of the site, and dominance of sparse, non-native, low-quality vegetation. No additional federally endangered plant species were analyzed for potential to occur in the project area and off-site facilities because no additional federally endangered plant species are known to occur on, or in the vicinity of, the site. No suitable habitat was found in the project area or off-site facilities to support other federally endangered plant species. Therefore, federally endangered plant species are not likely to occur in the project area or off-site facilities.

Federally Endangered Wildlife Species. Four federally endangered wildlife species were analyzed for potential to occur in the project area or off-site facilities: Riverside fairy shrimp (*Streptocephalus woottoni*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), and Stephens' kangaroo rat (*Dipodomys stephensi*). No evidence of any federally endangered wildlife species was found in the project area or off-site facilities. Stephens' kangaroo rat is the only federally listed wildlife species potentially occurring on site. Although no sign of Stephens' kangaroo rat was identified during the site surveys, it was determined that this species may range through the general area. This species is commonly found in ruderal and minimally disturbed areas. Low quality habitat was observed along existing roadsides. Since the project area is within the known range of this species and low quality habitat was identified on site, there is a moderate potential for Stephens' kangaroo rat to occupy some portion of the project area or off-site facilities.

No suitable habitat for Riverside fairy shrimp, southwestern willow flycatcher, and least Bell's vireo, occurs on site due to historic agricultural activities, regular disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional federally endangered wildlife species were analyzed in Table 4.4.B for their potential to occur in the project area because no additional federally endangered wildlife species are known to occur on, or in the vicinity of, the site.

Federally Threatened Plant Species. One federally threatened plant species, thread-leaved brodiaea (*Brodiaea filifolia*), was analyzed for its potential to occur in the project area. No evidence of this federally threatened plant species was found and no suitable habitat for this federally threatened plant species occurs on site due to historic agricultural activities, regular disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional federally threatened plant species were analyzed for their potential to occur in the project area because no additional federally threatened plant species are known to occur on, or in the vicinity of, the site. No suitable habitat was found during the site surveys to support other federally threatened plant species. Therefore, federally threatened plant species are not likely to occur in the project area.

Federally Threatened Wildlife Species. Coastal California gnatcatcher (*Polioptila californica californica*) is known to occur within moderate to high quality coastal sage scrub in the general area and some suitable habitat occurs on site for coastal California gnatcatcher. There is marginal Riversidean sage scrub in the north near SR-60 and Gilman Springs Road and in the proposed Open Space Area adjacent to the LSSRA south of Brodiaea Avenue, west of Theodore Street and east of Redlands Boulevard. No additional federally threatened wildlife species were analyzed for their potential to occur in the planning area.

Federally Proposed Endangered, Proposed Threatened, Federal Candidate, and Federal Species of Concern. The USFWS has developed several categories for sensitive species not yet determined to have reached endangered or threatened status. Generally, federally proposed endangered or threatened species are species considered unofficially endangered or threatened (i.e., final regulatory action formally listing such species has not yet occurred). Federal candidate species are species who are candidates for becoming listed as endangered or threatened, and Federal species of concern are species whose numbers are considered low enough to have approached Federal candidate status.

Protected Plant Species. No Federal plant species of concern were analyzed for their potential to occur in the WLCSP and off-site facilities because no evidence of any Federal plant species of concern was found in the project area, nor was any suitable habitat found due to historic agricultural activities, regular disking of the site, and dominance of sparse, non-native low-quality vegetation.

Protected Wildlife Species. There were no Federal wildlife species of concern analyzed for their potential to occur in the WLCSP and off-site facilities. The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is not likely to occur in the WLCSP and off-site facilities and is also a covered species under the MSHCP.

No evidence of any Federal wildlife species of concern was found in the project area nor does any suitable habitat occur due to historic agricultural activities, regular disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional Federal wildlife species of concern were analyzed for potential to occur in the project area because no additional Federal wildlife species of concern are known to occur on, or in the vicinity of, the site. Therefore, Federal wildlife species of concern are not likely to occur in the project area and there is no potential impact to Federal wildlife species of concern.

California State Endangered Plant Species. Two California State endangered plant species were analyzed for their potential to occur in the WLCSP and off-site facilities: slender-horned spine-flower and thread-leaved brodiaea. No evidence of these State-listed plant species was found in the project area nor is there any suitable habitat for these State-listed plant species due to regular disking of the site and dominance of sparse, non-native low-quality vegetation. No additional State-listed plant species were analyzed for potential to occur in the project area because no additional State-listed plant species are known to occur on, or in the vicinity of, the site, nor was any suitable habitat found to support other State-listed plant species. Therefore, State-listed plant species are not likely to occur in the project area and there is no potential impact to State endangered plant species.

California State Endangered Wildlife Species. Four California State endangered wildlife species were analyzed for their potential to occur in the WLCSP and off-site facilities: western yellow-billed cuckoo, southwestern willow flycatcher, least Bell's vireo, and American peregrine falcon (*Falco peregrinus anatum*). No evidence of these California State endangered wildlife species was found in the project area. In addition, no suitable habitat for these species occurs within the project area due to historic agricultural activities, regular disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional California State endangered wildlife species were analyzed for potential to occur in the project area because no additional California State endangered wildlife species are known to occur on, or in the vicinity of, the site. No suitable habitat was found in the project area to support other California State endangered wildlife species. Therefore, California State endangered wildlife species are not likely to occur in the project area and there is no potential impact to State endangered wildlife species.

California State Threatened Plant Species. No California State threatened plant species are known to occur on, or in the vicinity of, the project site and no suitable habitat occurs within the project are for any California State threatened plant species. Therefore, California State threatened plant species are not likely to occur in the project area and there is no potential impact to State threatened plant species.

California State Threatened Wildlife Species. A single California State threatened wildlife species was analyzed for its potential to occur in the project area: the Stephens' kangaroo rat. Although no sign of Stephens' kangaroo rat was identified in the project area, MBA concluded that this species may range through the general area. This species is known to occur in ruderal and minimally disturbed areas. Marginal habitat was observed along existing roadsides and within active pasture areas. Since the project area is within the known range of this species, and marginal habitat was identified on site, there is a moderate potential for Stephens' kangaroo rat to occupy some portion of the area.

No additional California State threatened wildlife species are known to occur on, or in the vicinity of, the site. No suitable habitat was found in the project area support other California State threatened wildlife species. Therefore, except for the Stephens' kangaroo rat, California State threatened wildlife species are not likely to occur in the project area and there is no potential impact to California State threatened wildlife species.

Special-Status Species. Special-status species are plant and wildlife species that have been afforded legal protection under the FESA, CESA, or any other local regulations, or are considered rare, threatened, or endangered by any other resource agency, or organization in the scientific community. As it pertains to the technical reports prepared by MBA for the project (focused surveys) and the biological resources section of this EIR, the following describes applicable classifications of special-status species not listed above for FESA and CESA.

California State Fully Protected Species. The classification of Fully Protected was California's initial effort in the 1960s to identify and provide additional protection to those animals that were rare or faced possible extinction. The list of fully protected species included fish, mammals, amphibians, reptiles, birds, and mammals. Most fully protected species are currently listed as threatened or endangered species under the more recent endangered species laws and regulations.

Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

California State Fully Protected Wildlife Species. Two California State Fully Protected wildlife species were analyzed for their potential to occur in the project area: white-tailed kite (*Elanus leucurus*) and American peregrine falcon. No suitable nesting habitat for white-tailed kite or American peregrine falcon occurs within the area due to historic agricultural activities, regular disking of the site, and dominance of sparse, non-native low-quality vegetation. However, agricultural land does represent marginal quality foraging habitat within the project area and adjacent CDFW Conservation Areas. No additional California State fully protected wildlife species were analyzed for their potential to occur in the project area because no additional California State fully protected wildlife species are known to occur on, or in the vicinity of, the site. No suitable habitat was found in the WLCSP and off-site facilities to support other California State fully protected wildlife species. Therefore, California State fully protected wildlife species are not likely to occur in the project area and there is no impact to California State fully protected wildlife species.

California Rare Plants and Wildlife Species of Concern. California Species of Concern (CSC) applies to animals not listed under the FESA or CESA, but are declining at a rate that could result in Federal or State listing or historically occur in low numbers and known threats to their persistence currently exist.

California Rare Plant Species. No California rare plant species are known to occur on, or in the vicinity of, the project area nor is any suitable habitat known to occur within the area. Therefore, no California rare plant species were analyzed for their potential to occur in the project area. Eleven special status plant species were identified as potentially occurring within the project area. Three of the species (Plummer's mariposa lily [*Calochortus plummerae*], Robinson's pepper-grass [*Lepidium virginicum* var. *robinsonii*], and San Bernardino aster [*Symphyotrichum defoliatum*]) are not covered by the MSHCP. Plummer's mariposa lily and Robinson' pepper-grass have a moderate to low potential to occur based on habitat type and soils requirements. These species were not identified

during sensitive plant surveys. The potential habitat for these species is confined to RSS and sandy-rocky soils, which are confined to the proposed open space area in the southwestern portion of the Specific Plan area.

California Wildlife Species of Concern. Twenty-one California Wildlife Species of Concern were analyzed for their potential to occur in the WLCSP and off-site facilities:

- Orange-throated whiptail (*Aspidoscelis hyperythra*)
- Coast horned lizard (*Phrynosoma coronatum*)
- Tricolored blackbird (Agelaius tricolor)
- Bell's sage sparrow (*Amphispiza belli belli*)
- Ferruginous hawk (*Buteo regalis*)
- Merlin (*Falco columbarius*)
- Yellow-breasted chat (*Icteria virens*)
- White-faced ibis (*Plegadis chihi*)
- Western yellow bat (*Lasiurus xanthinus*)
- Southern grasshopper mouse (*Onychomys torridus ramona*)
- American badger (*Taxidea taxus*)
- Northern red-diamond rattlesnake (*Crotalus ruber ruber*)
- Western spadefoot (*Spea hammondii*)
- Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
- Burrowing owl (*Athene cunicularia hypugaea*)
- California horned lark (*Eremophila alpestris actia*)
- Prairie falcon (*Falco mexicanus*)
- Loggerhead shrike (*Lanius ludovicianus*)
- Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)
- Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)

The project area contains suitable foraging habitat for loggerhead shrike, ferruginous hawk, merlin, prairie falcon, California horned lark, and burrowing owl but no suitable nesting habitat for ferruginous hawk, merlin, or prairie falcon. Suitable ground-nesting habitat occurs for burrowing owl and California horned lark. Although no sign of burrowing owl was identified during focused surveys conducted in 2012, it was determined that this species may range through the general area. Several California horned larks and loggerhead shrikes were observed foraging within the area. No suitable habitat for western spadefoot, Bell's sage sparrow, yellow-breasted chat, white-faced ibis, western yellow bat, southern grasshopper mouse, and American badger occurs within the project area due to historic agricultural activities, regular disking of the site, and dominance of sparse, non-native low-quality vegetation. The western yellow bat, southern grasshopper mouse and American badger are not covered under the MSHCP. However, since there is no suitable habitat for these species, no impact is expected to occur. The remaining species are covered under the MSHCP.

There is limited suitable habitat for orange-throated whiptail, northern red-diamond rattlesnake, coast horned lizard, southern rufous-crowned sparrow, northwestern San Diego pocket mouse, San Diego jackrabbit, and Los Angeles pocket mouse in the project area. These species are generally associated with coastal sage scrub, which is limited to the north near SR-60 and Gilman Springs Road and in the proposed Open Space Area adjacent to the LSSRA between Theodore Street and Redlands Boulevard, just south of Brodiaea Avenue. Focused surveys for Los Angeles pocket mouse in 2005, 2010, and 2012 were negative. The orange-throated whiptail is not covered under the MSHCP. There is limited habitat for the orange-throated whiptail in an area that is currently proposed for open space in the southwestern corner of the Specific Plan area. The other species mentioned are covered under the MSHCP. There is a low potential for these species to occur.

No additional California wildlife species of concern were analyzed for potential to occur in the project area because none is known to occur on, or in the vicinity of, the site. No suitable habitat was found in the project area to support other California Wildlife Species of Concern. Therefore, except for the burrowing owl, loggerhead shrike, and California horned lark, California Wildlife Species of Concern are not likely to occur in the WLCSP and off-site facilities.

California Native Plant Society. The CNPS is a non-profit organization whose collaborative efforts in research helps maintain an inventory of rare and endangered plants that occur throughout California. The CNPS has developed its own classification system in defining the degree of endangerment for sensitive plant species that models that of the FESA and CESA. Plants considered to be rare, threatened, or endangered in California are designated as List 1B or List 2 plant species. Plants for which more information is needed to determine their status are designated List 3 species. Plants with limited distribution are designated as List 4 species.

CNPS Listed Plant Species. Eight CNPS List 1B plant species were analyzed for potential to occur in the project area: San Jacinto Valley crownscale, thread-leaved brodiaea, Plummer's mariposa lily, smooth tarplant (*Centromadia pungens* ssp. *laevis*), slender-horned spineflower, Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), Robinson's peppergrass, and San Bernardino aster.

Two CNPS List 2 plant species, mud nama (*Nama stenocarpum*) and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), were analyzed for potential to occur in the project area.

One CNPS List 3 plant species, Parry's spineflower (*Chorizanthe parryi* var. *parryi*), was also analyzed for potential to occur in the project area.

No evidence of any CNPS List 1B, List 2, or List 3 plant species were observed in the project area. In addition, no suitable habitat for any of these species occurs due to historic agricultural activities, regular disking of the site, and dominance of sparse, low quality non-native vegetation.

No additional CNPS List plant species were analyzed for potential to occur in the WLCSP and off-site facilities because none is known to occur on, or in the vicinity of, the site. No suitable habitat was found in the project area to support other CNPS List plant species. Therefore, CNPS List plant species are not likely to occur in the project area.

Migratory Bird Treaty Act and Section 3503 of the State Fish and Game Code. The project area contains suitable nesting habitat for ground-nesting birds such as burrowing owl and horned lark. The few large trees on the site provide suitable habitat for other migratory birds.

Raptor Foraging Habitat. The project area contains flat, open areas with sparse vegetation, which provides marginal foraging habitat for some raptors species. Due to the regular, heavy disturbance associated with the various agricultural activities in the area, and the limited size of the site in relation to the expansive foraging habitat in the vicinity including the CDFW Conservation Buffer Area and the SJWA, LPSRA, and the Badlands to the east, the foraging habitat on site is considered marginally suitable.

4.4.1.14 MSHCP Consistency Analysis

a. Burrowing Owl

The burrowing owl is an avian species of special concern that is protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Section 3503. This species typically occurs in grassland and scrub habitats characterized by low-growing vegetation with an abundance of small mammal burrows, including the California ground squirrel. It often prefers areas with moderate disturbance and/or berms or drainage features. Reasons for burrowing owl population decline include habitat destruction, insecticide poisoning, rodenticide (particularly squirrel eradication), and shooting.

The project area contains potentially suitable habitat for burrowing owl, such as flat, open, valley floor plains occupied by non-native grasslands, fallow fields, and agricultural lands. Details of the methodologies for the focused surveys are discussed in Appendix D, Burrowing Owl Focused Surveys. Details for these focused surveys for burrowing owl may not match exactly with the project area as the boundaries of the various studies have evolved over time. The 2012 studies for burrowing owl encompassed the 3,300 acres of the project area.

Focused surveys for burrowing owl conducted in June–July 2012 did not locate any owls (MBA 2012b). During focused surveys conducted by MBA in 2005 (covering approximately 1,778 acres of the project area), a single breeding pair of burrowing owls was observed within an ephemeral drainage feature (Drainage 4) that longitudinally traverses the western portion of the survey area. The owls were observed perching and in flight along the western bank of the drainage feature, immediately south of its intersection with Dracaea Avenue. Conditions in this area have changed over the 6-year period and this was no longer habitat due to changes in land use. In addition, focused burrow and burrowing owl surveys conducted by MBA in 2006 (750 acres), 2007 (2,904 acres), 2010 (3,814 acres), and 2012 (3,300 acres) did not disclose the presence of any burrowing owls. (Appendix D, Burrowing Owl Focused Surveys). Burrowing owls were recorded in 2008 (246 acres) just south of the Skecher's Logistic Center (Fierro, personal communication). A single burrowing owl was observed within the temporary detention basin located south of the Skecher's building during the March 2012 site visit.

The disked and fallow fields within the project area continue to provide suitable foraging habitat for burrowing owl. The area contains numerous California ground squirrel and desert cottontail burrows, which are potentially suitable for burrowing and nesting by the owls. Therefore, this species appears to be present within portions of the project area and the CDFW Conservation Buffer Area, although it may not be a permanent resident.

b. Los Angeles Pocket Mouse

Los Angeles pocket mouse (LAPM) is a California species of special concern that inhabits lower elevation grasslands and scrub communities within Los Angeles, San Bernardino, and Riverside Counties. Los Angeles pocket mouse is the smallest of the pocket mice subspecies and is adapted for arid or semi-arid environments and nocturnal activity. The primary habitat requirement for the subspecies is a suitable burrowing substrate of fine sandy soils. LAPM is commonly found in low elevation open grasslands, coastal sage scrub, and alluvial fan sage scrub. The subspecies is recorded to have been observed approximately 2 miles southeast of the study area (CDFW 2012).

The majority of the project area does not contain suitable habitat for LAPM due to regular disturbance associated with agriculture, and the absence of fine sand soils. Drainage Feature 9, however, is not subject to regular agricultural disturbance and contains Riversidean sage scrub appropriate soils; therefore, this drainage feature contains marginally suitable habitat for LAPM.

MBA conducted surveys for LAPM in 2005, 2010, and 2012. In 2005, MBA conducted focused trapping surveys for LAPM in the south-central and southeastern portions of the project area. A total of 121 traps were set throughout the drainage features. In 2010, MBA conducted focused trapping surveys in the same location as in 2005 and in two additional drainage features. A total of 122 traps were set among the three drainage features. Only Drainage Feature 9 has suitable RSS and soils, and the other two drainage features only contained suitable soils. The 2012 trapping effort was conducted in the same area as in 2010. No LAPM were trapped. No LAPM were trapped during the focused surveys in any of the three trapping sessions (2005, 2010, and 2012); therefore, MBA has determined that this species is absent from the project area.

c. Criteria Area Species

The following ten Criteria Area Species were assessed for their potential to occur in the project area:

- Mud nama (*Nama stenocarpum*);
- Little mousetail (*Myosurus minimus apus*);
- Coulter's goldfields (*Lasthenia glabrata* sub. *coulteri*);
- Thread-leafed brodiaea (*Brodiaea filifolia*);
- Davidson's saltscale (*Atriplex serenana davidsonii*);
- Parish's brittlescale (*Atriplex parishii*);
- San Jacinto valley crownscale (*Atriplex coronata notatior*);
- Round-leafed filaree (*Erodium macrophyllum*);
- Smooth tarplant (*Hemizonia pungens laevis*) and
- Nevin's Barberry (*Mahonia nevinii*).

The thread-leafed brodiaea typically occurs on gentle hillsides, valleys, and floodplains in semi-alkaline mudflats; therefore, it is not likely to occur within the WLC planning area.

Most of these species are associated with in highly alkaline, silty-clay soils in association with the Traver-Domino-Willows soil association. In Riverside County, vernal pool plant species are most closely associated with the Willows soil series.

According to the biological assessment, San Jacinto valley crownscale, Parish's brittlescale, Davidson's saltscale, smooth tarplant, Coulter's goldfields, and little mousetail are not likely to occur on the project site due to the absence of vernal pools or vernal pool-like conditions, or alkaline conditions (e.g., alkali annual grassland components of alkali vernal plains or areas that have semi-regular inundation).

The project site does not contain friable clay soils, so round-leafed filaree is not expected to occur. Although small areas of the site contain sage scrub and chaparral vegetation, no alluvial scrub or rocky chaparral slopes occur; therefore, Nevin's barberry is not likely to occur on the project site.

Mud nama is associated with ponds, lakes, or regularly muddy embankments. Since these conditions are not present, it is unlikely this species occurs on the project site.

d. Narrow Endemic Plant Species

The following six Narrow Endemic Plant Species were assessed for their potential to occur on the project area:

- San Diego ambrosia (*Ambrosia pumila*);
- Wright's trichocoronis (*Trichocoronis wrightii wrightii*);
- California Orcutt grass (*Orcuttia californica*);
- spreading navarretia (*Navarretia fossalis*);
- many-stemmed dudleya (*Dudleya multicaulis*); and
- Munz's onion (*Allium munzii*).

As with the Criteria Area species, San Diego ambrosia, Wright's trichocoronis, California Orcutt grass, and spreading navarretia are not likely to occur on the site due to the absence of vernal pools, vernal pool-like conditions, or alkaline conditions (e.g., alkali annual grassland components of alkali vernal plains or areas that have semi-regular inundation). In addition, no clay soils occur within the project area; therefore, many-stemmed dudleya and Munz's onion are not likely to occur.

e. Riparian/Riverine Habitat and Vernal Pools

The project area contains two types of riparian vegetation: mule fat scrub and southern willow scrub. Both plant communities are isolated, disturbed, low in vegetative cover, and generally of poor habitat quality. Three drainage features and one catch basin contain riparian/riverine areas (see previously referenced Figure 4.4.2). One of these drainage features is outside of the project area on the east side of Gilman Springs Road, within one of the proposed debris basins.

The mule fat scrub community on site occurs intermittently within Drainage Feature 9; a small patch within Drainage Feature 7; and within the debris basin associated with Drainage Feature 8. Drainage Feature 9 and the catch basin are both narrow and bordered on each side by disked agricultural fields. Drainage Feature 9 also contains a narrow band of mule fat scrub, but is bordered by relatively undisturbed Riversidean sage scrub. Over time, the drainage feature has fragmented and currently contains isolated patches of riparian vegetation. Within the mule fat scrub community, tree tobacco and other non-native plant species, have established in approximately equal quantity as mule fat.

Drainage Feature 8 has a proposed debris basin across Gilman Springs Road. This small drainage has an area of mule fat scrub that is probably surviving based on the blockage of the drainage at the road. The mule fat scrub portions of the project area are poor in habitat quality due to the small size of the stands, the sparse vegetative cover within the communities, the isolation of the individual stands, and the disturbance from the adjacent agricultural uses. Given the above characteristics, riparian wildlife species have a low potential to occur. Despite the absence of suitable habitat for federally and State listed threatened or endangered species such as least Bell's vireo, southwestern willow flycatcher, or western yellow-billed cuckoo that commonly occur in riparian habitat, this drainage feature is considered riparian/riverine areas under the MSHCP because of the presence of mule fat and the subsurface connectivity to off-site riparian areas downstream.

Southern willow scrub occurs in a single isolated catch basin in the project area (Figure 4.4.2, Drainage Feature 14). The catch basin contains marginal vegetative characteristics and no hydrological characteristics that fit the MSHCP description for riverine/riparian areas. It exists as isolated, human-made, catch basin that receives nuisance flows and agricultural runoff from concrete cattle containment areas adjacent to the basin, which have subsequently been removed. It is located south of Alessandro Road and does not contain any upstream or downstream connection to any other

drainage features. There is no evidence of prolonged ponding within this basin. Vegetation in the catch basin consists of southern willow scrub and includes plant species such as Freemont's cottonwood, black willow, sandbar willow, and mule fat. The plant community primarily consists of a moderate density of trees with a few understory plants.

Southern willow scrub is typically considered suitable habitat for a number of wildlife species that commonly occur in riverine/riparian habitats throughout southern California. These wildlife species include sensitive avian species such as least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. This basin is considered low in habitat quality because it is isolated, small in size, and lacks significant vegetation density. Given these characteristics, riparian wildlife species have a low potential to occur. However, this basin is considered riparian/riverine habitat due to the presence of riparian vegetation and the loss of habitat will have to be evaluated under the MSHCP process.

MBA also conducted a vernal pool habitat assessment within the WLCSP and off-site facilities. As defined by the MSHCP, vernal pools are "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season." No vernal pools or ephemeral ponds were observed in the WLCSP or any of the off-site areas during the habitat assessment survey. In addition, no suitable habitat for any fairy shrimp species was identified within any of the project area.

f. Urban/Wildlands Interface Analysis

This section addresses the indirect effects associated with locating development in proximity to MSHCP Conservation Areas. The project area is bordered to the east by Proposed Core 3 (MSHCP Section 6.1.1) and to the south by the SJWA and Existing Core H. Moreover, portions of the project area fall within the boundaries of these Conservation Areas.

The portion of the project area within the SJWA (i.e., Conservation Area) is currently used for agricultural land, but is owned by the CDFW and operated as conservation land as part of the SJWA. No development will occur in this area. The remaining portions of the project area that are on or adjacent to conservation areas will incorporate the design features and measures related to drainage features, toxics, lighting, noise, invasive plants, barriers, and grading/land development discussed below. These measures will make the proposed project consistent with the MSHCP, Section 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface. A detailed description of recommendations pertaining to an urban/wildlands interface is provided below for adjacency issues identified in the MSHCP. Additional discussion of indirect impacts of the project on the SJWA and Conservation Areas is included in Section 4.4.1.12, *Other Issues*, later in this section. This information is from Section 6.1.4 of the MSHCP, *Guidelines Pertaining to the Urban/Wildland Interface.*

Drainage Features. Development of the project area will include a comprehensive system of storm drains to handle runoff from the proposed project. The project drainage plan shows that drainage from the project area will be directed to the regional storm drain system and away from the adjacent open space, or treated by water quality and retention basins to maintain historical runoff rates and patterns onto downstream land, such as the Mystic Lake area. The design, operation, and maintenance of the drainage system for the proposed project will be designed to regulate the discharge of water into any MSHCP Conservation Area under either of these design scenarios.

All development within the project area will be required to obtain a statewide general National Pollutant Discharge Elimination System (NPDES) construction permit for all construction activities associated with the proposed project and will be subject to the County of Riverside's regulations to

implement the NPDES program. The NPDES requirements are discussed in greater detail in Section 4.9, *Hydrology and Water Quality*.

Barriers. The WLCSP project will incorporate special edge treatments designed to separate development areas from MSHCP open space areas both to the south and across Gilman Springs Road (i.e., fencing). The Specific Plan indicates that native landscaping and fencing will be installed to minimize unauthorized public access to the south and across Gilman Springs Road, which will also help minimize impacts related to domestic animal predation and illegal trespass and dumping. Impacts to adjacent native areas across Gilman Springs Road will therefore be minimized. In addition, the landscaping palette for the Specific Plan uses native species and precludes invasive plants as shown in the MSHCP invasive species list (MSHCP Table 6-2). The Specific Plan shows a 250-foot setback along the SJWA boundary to the south, as well as walls/fencing and controls on lighting that will comply with the City's new Municipal Code section 9.08.100 to preclude light spillage off site greater than 0.25 foot-candles per square meter. Warehousing will have a minimum 11-foot solid wall along the SJWA boundary with landscaping to soften the appearance and which may eventually provide roosting or nesting opportunities for native birds. There will be no public pedestrian or vehicular access from the development onto the SJWA land to the south, and private access to MSHCP areas to the east across Gilman Springs Road will be limited by fencing along private property lines within the project site.

Access. The project will prohibit public access into all MSHCP conservation areas including those contained within SJWA and Existing Core H to the south of the project area. Private access to Proposed Core 3 (Section 6.1.1, Proposed Core 3) to the east of the WLC project area will be limited by fencing of private property limits, but the public may still be able to access these areas from public roads, including Gilman Springs Road.

Grading/Land Development. Project grading will not encroach into conservation land that will be designated as open space located within Existing Core H to the south or Proposed Core 3 (Section 6.1.1, *Proposed Core 3*) to the east of the WLC project area.

Fuels Management. Fuels management focuses on hazard reduction for humans and their property (MSHCP, p. 6-72). According to the Fuels Management Guidelines, for new development planned adjacent to all MSHCP conservation areas or other undeveloped areas, brush management shall be incorporated in the development boundaries and shall not encroach into the MSHCP conservation areas (MSHCP, p. 6-72). Any areas planted with fire-resistant, non-invasive plants must not encroach into the MSHCP conservation area. Accordingly, with implementation of these measures, the WLCSP project will be consistent with the MSHCP Fuels Management Guidelines.

g. Migratory Corridors/Linkages

The project area is adjacent to an existing migratory corridor across Gilman Springs Road (i.e., Criteria Cells 1290, 1389, and 1390) as designated by the MSHCP. While the open agricultural fields that presently occupy much of the project area are not designated as corridors or linkages in the MSHCP, the project site, including the CDFW property, supports extensive agricultural fields, which do not constitute native vegetation, but do provide some foraging value and may allow for migration or movement of wildlife through the general area even considering the level of repeated disturbance by agricultural activities. Wildlife movement through this area is generally planned to take place across the Mystic Lake property to the south. The northern (upland) portion of the SJWA (i.e., the CDFW Conservation Buffer Area) and the southern portion of the Specific Plan area do not provide suitable habitat or resources to support wildlife migration or regular wildlife movement.

4.4.1.15 MSHCP Conservation Criteria Areas

Figure 4.4.4 shows the location and relationship of the MSHCP conservation areas described in this section, as well as their relationship to the project area.

a. Core 3

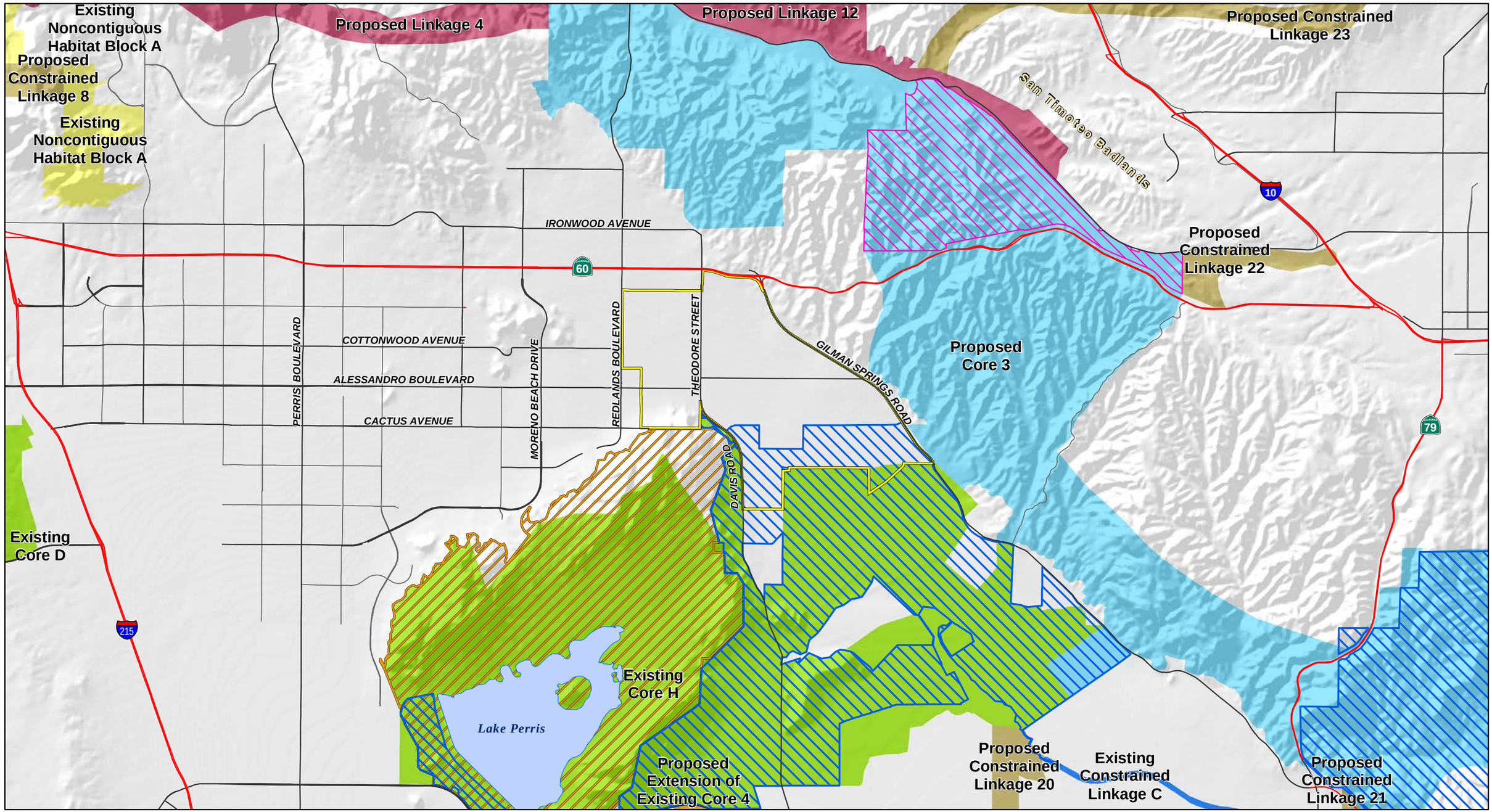
The MSHCP establishes a number of "core" areas that contain or support important biological habitat or species. Some of the core areas are existing reserves, while others are proposed for preservation. This section analyzes the proposed project in relation to the nearby MSHCP core areas. The project area is located within the Reche Canyon/Badlands Area Plan and falls within both the Badlands North Area Plan Subunit and the SJWA/Mystic Lake Area Plan Subunit. No existing or proposed linkage, or constrained linkage areas are in the vicinity of the project. Proposed Core 3 (MSHCP Section 6.1.1) is located to the north and east of the project area and Existing Core H is located to the south (see previously referenced Figure 4.4.3). As shown in Table 4.4.C, portions of the project area fall within 12 Criteria Cells that are all associated with existing or proposed core areas. However, the following analysis will show that almost all criteria cells are within the CDFW-owned Conservation Buffer Area and thus will not be directly affected by the development within the Specific Plan. The project also proposes no development within the 75-acre Open Space area in the southwestern corner of the Specific Plan.

Table 4.4.C: MSHCP Criteria Cells within the Project Area

Area Plan Subunit within MSHCP	Cell Group	Criteria Cells
Badlands North Area Plan Subunit 3	Cell Group E	1390
	Cell Group X	1297
		1204
San Jacinto Wildlife Area/Mystic Lake Area Plan Subunit 4	Cell Group D	1364
		1370
		1377
		1386
		1389
		1482
		1483
		1477
		1577

The portions of the project area within Cell Group D are within the SJWA/Mystic Lake Area Plan Subunit 4. This Cell Group supports Existing Core H. Approximately 929 acres of the project area are within Cell Group D. This portion within Cell Group D is located within the SJWA. This area is currently owned by the State of California through a purchase in 2001 and is now designated as Public/Quasi-Public Conserved Land under the MSHCP (see Figure 4.4.3). Although this land is not considered to be mitigation for the proposed development, it does provide more than 900 acres of buffer between the project and the habitat areas of the SJWA.

As shown in Figure 4.4.4, the CDFW-owned portion of the project area overlaps Cell Groups E and X, which are within the Badlands North Area Plan Subunit 3. These Cell Groups support Proposed Core 3. Approximately 52 acres of the CDFW area overlap Cell Group E, and approximately 114 acres of the CDFW Area occurs within Cell Group X. The project will not conflict with MSHCP Conservation Criteria because no development is planned within the CDFW area of the project (which is part of the SJWA). However, any development adjacent to the SJWA will need to address edge effects.



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- Project Boundary
- San Jacinto Wildlife Area (CDFW)
- Lake Perris State Recreation Area
- Norton Younglove Reserve
- Existing Constrained Linkage
- Existing Core
- Existing Noncontiguous Habitat Block
- Proposed Core
- Proposed Noncontiguous Habitat Block
- Proposed Extension of Existing Core
- Proposed Constrained Linkage
- Proposed Linkage

SOURCE: County of Riverside, 2003 & 2011; California Dept. of Fish and Game, 2011.

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FIGURE 4.4.4

World Logistics Center Project
Environmental Impact Report

MSHCP Conservation Areas

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Minimizing edge effects is considered a significant goal of Proposed Core 3. Approximately 56 acres of the project area occur within the western extent of Proposed Core 3. The portions of the Core along Gilman Springs Road are currently subject to edge effects associated with existing traffic, and the development of the project may incrementally increase these edge effects. All development in the southern portion of the project will need to implement measures that minimize edge effects associated with urban development in wildlands. The minimization efforts are addressed in Section 4.4.1.8g, *Urban/Wildlands Interface Analysis*, of this report.

The CDFW-owned land within the project area is located adjacent to the junction of Proposed Core 3 and Existing Core H. Development of the project will not impede the movement of wildlife or reduce the continuous area of the two cores, which are both goals of Proposed Core 3. Additionally, the portion of the project area located adjacent to the Core 3/Core H junction will remain undeveloped, facilitating connectivity between the two Cores.

The project area occupies less than 0.1 percent of Proposed Core 3 and the goals of the Proposed Core 3 will be maintained.

b. Existing Core H

Existing Core H consists of the Lake Perris State Recreation Area (LPSRA), SJWA, private lands, and lands with pre-existing conservation agreements (see previously referenced Figure 4.4.4). It provides resident habitat for several species, contains soils suitable for some Narrow Endemic plant species, supports vernal pool complexes and may provide a connection to Core Areas in the Badlands and the middle reach of the San Jacinto River. Maintenance of habitat quality, floodplain processes along the San Jacinto River, and conservation of vernal pool complexes are important for species covered by the MSHCP. The Core Area provides potentially suitable live-in habitat for small rodents and common mammals.

Approximately 113.1 acres of the project area are located within the northern extent of Existing Core H. The CDFW-owned Area in Existing Core H contains potentially suitable habitat for small rodents, common mammals, and burrowing owl. No vernal pool complexes or floodplain conditions occur on the project site and there is no suitable habitat for any narrow endemic plant species. The portion of the project area within Existing Core H will not be developed (i.e., the Conservation Buffer Area) because it is part of the SJWA. The WLC planning area occupies less than 0.2 percent of Existing Core H and the goals of this core area will be maintained.

c. Reche Canyon/Badlands Area Plan

The Reche Canyon/Badlands Area Plan of the MSHCP is in the northern portion of western Riverside County, south of the City of San Bernardino, west of The Pass Area Plan and the San Jacinto Valley Area Plan, north of the Mead Valley Area Plan and the Lakeview/Nuevo Area Plan, and east of the Highgrove Area Plan, the Cities of Norco and Riverside Area Plan, and the March Area Plan. The City of Moreno Valley sits entirely within the Reche Canyon/Badlands Area Plan. The Area Plan incorporates lands within the LPSRA and SJWA, and is separated into 4 Area Plan Subunits. The project area is located within portions of Area Plan Subunit 3: Badlands North and Area Plan Subunit 4: San Jacinto Wildlife Area/Mystic Lake (see Figure 4.4.4).

The target conservation acreage range for the Reche Canyon/Badlands Area Plan is 30,815 to 35,905 acres; it is composed of approximately 20,295 acres of existing Public/Quasi-Public Lands and 10,520 to 15,610 acres of Additional Reserve Lands. The target acreage range within the City of Moreno Valley is 80 to 130 acres. The City of Moreno Valley target acreage is included within the 10,520 to 15,610 acre target conservation range on Additional Reserve Lands for the entire Area Plan.

The Conservation Buffer Area portion of the WLC planning area includes approximately 910 acres of the SJWA, which is designated as Additional Reserve Land. All of this area is within the City of Moreno Valley, and preservation of the Conservation Area of the project will fulfill the MSHCP's target acreage range for the City.

d. Area Plan Subunit 3: Badlands, North

Area Plan Subunit 3 of the Reche Canyon/Badlands Area Plan includes lands within the northeastern and eastern portions of the Area Plan within the Badlands (see Figure 4.4.4). Area Plan Subunit 3 contains a total of 88 Criteria Cells organized into 16 Cell Groups and 4 independent cells. The MSHCP conservation objectives for Area Plan Subunit 3 include conserving land within the Badlands area, north to the vicinity of SR-60, south to southeastern extent of the SJWA, west to the eastern boundary of the SJWA, and east to the Laborde Canyon vicinity. Target acreage range required for Additional Reserve Lands within Area Plan Subunit 3 is 8,270 to 10,895 acres.

Plant and Wildlife Planning Species within Area Plan Subunit 3 include:

- Nevin's barberry;
- Bell's sage sparrow;
- Cactus wren;
- Loggerhead shrike;
- Southern California rufous-crowned sparrow;
- Los Angeles pocket mouse;
- San Bernardino kangaroo rat;
- Stephens' kangaroo rat;
- Bobcat; and
- Mountain lion.

Under the MSHCP, additional biological issues and considerations are proposed for conservation for each Area Plan Subunit. The biological issues and considerations emphasized in Area Plan Subunit 3 include:

- Conserving large habitat blocks in the Badlands.
- Maintain Core Area for bobcat.
- Maintaining Core and Linkage Areas for mountain lion.
- Determining potential for populations of San Bernardino kangaroo rat along San Timoteo Creek.
- Maintain Linkage Area to SJWA for Stephens' kangaroo rat.
- Determine presence of potential Core Area for Los Angeles pocket mouse in San Timoteo Creek and tributaries to the Badlands.
- Maintain Core Area for Nevin's barberry.

The eastern boundary of the project area (i.e., Gilman Springs Road) is within Area Plan Subunit 3, the main focus of which is protection of bobcat and mountain lion habitat. The portions of the project area within Area Plan Subunit 3 are along the southwestern edge of the Subunit and collectively comprise approximately one percent of the target acreage range proposed for conservation. Since the project area encroaches on a limited portion of the boundary of the Area Plan Subunit, and since

these portions of the project area are already subject to existing edge effects, impacts from development under the WLCSP does not conflict with the long-term conservation goals for bobcat or mountain lion habitat. It should be noted that the project site is across a major roadway (Gilman Springs Road) from the Badlands and the sensitive habitat contained in this Area Plan Subunit.

e. Cell Group E and Criteria Cell 1390

Conservation within Cell Group E will contribute to assembly of Proposed Core 3 and will focus on chaparral, coastal sage scrub, grassland, and Riversidean alluvial fan sage scrub habitat. Areas conserved within this Cell Group will be connected to habitat proposed for conservation in Cell Group X to the north, habitat proposed for conservation in Cell Group C also to the north, and to habitat proposed for conservation in Cell Group F to the south. Conservation within Cell Group E will range from 45 percent to 55 percent of the Cell Group focusing in the western portion (see Figure 4.4.4).

Within the westernmost portion of Cell Group E, and specifically within Criteria Cell 1390, the project area encroaches on 51.9 acres. This portion of the project area is already in public ownership, is within the northeastern portion of the SJWA which is Public/Quasi-Public Conserved Land and is designated to be conserved by the CDFW. The project proposes no development on this land, so it would be consistent with the MSHCP (see Figure 4.4.3). It should be noted that this area is already part of the SJWA and is not proposed for any development under the proposed project.

f. Cell Group X: Criteria Cells 1204 and 1297

Conservation within Cell Group X will contribute to assembly of Proposed Core 3 and will focus on chaparral, coastal sage scrub, and grassland habitat. Areas conserved within Cell Group X will be connected to habitat proposed for conservation in Cell Groups C to the east, V to the northeast, and to chaparral and grassland habitat proposed for conservation in Cell Group E to the south. Conservation within Cell Group X will range from 65 percent to 75 percent of the Cell Group focusing in the northeastern portion of the Cell Group (see Figure 4.4.4).

Within the southwestern portion of Cell Group X, and specifically within Criteria Cells 1204 and 1297, the project area encroaches on 114.2 acres. Under the MSHCP, conservation for Cell Group X is proposed for the northeastern portions of the Cell Group. The project area is not within the targeted conservation areas and, therefore, will not adversely affect the County's ability to achieve the goals of the MSHCP (see Figure 4.4.4).

g. Area Plan Subunit 4: San Jacinto Wildlife Area/Mystic Lake

Area Plan Subunit 4 of the Reche Canyon/Badlands Area Plan includes lands within the southeastern portions of the Area Plan within the SJWA. Area Plan Subunit 4 contains 26 Criteria Cells organized into 3 Cell Groups and 12 independent cells. The MSHCP conservation objectives for Area Plan Subunit 4 include conserving land within the SJWA and Mystic Lake (see Figure 4.4.4). The target acreage range required for Additional Reserve Lands within Area Plan Subunit 4 is 860 to 1,750 acres.

Plant and Wildlife Planning Species within Area Plan Subunit 4 include:

- California Orcutt grass
- Los Angeles pocket mouse
- Smooth tarplant (*Hemizonia pungens*)
- Thread-leaved brodiaea
- Coulter's goldfields
- San Jacinto Valley crownscale
- Spreading navarretia
- Vernal barley (*Hordeum intercedens*)

- Wright's trichocoronis
- Stephens' kangaroo rat
- Loggerhead shrike
- Northern harrier (*Circus cyaneus*)
- Peregrine falcon (*Falco peregrinus*)
- Tricolored blackbird (*Agelaius tricolor*)
- White-tailed kite (*Elanus leucurus*)
- Black-crowned night heron (*Nycticorax nycticorax*)
- California horned-lark (*Eremophila alpestris actia*)
- American bittern (*Botaurus lentiginosus*)
- Burrowing owl
- Bobcat
- Mountain plover (*Charadrius montanus*)
- Osprey (*Pandion haliaetus*)
- Prairie falcon (*Falco mexicanus*)
- White-faced ibis (*Plegadis chihi*)
- Davidson's saltscale (*Atriplex serenana var. davidsonii*)
- Double-crested cormorant (*Phalacrocorax auritus*)

The biological issues and considerations emphasized in Area Plan Subunit 4 include:

- Conservation of alkali playa and other habitat to augment existing conservation in the SJWA and Mystic Lake.
- Conservation of existing vernal pool complexes associated with the San Jacinto River floodplain in the SJWA and Mystic Lake area. Conservation should focus on vernal pool surface area and supporting watersheds.
- Provide for a connection of intact habitat between the SJWA and the adjacent Badlands to the north.
- Conservation of Willow-Domino-Travers soils supporting sensitive plants such as San Jacinto Valley crownscale, Davidson saltscale, Coulter's goldfields, spreading navarretia, vernal barley and Wright's trichocoronis.
- Provide for and maintain a continuous linkage along the San Jacinto River from the southern to the southeastern boundary of the Reche Canyon/Badlands Area Plan.
- Maintain Linkage Area for bobcat.
- Maintain a Linkage Area for Stephens' kangaroo rat to SJWA.
- Determine the potential presence of potential Core Area for Los Angeles pocket mouse in connection between the Badlands and the SJWA.

The southern portion of the project area (i.e., the CDFW-owned Conservation Buffer Area) includes grasslands and agricultural lands that will be conserved as part of the northern portion of the SJWA. The project area is not within or along the San Jacinto River floodplain, and does not contain any alkali playa habitat or vernal pool complexes under the definition provided by the MSHCP.

There is no Willow-Domino-Travers soil within the project area; therefore, San Jacinto Valley crownscale, Davidson saltscale, Coulter's goldfields, spreading navarretia, vernal barley and/or Wright's trichocoronis are not likely to occur in the project area.

The project area is located immediately north of the Stephens' kangaroo rat preserve within the SJWA. The CDFW-owned portion of the project area adjacent to the SJWA is subject to regular disking and other disturbances associated with agricultural uses. The regular disturbances have resulted in an absence of suitable habitat for Stephens' kangaroo rat within the project area. The presence of a habitat linkage for this species within the project area is unlikely and population fragmentation is not anticipated.

Small portions of the project area contain suitable habitat for Los Angeles pocket mouse and burrowing owl; however, MBA's focused surveys concluded that the project area does not support the Los Angeles pocket mouse. The population of burrowing owl on site fluctuates from year to year, but they have been observed on site in the past and this EIR concludes this species may be present, especially in areas with suitable habitat or where agricultural fields become fallow for extended periods of time.

h. Cell Group D: Criteria Cells 1364, 1370, 1377, 1386, 1389, 1477, 1482, 1483, and 1577

Conservation within Cell Group D will contribute to assembly of areas proposed for conservation for Existing Core H (see Figure 4.4.4). Conservation within Cell Group D will focus on agricultural land. Conservation within this Cell Group will be approximately five percent of Cell Group D focused on the southern and western portion of the Cell Group. This cell group is already part of the SJWA and is being maintained as agricultural land by the CDFW (i.e., it constitutes the CDFW-owned Conservation Buffer Area).

Within Cell Group E, and specifically within Criteria Cells 1364, 1370, 1377, 1386, 1389, 1477, 1482, 1483, and 1577, the project area encroaches on 928.5 acres. Under the MSHCP, conservation for Cell Group D is proposed for the southern and western portions of the Cell Group. The project area includes approximately 60 percent of the northern portion of the Cell Group; therefore, future development of the project area is consistent with the conservation goals for this cell group. The majority of Cell Group D is within the northern extent of SJWA, a Public/Quasi-Public Conserved Land. This area is part of the SJWA and designated as conserved by the CDFW. It is designated as the Conservation Area and is not proposed for development under the project. Any development within land adjacent to Cell Group D (and the SJWA) must incorporate urban edge design features to minimize any potential impacts to the SJWA.

4.4.1.16 Species Not Covered by the MSHCP

a. Nesting Birds

The extensive agriculture plant communities in the project area provide suitable nesting habitat for ground-nesting avian species such as western meadowlark (*Sturnella neglecta*) and burrowing owl. Suitable habitat for shrub and tree nesting species such as red-tailed hawk, black phoebe (*Sayornis nigricans*), and house finch occur along the edges of existing development surrounding the project area as well as isolated, remnant patches of vegetation in undisturbed portions of the project area. Therefore, portions of the project area provide suitable nesting habitat for migratory birds protected under the MBTA and California Fish and Game Code.

b. Stephens' Kangaroo Rat

The project area is located just north of the Core Reserve Area for the Stephen's Kangaroo Rat Habitat Conservation Plan (HCP), but is not located within a core area. However, the project area is located within the fee area of the HCP. The project would have to comply with the HCP's Implementing Agreement (IA) and pay the County's per-acre mitigation fee.

The CDFW-owned portion of the project area is located immediately north of Core Reserve Area for Stephens' kangaroo rat and is not proposed for development as it is owned by the State and is already part of the SJWA. Therefore, incorporating this area into the Core Reserve Area for Stephen's kangaroo rat will provide a setback from the areas proposed for development within the project.

c. USFWS Designated Critical Habitat

No USFWS designated Critical Habitat for any species is present within the project area.

d. Other Special Status Species

Based on the CDFW and CNPS database searches mentioned above, 26 special status species that are not listed as Threatened or Endangered have the potential to occur in the project vicinity (previously referenced Table 4.4.A). Species that are not covered under the MSHCP or are not adequately conserved by the MSHCP at this time are also included in Table 4.4.A. All but six of the species in Table 4.4.A are covered by the MSHCP, meaning that they are considered adequately conserved provided that the MSHCP is implemented as intended.

4.4.1.17 Special-Status Species Not Covered by the MSHCP

The vast majority of special-status species considered in this analysis are "covered" species under the MSHCP. However, 18 special-status species have the potential to occur in the general project vicinity and are not covered under the MSHCP or are not adequately conserved by the MSHCP at this time. Details regarding the potential occurrence of these non-covered species are included in the General Biological Resources and MSHCP Compliance Report prepared by MBA and included as Appendix E-1. Due to unsuitable habitat and conditions within the project limits, none of these 18 non-covered species is expected to occur in the project area (see Table 4.4.D). Neither additional surveys nor additional conservation measures will be required for the project to address these species.

Table 4.4.D: Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Potential in Project Area	MSHCP Status
Plants				
Calochortus plummerae Plummer's mariposa lily	US: – CA: 1B MSHCP: P	Sandy or rocky sites of (usually) granitic or alluvial material in valley and foothill grassland, coastal scrub, chaparral, cismontane woodland, and lower montane coniferous forest at 300 to 5,600 feet elevation. Known from the Santa Monica Mountains to San Jacinto Mountains in Riverside, San Bernardino, Orange, Los Angeles, and Ventura Counties, California. In the western Riverside County area, this species is known from the foothills of the San Bernardino Mountains, northeastern Santa Ana Mountains, Box Springs Mountains, and from the Lake Skinner area (*The Vascular Plants of Western Riverside County*, California. F.M. Roberts et al., 2004).	**Moderate.** In southwest corner of site where suitable granitic and alluvial habitat is found.	Conditionally Covered
Centromadia pungens ssp. laevis **Smooth tarplant**	US: – CA: 1B MSHCP: S	Alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 1,600 feet elevation. Known from Riverside and San Bernardino Counties, extirpated from San Diego County.	**Absent.** No alkaline areas on the project site.	Covered

Table 4.4.D: Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Potential in Project Area	MSHCP Status
Chorizanthe parryi var. parryi **Parry's spineflower**	US: – CA: 1B MSHCP: P	Sandy or rocky soils in chaparral, coastal scrub, or woodlands at 100 to 5,600 feet elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties.	**Moderate.** Only found in limited sandy or rocky soils in chaparral, coastal sage scrub scrub, or woodlands on the project site.	Conditionally Covered
Lasthenia glabrata ssp. coulteri **Coulter's goldfields**	US: – CA: 1B MSHCP: S	Usually alkaline soils in marshes, playas, vernal pools, and valley and foothill grassland below 4,600 feet elevation. Known from Colusa, Merced, Tulare(?), Orange, Riverside, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties. Believed extirpated from Kern, Los Angeles, and San Bernardino Counties. Also occurs in Mexico.	**Absent.** No alkaline soils or suitable wet areas on the project site.	Covered
Lepidium virginicum var. robinsonii **Robinson's pepper-grass**	US: – CA: 1B MSHCP: NC	Dry soils in coastal sage scrub and chaparral below 2,900 feet elevation. In California, known only from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino and San Diego Counties, and Santa Cruz Island. Also occurs in Mexico.	**Low.** Only found in limited coastal sage scrub or chaparral on the project site.	Not Covered
Symphyotrichum defoliatum (Aster defoliatus) **San Bernardino aster**	US: – CA: 1B MSHCP: NC	Vernally wet sites (such as ditches, streams, and springs) in many plant communities below 6,700 feet elevation. In California, known from Ventura, Kern, San Bernardino, Los Angeles, Orange, Riverside, and San Diego Counties. May also occur in San Luis Obispo County. In the western Riverside County area, this species is scarce, and documented only from Temescal and San Timoteo Canyons (*The Vascular Plants of Western Riverside County, California*. F.M. Roberts et al., 2004).	**Low.** The east drainage course may be marginally suitable.	Not Covered
Amphibians				
Spea hammondii **Western spadefoot**	US: – CA: SSC MSHCP: C	Grasslands and occasionally hardwood woodlands; largely terrestrial but requires rain pools or other ponded water persisting at least three weeks for breeding; burrows in loose soils during dry season. Occurs in the Central Valley and adjacent foothills, the non-desert areas of southern California, and Baja California.	**Absent.** No breeding habitat on the project site.	Covered

Table 4.4.D: Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Potential in Project Area	MSHCP Status
Reptiles				
Anniella pulchra **California legless lizard**	US: – CA: SSC	Inhabits sandy or loose loamy soils with high moisture content under sparse vegetation from central California to northern Baja California.	**Low.** East drainage course may provide marginally suitable habitat.	Not Covered
Aspidoscelis hyperythra **Orangethroat whiptail**	US: – CA: SSC MSHCP: C	Prefers washes and other sandy areas with patches of brush and rocks, in chaparral, coastal sage scrub, juniper woodland, and oak woodland from sea level to 3,000 feet elevation. Perennial plants required. Occurs in Riverside, Orange, San Diego Counties west of the crest of the Peninsular Ranges, in extreme southern San Bernardino County near Colton, and in Baja California.	**Absent**. No coastal sage scrub, chaparral, or woodlands on the project site.	Covered
Crotalus ruber **Red diamond rattlesnake**	US: – CA: SSC MSHCP: C	Desert scrub, thornscrub, open chaparral and woodland; occasional in grassland and cultivated areas. Prefers rocky areas and dense vegetation. Morongo Valley in San Bernardino and Riverside Counties to the west and south into Mexico.	**Low.** No rocky areas on the project site.	Covered
Phrynosoma blainvillii (coronatum) **Coast horned lizard**	US: – CA: SSC MSHCP: C	Primarily in sandy soil in open areas, especially washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs west of the deserts from northern Baja California north to Shasta County below 8,000 feet elevation.	**Low.** East drainage course may provide marginally suitable habitat.	Covered
Birds				
Agelaius tricolor (nesting colony) **Tricolored blackbird**	US: – CA: SSC (breeding) MSHCP: C	Open country in western Oregon, California, and northwestern Baja California. Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs and forages in grassland and cropland habitats. Seeks cover for roosting in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs.	**Absent.** No marshy areas on the project site or nearby.	Covered
Ammodramus savannarum (nesting) **Grasshopper sparrow**	US: – CA: SSC (breeding) MSHCP: P	Grasslands, agricultural fields, prairie, old fields and open savanna. Uncommon and very local summer resident on grassy slopes and mesas west of the deserts. Only rarely in migration and in winter. Coastal Southern California.	**Present.** Observed during burrowing owl surveys on the project site.	Conditionally Covered

Table 4.4.D: Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Potential in Project Area	MSHCP Status
Asio flammeus (nesting) **Short-eared owl**	US: – CA: SSC (breeding) MSHCP: NC	Open country, usually with tall grass, in scattered regions around the Northern Hemisphere. Primarily a rare winter visitor in southwestern California, but recorded at Mystic Lake in the San Jacinto Valley, Riverside County, in summer 1992, and Harper Dry Lake, San Bernardino County, summer 1993.	**Low.** A rare winter visitor in region. No tall grassy areas on the project site.	Not Covered
Athene cunicularia (burrow sites) **Burrowing owl**	US: – CA: SSC (breeding) MSHCP: S	Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad rights-of-way, and margins of highways, golf courses, and airports. Often utilizes man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. They avoid thick, tall vegetation, brush, and trees, but may occur in areas where brush or tree cover is less than 30 percent.	**Low to Moderate.** Found at various times during focused surveys on the project site.	Covered
Charadrius montanus (wintering) **Mountain plover**	US: – CA: SSC (wintering) MSHCP: C	Forages in areas with flat topography and bare ground or short vegetation: short grasslands, freshly plowed fields, newly sprouting grain fields, grazed areas, and sometimes sod farms. Found on short grasslands and plowed fields of the Central Valley from Sutter and Yuba Counties southward. Also found in foothill valleys west of San Joaquin Valley, Imperial Valley, plowed fields of Los Angeles and western San Bernardino Counties, and along the central Colorado River Valley. Recent extralimital records exist for locations along the northern coast of California. Winters below 3,200 feet.	**Low.** Habitat on site may be marginally suitable for brief winter foraging if plowed or mowed.	Covered
Circus cyaneus (nesting) **Northern harrier**	US: – CA: SSC (breeding) MSHCP: C	Marshy habitats, grassland and other open country; uncommon in open desert and brushlands. Nests on the ground in open (treeless) wetland and upland areas, including cultivated cropland and dry grassland. Nest usually constructed in tall, dense clumps of vegetation. Found in the Temperate Zone worldwide.	**Low.** Open habitat on the project site is marginally suitable.	Covered

Table 4.4.D: Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Potential in Project Area	MSHCP Status
Elanus leucurus (nesting) **White-tailed kite**	US: – CA: CFP MSHCP: C	Typically nests in riparian trees such as oaks, willows, and cottonwoods at low elevations. Forages in open country. Found in South America and in southern areas and along the western coast of North America.	**Low.** May forage on the project site.	Covered
Icteria virens (nesting) **Yellow-breasted chat**	US: – CA: SSC (breeding) MSHCP: C	Riparian thickets of willow, brushy tangles near watercourses. Nests in riparian woodland throughout much of western North America. Winters in Central America.	**Absent.** No riparian thickets or woodland on the project site.	Covered
Lanius ludovicianus (nesting) **Loggerhead shrike**	US: – CA: SSC (breeding) MSHCP: C	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Inhabits open country with short vegetation, pastures, old orchards, cemeteries, golf courses, riparian areas, and open woodlands. Highest density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Occurs only rarely in heavily urbanized areas, but often found in open cropland. Found in open country in much of North America.	**Low.** Uncommon in urbanized areas, but habitat on the project site is otherwise suitable.	Covered
Mammals				
Chaetodipus fallax fallax **Northwestern San Diego pocket mouse**	US: – CA: SSC MSHCP: C	Found in sandy herbaceous areas, usually associated with rocks or coarse gravel in coastal scrub, chaparral, grasslands, and sagebrush, from Los Angeles County through southwestern San Bernardino, western Riverside, and San Diego Counties to northern Baja California.	**Low.** Project site may be marginally suitable.	Covered
Eumops perotis **Western mastiff bat**	US: – CA: SSC MSHCP: NC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, and tunnels, and travels widely when foraging.	**Low.** No roosting habitat on the site, but may forage in the general area.	Not Covered
Lasiurus xanthinus **Western yellow bat**	US: – CA: SSC (in process) MSHCP: NC	Found in desert and riparian areas of the southwest U.S. Individuals roost in the dead fronds of palm trees, and have also been documented roosting in cottonwood trees.	**Low.** Roosting habitat is sparse in project site vicinity.	Not Covered

Table 4.4.D: Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Potential in Project Area	MSHCP Status
Lepus californicus bennettii **San Diego black-tailed jackrabbit**	US: – CA: SSC MSHCP: C	Variety of habitats including herbaceous and desert scrub areas, early stages of open forest and chaparral. Most common in relatively open habitats. Restricted to the cismontane areas of Southern California, extending from the coast to the Santa Monica, San Gabriel, San Bernardino, and Santa Rosa Mountain Ranges.	**Moderate.** Open areas of project site are suitable.	Covered
Perognathus longimembris brevinasus **Los Angeles pocket mouse**	US: – CA: SSC MSHCP: S	Prefers sandy soil for burrowing, but has been found on gravel washes and stony soils. Found in coastal sage scrub in Los Angeles, Riverside, and San Bernardino Counties.	**Absent.** No coastal sage scrub and very little sandy soil on the project site.	Covered
Taxidea taxus **American badger**	US: – CA: SSC MSHCP: NC	Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and desert. Widely distributed in North America.	**Absent.** Avoids urbanized areas. Widely but sparsely distributed in the region.	Not Covered

TABLE 4.4.D LEGEND	
US: Federal Classifications	
–	No Federal classification
CA: State Classifications	
SSC	California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
CFP	California Fully Protected. Refers to animals protected from take under Fish and Game Code Sections 3511, 4700, 5050, and 5515.
1B	California Rare Plant Rank 1B: Rare, threatened, or endangered in California and elsewhere.
California Rare Plant Ranks are assigned by a committee of government agency and non-governmental botanical experts and are not official State designations of rarity status.	
MSHCP: Western Riverside County MSHCP Status	
S	Species is adequately conserved under the MSHCP, but surveys are required within indicated habitats and/or survey areas.
C	Species is adequately conserved under the MSHCP.
P	Species is covered but not considered adequately conserved pending completion of MSHCP specified requirements.
NC	Species is not covered under the MSHCP.

Source: *City of Moreno Valley General Plan Final EIR,* City of Moreno Valley, approved October, 2006; Natural Diversity Data Base records for *Sunnymead, Lakeview,* and *El Casco* USGS 7.5-minute quadrangles searched in March 2012, using *Rarefind 3* (version 3.1.0, California Department of Fish and Wildlife, dated September 3, 2011); *Electronic Inventory of Rare and Endangered Vascular Plants of California* (online edition, v8-01a, California Native Plant Society, 2011, http://www.rareplants.cnps.org/) records for *Lakeview, Sunnymead* and *El Casco* USGS 7.5-minute quadrangles searched in March 2012.

a. Special-Status Wildlife

The MBA report states that one special-status wildlife species was observed during field surveys. This was grasshopper sparrow in the southern sage scrub habitat area. In addition, raptors are numerous in the agricultural fields on the project site and off site in the SJWA. None of the other

special-status wildlife species was determined to be present within the WLC planning area because their habitat requirements are not present on the site; therefore, no further survey or study is required to determine likely presence, absence, or to assess project-related effects to these species.

While none of the bat species identified in the MSHCP Compliance Report (Appendix E-1) is expected to roost in the project area, the site does contain suitable foraging habitat for bat species that may roost in the surrounding region. The incremental loss of bat foraging habitat on the site would be compensated by participation in the MSHCP because the MSHCP mitigation fees are meant to purchase conservation lands to support species throughout western Riverside County.

b. Raptors and Other Avian Species

California Fish and Game Code, Sections 3503, 3503.5, 3505, and 3513, and the California Code of Regulations (Title 14, Sections 251.1, 652 and 783-786.6) have specific provisions for the protection of raptors (birds of prey). Furthermore, the MBTA protects the nests of migratory birds and raptors. There are a limited number of tall trees within the project site that would provide roosting or nesting habitat for raptors, such as hawks and owls, among other resident and migratory bird species. Two raptor species, red-shouldered hawk and American kestrel, have been observed in the area on a regular basis, suggesting at least these raptors may be roosting on site or nearby. The extensive open land within the project area provides foraging habitat for raptors and other avian species.

One of the species in previously referenced Table 4.4.B, grasshopper sparrow, was observed on the site during the burrowing owl survey. Fourteen other species, including burrowing owl, have a low-to-moderate potential to occur on the site based on existing habitat quality. Burrowing owl is assumed to be present on site, especially in areas of suitable habitat and in agricultural fields that are left fallow for extended periods of time.

As previously indicated, the project site is within the MSHCP burrowing owl survey area, and habitat assessments and focused surveys were conducted. During the focused survey in 2005, one location within the project site contained burrowing owl sign (i.e., whitewash and bone fragments) and a pair was observed in this same area. Field surveys also identified suitable burrows in the project area that may provide habitat for the western burrowing owl. Therefore, the species is considered to be present due to the presence of suitable habitat on site.

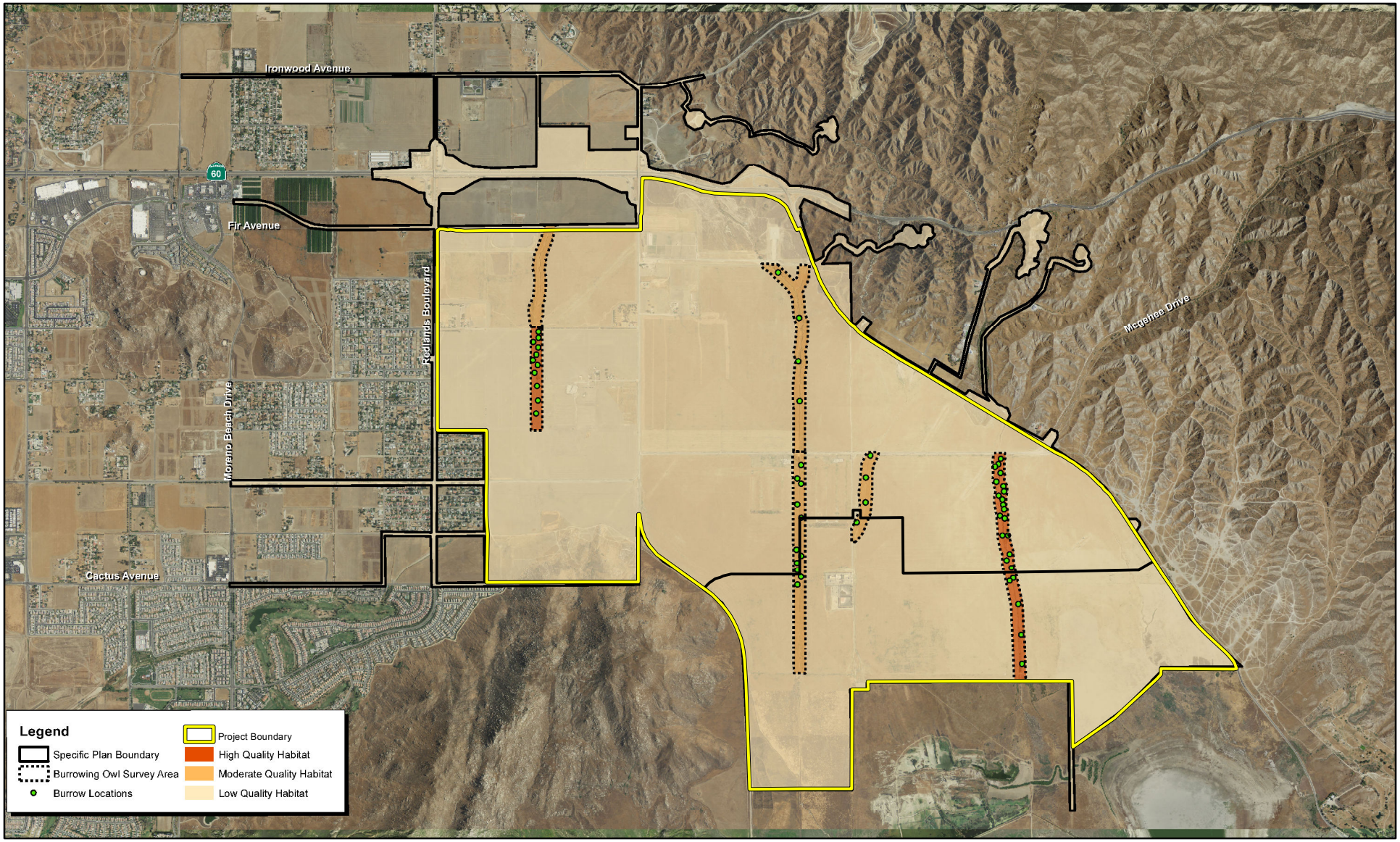
To confirm presence or absence of the burrowing owl in specific development areas of the project area, an MSHCP 30-day pre-construction protocol survey for burrowing owl will need to be conducted prior to any ground-disturbing activities. Figure 4.4.5 shows the location of burrowing owl habitat on the project site.

Of the species with potential to occur on the site, none is listed as threatened or endangered under State or Federal law, all are relatively widespread, and the project area does not contain high quality habitat for any of these species.

4.4.1.18 Other Issues

a. Setbacks

The MSHCP's urban/wildlands interface analysis encourages buffers or setbacks between development and areas with sensitive biological resources. The SJWA is considered an important resource due to the large number and diversity of birds that utilize it. Available research and MSHCP guidelines recommend a setback or buffer between the north boundary of the SJWA and the south boundary of development within the proposed project. Existing scientific and academic literature can provide guidance on the appropriate width of such a buffer under these types of conditions. Typical setbacks to protect wildlife from human presence (though not warehousing) ranges from 50 to 500



LSA

FIGURE 4.4.5

N

0 1,800 3,600

FEET

SOURCE: Michael Brandman Associates, 2010.

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World Logistics Center Project
Environmental Impact Report

Burrowing Owl Habitat Suitability

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feet, but 200–215 feet appears adequate for the most sensitive or valuable wetlands.[1] As an example, Placer County has setback guidelines in its General Plan of a setback range of 100–400 feet between field crops and natural areas, and a setback range of 50–200 feet between rangeland/pastures and natural areas[2]. In addition, the MSHCP and adopted guidelines of the USFWS and CDFW include a setback of 200 feet or more from nesting birds during construction activities. For example, typical burrowing owl mitigation says, "To adequately avoid active nests, no grading or heavy equipment activity shall take place within at least 250 feet of an active nest during the breeding season (February 1 through August 31) and 160 feet during the non-breeding season."

In evaluating the potential impacts of project development on the SJWA and Mystic Lake, it will be important to consider that the CDFW Conservation Buffer Area was originally purchased by the State to provide a buffer between SJWA/Mystic Lake and future development within the Moreno Highlands Specific Plan (now the proposed project area).

4.4.1.19 On-site Drainages

The jurisdictional delineation report[3] conducted in 2012 concluded that the project area contains 14 drainage features including four roadside ditches, seven isolated drainage features, and three isolated features. All 14 drainage features lack direct connectivity to any downstream Traditional Navigable Waters (TNWs) or any other Relatively Permanent Waters (RPW). The four roadside ditches lack riparian vegetation and only convey nuisance flows from localized runoff from the adjacent road. These flows eventually revert to sheet flow within the survey area and have no direct connectivity.

The three isolated features include an abandoned water quality detention basin and two abandoned basins associated with previous cattle activities. The water quality basin is a temporary facility that was constructed to treat drainage flows resulting from the construction of the Skechers facility. The two isolated basins were previously used to collect polluted runoff from the associated cattle facility. The facility included concrete-lined areas to contain cattle in a dairy operation. Animal waste would be collected in the basins to protect downstream water quality. The livestock facilities have been removed and the basins are no longer functioning.

The remaining seven drainage features originate on site or immediately north of the survey area. These features are mostly human-made and are used to control downstream flows within a channel to reduce erosion impacts to adjacent agricultural fields. The soft soils within the project area are highly erosive and the depth of the erosional features varies from 2 feet to 30 feet. All seven drainage features eventually revert to sheet flow conditions into open grassland habitat with no direct connectivity downstream. These drainage features were determined not to be subject to the jurisdiction of the CDFW. These features do not meet the minimum requirements to be considered jurisdictional by regulatory agencies due to:

- Lack of connectivity to any downstream waters of the US or waters of the State.
- Absence of a consistent bed and bank and/or ordinary high water mark (OHWM).
- Low biological resource value.
- The roadside ditches and agricultural drainages drain only upland areas and do not carry relatively permanent water flows.
- No jurisdictional wetlands occur within the project area.

1 *Setting Buffer Sizes for Wetlands.* J. McElfish 2008.
2 Placer County General Plan, Land Use Element, Table I-4, 1994.
3 *Jurisdictional Delineation Report*, Michael Brandman Associates, April 23, 2012.

The location and extent of these on-site drainages in relation to the project site are illustrated in previously referenced Figure 4.4.2.

4.4.1.20 NOP/Scoping Comments

Local residents and representatives of several conservation groups related the biological resources of the San Jacinto Wildlife Preserve expressed concern about impacts of the project on the Preserve, including diesel particulates and other air pollutants, noise, night lighting, etc. At least one conservation group representative felt that project impacts should be identified for every species present in the area (see Section 2.6.1, *Notice of Preparation*). Copies of NOP comment correspondence is included in Appendix A.

The discussion of potential environmental impacts of the project on biological resources and the MSHCP that was requested by conservation groups has been addressed in previous sections, including indirect effects of diesel air pollutant emissions, lighting, noise, etc.

4.4.2 Existing Policies and Regulations

4.4.2.1 Federal Regulations

Federal Endangered Species Act (FESA). The FESA was enacted to protect any species of plant or animal that is endangered or threatened with extinction. Section 9 of the FESA prohibits "take" of federally threatened or endangered wildlife. Take, as defined under the FESA, means to harass, harm, pursue, hunt, wound, kill, trap, capture, collect, or attempt to engage in any such conduct (16 USC 1532[19]). Section 9 also prohibits the removal and reduction of endangered plants from lands under Federal jurisdiction, and the removal, cutting, digging, damage, or destruction of endangered plants on any other area in "knowing violation of State law or regulation."

Section 9 of the FESA (16 USC 1538) prohibits take of a federally listed endangered species of fish or wildlife except pursuant to a permit and HCP approved under Section 10(a) of the FESA (16 USC 1539). The FESA prohibitions and requirements are different, however, for endangered species of plants. Section 9 prohibits the take of endangered plants only from areas under Federal jurisdiction, or if such take would violate state law.

Development proposed by the WLC project site is located on private land. For listed plants located on private land, formal consultation with the USFWS is required when a project has a Federal "nexus" (i.e., a Federal permit is required or Federal funding is involved). In the absence of a Federal nexus, a project does not require a permit under the FESA for impacts to listed plants on private lands.

Clean Water Act. The USACE regulates discharges of dredged or fill material into waters of the United States. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the Federal Clean Water Act (CWA) is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in the USACE regulations). The USACE typically regulates as non-wetland waters of the U.S. any body of water displaying an ordinary high water mark (OHWM). In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied in order for that particular wetland characteristic to be met.

In 2006, the United States Supreme Court in the consolidated cases *Rapanos v. United States* and *Caravell v. United States*, Nos. 04-1034 and 04-1384 (*Rapanos*: June 19, 2006) addressed CWA jurisdiction over wetlands adjacent or abutting navigable, non-navigable and ephemeral tributaries and jurisdiction over permanent and relatively permanent non-navigable tributaries. According to the United Sates Supreme Court, the CWA does not assert jurisdiction over upland erosional features, gullies, and roadside ditches that have infrequent, low volume, and short duration of water flow. The USACE uses a significant nexus analysis. A water body is considered to have a "significant nexus" with a traditional navigable water (TNW)[1] if its flow characteristics and functions in combination with the ecologic and hydrologic functions performed by all wetlands adjacent to such a tributary, affect the chemical, physical, and biological integrity of a downstream traditional navigable water. Additional information is provided in the Environmental Protection Agency (EPA) memorandum titled "Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States* & *Caravell v. United States*," dated June 5, 2007 (USACE 2007), and also the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (USACE and EPA 2007).

The Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the CWA, through water quality certification of any activity that may result in a discharge to jurisdictional waters of the U.S. The RWQCB may also regulate discharges to "waters of the State," including wetlands, under the California Porter-Cologne Water Quality Control Act.

4.4.2.2 State Regulations

California Endangered Species Act (CESA). The CESA is similar to the FESA in that its intent is to protect species of fish, wildlife, and plants that are in danger of, or threatened with, extinction because their habitats are threatened with destruction, adverse modification, or severe curtailment, or because of overexploitation, disease, predation, or other factors.

"Take" as defined under CESA means hunt, pursue, capture, or kill, or attempt to hunt, pursue, capture, or kill. Under certain conditions, CESA has provisions for take through a 2081 Permit or a Section 2081 Memorandum of Understanding. The impacts of the authorized take must be minimized and fully mitigated. No permit may be issued if the issuance of the permit would jeopardize the continued existence of the species.

California Environmental Quality Act. Section 15380(b) of the *CEQA Guidelines* provides that a species not listed on the Federal or State lists of protected species may be considered rare or endangered if the species can be shown to meet specified criteria. These criteria have been modeled after the definitions in FESA and CESA and § 2780–2781 of Article 1 of the California Fish and Game Code dealing with the California Wildlife Protection Act of 1990. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW.

California Fish and Game Code Section 3503 and the Migratory Bird Treaty Act. Section 3503 of the California Fish and Game Code prohibits the destruction of bird nests except as otherwise provided for in the Fish and Game Code. The MBTA similarly protects the nests of migratory birds. These regulations apply to the individual nests of these species, but do not regulate impacts to the species' habitats.

[1] A "traditional navigable water" includes all of the "navigable waters of the United States," defined in 33 C.F.R. § 329 and by numerous decisions of the Federal courts, plus all other waters that are navigable-in-fact.

Raptor Protection. The California Fish and Game Code (Fish and Game Code, Sections 3503, 3503.5, 3505 and 3513), and California Code of Regulations (Title 14, Sections 251.1, 652 and 783-786.6) have specific provisions for the protection of raptors (birds of prey).

Streambed Alteration Agreements. Sections 1600 et seq. of the California Fish and Game Code define the responsibilities of the CDFW and require public and private applicants to obtain an agreement for projects that would "divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake designated by the CDFW in which there is at any time an existing fish or wildlife resource or from which those resources derive benefit, or would use material from the streambed designated by the department." CDFW wardens and/or unit biologists typically have the responsibility for formulating and issuing Streambed Alteration Agreements. The CDFW, through provisions of the Code (Sections 1601–1603), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW.

Native Plant Protection Act (NPPA). Sections 1900–1913 of the California Fish and Game Code (Native Plant Protection Act) direct the CDFW to carry out the Legislature's intent to "… preserve, protect and enhance endangered or rare native plants of this state." The NPPA gives the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take.

4.4.2.3 Regional Regulations

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The continued loss of habitat to new development and the cumbersome process of environmental review and habitat mitigation on a project-by-project basis led to preparation of the MSHCP. The MSHCP is a multi-jurisdictional effort that provides a regional conservation solution to species and habitat issues. The underlying goal of the MSHCP is to protect multiple species by preserving a variety of habitat and providing linkages between different habitat areas and other undeveloped lands. The MSHCP allows Riverside County and its cities to better control local land-use decisions and maintain a strong economic climate in the region while addressing the requirements of CESA and FESA. The overall goal of the MSHCP is to enhance and maintain biological diversity and ecosystem processes while allowing future economic growth.

The MSHCP was adopted on June 17, 2003. The MSHCP is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on the long-term conservation of species and their habitats in western Riverside County. The MSHCP serves as an HCP pursuant to Section 10(a)(1)(B) of FESA as well as the Natural Communities Conservation Plan (NCCP) under the State of California. The USWFS issued a Biological Opinion for the MSHCP on June 22, 2004. The CDFW also issued the NCCP Approval and Take Authorization for the MSHCP. As long as adherence to the policies and requirements of the MSHCP is maintained, participants in the MSHCP, which include the County of Riverside and fourteen cities (including the City of Moreno Valley), are allowed to authorize "incidental take" of plant and wildlife species of concern.

The MSHCP will eventually result in an MSHCP Conservation Area in excess of 500,000 acres and focuses on conservation of 146 species including amphibians, reptiles, birds, mammals, invertebrates, and plants. The MSHCP Conservation Area includes approximately 347,000 acres on existing Public/Quasi-Public Lands and approximately 153,000 acres of Additional Reserve Land. The MSHCP Plan Area encompasses approximately 1.26 million acres (1,966 square miles); it includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange

County line, as well as the jurisdictional areas of the Cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto. It provides a coordinated MSHCP Conservation Area and implementation program to preserve biological diversity and maintain the region's quality of life.

The MSHCP serves as a HCP pursuant to Section 10(a)(1)(B) of FESA, as well as an NCCP under the NCCP Act of 2001. The MSHCP allows the City of Moreno Valley as well as other signatories of the Plan to authorize "Take" of plant and wildlife species identified within the Plan Area. The USFWS and CDFW have authority to regulate the Take of Threatened, Endangered, and rare Species. Under the MSHCP, the USFWS and CDFW can grant "Take Authorization" for otherwise lawful actions—such as public and private development that may incidentally Take or harm individual species or their habitat outside of the MSHCP Conservation Area—in exchange for the assembly and management of a coordinated MSHCP Conservation Area.

Of the 1.26 million acres covered by the MSHCP, 500,000 acres have been designated for preservation: 347,000 acres are already conserved as public or quasi-public land and another 45,270 acres have been acquired as habitat by the Regional Conservation Authority (RCA). According to the most recent RCA-MSHCP Annual Report, the City of Moreno Valley has a high-end goal of conserving 130 acres within its sphere of influence of the MSHCP; the City has already conserved 943 acres (RCA Annual Report 2010, Table 3). Altogether, Riverside County has reached 77 percent of the goal in the MSHCP.

Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP). The USFWS issued a permit to the Riverside County Habitat Conservation Agency on May 3, 1996, for incidental take of Stephens' kangaroo rat (*Dipodomys stephensi*). The 30-year plan is designed to acquire and permanently conserve, maintain, and fund the conservation, preservation, restoration, and enhancement of Stephens' kangaroo rat occupied habitat. The SKR HCP covers approximately 534,000 acres within the member jurisdictions (including the City of Moreno Valley), and includes an estimated 30,000 acres of occupied Stephens' kangaroo rat habitat. The SKR HCP requires members to preserve and manage 15,000 acres of occupied Stephens' kangaroo rat habitat in 7 Core Reserves encompassing over 41,000 acres. Currently 12,460 acres of occupied habitat exists within the Core Reserves.

4.4.2.4 City of Moreno Valley General Plan Policies

The specific policies outlined in the City's General Plan Conservation Element related to biological resources include:

Conservation Element

Policy 7.4.1 Require all development, including roads, proposed adjacent to riparian and other biologically sensitive habitats to provide adequate buffers to mitigate impacts to such areas.

Policy 7.4.3 Preserve natural drainage courses in their natural state and the natural hydrology, unless the protection of life and property necessitate improvement as concrete channels.

Policy 7.4.5 The City shall fulfill its obligations set forth within any agreement(s) and permit(s) that the City may enter into for the purpose of implementing the Western Riverside County Multiple Species Habitat Conservation Plan.

4.4.3 Methodologies

The project area was assessed to determine consistency with the MSHCP focusing on conservation of species and their associated habitats in western Riverside County. The Riverside County Integrated Project (RCIP) Conservation Summary Report was first reviewed to determine habitat assessment and potential survey requirements for the study area. Geographic Information Systems (GIS) software was used to map the site in relation to MSHCP areas including Criteria Cells; conservation areas and linkages; Criteria Area Species Survey Areas for plant, bird, mammal, and amphibian species; Narrow Endemic Plants Survey Area; and survey requirements for inadequately covered species.

4.4.3.1 Literature Search

Prior to each field visit, a literature review to determine environmental conditions occurring on the study area and the surrounding area was conducted. The primary objective of the review is to evaluate the potential for suitable habitat for sensitive plant and wildlife species, as well as to determine the applicability of other MSHCP and CEQA requirements as they pertain to the proposed project. A compilation of sensitive plant and wildlife species recorded in the vicinity of the study area was derived from the CDFW's California Natural Diversity Data Base (CDFW 2012), a sensitive species and plant community account database. Additional recorded occurrences of plant species found on or near the planning area were derived from the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California database. The CNDDB and CNPS search was based on the *Lakeview, Sunnymead*, and *El Casco, California* USGS 7.5-minute topographic quadrangles, encompassing 126 square miles. Additional recorded occurrences of these species found on or near the study area were derived from biota studies conducted for the MSHCP as well as studies conducted by MBA biologists for other projects over the years.

The MSHCP and CEQA also require an assessment to determine the potentially significant effects of the project on riparian/riverine areas and vernal pools. According to the MSHCP, the documentation for the assessment shall include mapping and a description of the functions and values of the mapped areas with respect to the species listed in the MSHCP's Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools. This assessment is independent from considerations given to waters of the U.S. and waters of the State under the Clean Water Act (CWA) and California Fish and Game Code. This assessment has been completed for all of the study area but not in the zone of potentially indirect effects.

As part of the MSHCP requirements, an Urban/Wildlands Interface Analysis is required to address the indirect effects associated with locating proposed development in proximity to MSHCP conservation areas. The development may result in edge effects, which could potentially affect biological resources within the MSHCP Conservation Area. According to the MSHCP, the analysis should include an assessment of the potential indirect project impacts that may result from drainage features, toxics, noise, invasive species, barriers, access, and grading/development, as listed and described in the MSHCP's Section 6.1.4, *Guidelines Pertaining to Urban/Wildlands Interface*. For this study, the Urban/Wildlands Interface Analysis was extended eastward to include indirect effects adjacent to Gilman Springs Road.

4.4.3.2 Habitat Assessment Survey

MBA originally assessed the planning area in 2005 and has conducted numerous additional surveys since then. Details of the survey dates and specific survey areas are provided in the 2012 MBA report (DEIR Appendix E). The planning area, including the off-site facilities and the CDFW Conservation land, was surveyed to determine the plant communities present, the suitability for Narrow Endemic and Criteria Area plant species, the presence of riparian areas, and the presence of suitable habitat

for burrowing owl and Los Angeles pocket mouse. Parameters assessed included soil conditions, presence of indicator species, slope, aspect, and hydrology.

4.4.3.3 Plants

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photographs. The plant communities within the planning area were classified according to the CDFW's List of Terrestrial Natural Communities (2003) and cross-referenced to descriptions provided in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986) and Oberbauer's Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions (1996). Common plant species observed during reconnaissance-level surveys in the planning area were identified by visual characteristics and morphology in the field and recorded in a field notebook. Uncommon and less familiar plants were identified off site using taxonomical guides. A list of all species observed on the study area was compiled from the survey data, shown in Appendix A of the MBA 2012 report (DEIR Appendix E).

4.4.3.4 Wildlife

Wildlife species detected during field surveys in the planning area by sight, calls, tracks, scat, or other sign recorded during surveys in a field notebook by all biologists working on the project. Field guides were used to assist with identification of species during surveys. Although common names of wildlife species are fairly well standardized, scientific names are used in this report and are provided in Appendix A of the 2012 MBA report (DEIR Appendix E).

4.4.3.5 Riparian/Riverine and Vernal Pool Habitat

Aerial photography was reviewed prior to conducting general surveys to identify any potential natural drainage features and water bodies that may qualify as riparian/riverine. In general, the surface drainage features indicated as blue-line streams on USGS topographic quadrangle maps that were observed or expected to exhibit evidence of flow, can potentially support riparian/riverine areas. The planning area was evaluated for any riparian/riverine and vernal pool habitat in 2005, 2007, and 2012.

4.4.3.6 Burrowing Owl

The project site is within the MSHCP burrowing owl survey area, and habitat assessments for burrowing owl (*Athene cunicularia hypugea*) were conducted 2005, 2006, 2010, and 2012 on various portions of the project site. Areas of suitable habitat, if present, were mapped onto an aerial photograph. Potential owl burrows, such as abandoned small mammal burrows, as well as manmade structures including earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles, or openings beneath cement or asphalt pavement are generally mapped onto an aerial photograph. The site was determined to have suitable habitat in a number of widespread locations, and owls were observed in various locations during the MSHCP fieldwork, so a focused survey was conducted in 2012.

A focused western burrowing owl survey was conducted for the proposed project site on five separate days in 2012. Under the MSHCP, the focused survey protocol was divided into two parts: 1) a Focused Burrow Survey; and 2) a Focused Burrowing Owl Survey. The focused survey was conducted during the breeding season (March 1–August 31) as defined under the MSHCP,[1] and also in accordance with the California Burrowing Owl Consortium's (CBOC) *Burrowing Owl Survey Protocol and Mitigation Guidelines*.[2] Although the species was not observed during the most recent survey, it has been

[1] Western Riverside County Multiple Species Habitat Conservation Plan, Volume I, Dudek & Associates, June 17, 2003.
[2] Burrowing Owl Survey Protocol and Mitigation Guidelines, California Burrowing Owl Consortium, 1993.

observed at other times in the past, and is assumed to be present due to the presence of suitable habitat and the fact they can occupy fallow agricultural fields relatively quickly. The MSHCP requires that pre-construction surveys be completed in areas of suitable habitat.

4.4.3.7 Los Angeles Pocket Mouse

Focused surveys for the Los Angeles pocket mouse (LAPM) (*Perognathus longimembris brevinasus*) were conducted in August 2005, June 2010, and June 2012 (see DEIR Appendix E). The surveys were conducted according to the established USFWS protocols for Pacific pocket mouse (*Perognathus longimembris longimembris*), a similar species. The current protocol requires trapping for 5 consecutive nights: conducted when the animal is active aboveground at night, during a new moon phase, if possible. No LAPM were observed in the project area during the focused surveys, but there is marginal habitat located in Drainages 7 and 9. MBA concluded that the project area was not occupied by LAPM. However, future surveys may be needed for development in areas of the site that contain suitable habitat for the project to be consistent with the long-term conservation goals of the MSHCP.

4.4.3.8 Jurisdictional Determination Report

Prior to beginning the field delineation, a color aerial photograph, a topographic base map of the project area and the previously cited USGS topographic maps were examined to determine the locations of potential areas of USACE/CDFW/RWQCB jurisdiction. Potential jurisdictional areas were field-checked for the presence of definable channels[1] and/or wetland vegetation, soils and hydrology. Suspected wetland habitats on the site were evaluated using the methodology set forth in the *U.S. Army Corps of Engineers 1987 Wetland Delineation Manual*[2] (Wetland Manual) and the *2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0).[3] The limits of USACE/CDFW/RWQCB jurisdiction were recorded using sub-meter GPS technology while in the field.

4.4.4 Thresholds of Significance

Based on Appendix G of the *CEQA Guidelines*, biological resource impacts would occur if the proposed project would:

- Have a substantial adverse effect, either directly or indirectly or through habitat modification, on any species identified as endangered or threatened in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect, either directly or indirectly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or the USFWS;

[1] U.S. Army Corps of Engineers. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) ion the Arid West Region of the United States: A Delineation Manual. ERDC/CRREL TR-08-12: Cold Regions Research and Engineering Laboratory, U.S. Army Engineer Research and Development Center, Hanover NH.

[2] Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

[3] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. Ed. J.S. Wakeley, R.W. Lichevar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native or resident migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

4.4.5 Less Than Significant Impacts

4.4.5.1 Jurisdictional Waters/Wetlands

Threshold	Would the proposed project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Drainages in the project area were investigated and delineated by MBA in March 2012. A total of 14 primary drainage features were identified during this survey and a number of sub-drainages or tributaries were also identified. Jurisdiction for each drainage and/or sub-drainage or tributary was evaluated for jurisdiction under Section 404 and 401 of the CWA as administered by USACE and RWQCB, respectively; Porter Cologne as administered by the RWQCB; and Section 1600 of the Fish and Game Code as administered by the CDFW.

All 14 drainage features identified in the 2012 document were assessed to determine the jurisdictional limits. Based on current conditions, none of the 14 features is subject to the jurisdiction of the USACE and/or RWQCB. In addition, no jurisdictional wetlands or isolated wetlands were identified. Drainage Features 1, 2, 4, 12, and 13 flow to the south and then southwest of the project area. These drainage features are contained in roadside ditches or otherwise sheet flow prior to leaving the project area.

A small portion of Drainage Feature 12 in the CDFW-owned Conservation Buffer Area has physical features that may result in it being subject to USACE jurisdiction. However, this drainage is on CDFW-owned property will not be disturbed by future project construction. If this off-site portion of Drainage Feature 12 is affected by WLC project construction activities or flood control improvements in the future, then regulatory permitting may be required.

There are two drainage features that are completely isolated, Drainage Features 3 and 14. Drainage Feature 3 is an isolated temporary water quality facility serving the new Skechers building. This feature was created in an existing upland area and will eventually be converted into an underground storm drainage system. The second feature (consisting of two small basins) was created in an upland area to contain polluted runoff from a now-abandoned cattle operation. The eastern feature (Feature 14) is dominated by non-native tree species and contains no native riparian habitat. The western feature contains a mix of non-native trees and native riparian habitat. There is no evidence of ponding and the basin is no longer in use. These basins no longer serve any water quality function and are therefore not considered to be an isolated water of the State under the Porter Cologne Act.

The remaining seven features flow to the south and eventually revert to sheet flow conditions before reaching the San Jacinto Wildlife Area. Each drainage feature was walked until neither an ordinary high water mark (OHWM) nor a clearly defined bed and bank feature was present and the drainage

course reverted to sheet flow onto open land. There was no evidence of flows downstream of the drainage where the OHWM was no longer present. Therefore, these features are hydrologically and physically isolated from any downstream RPW or TNW. Surface flows from the project area will eventually be conveyed into the SJWA. The SJWA's system of ponded areas was surveyed to document any downstream connectivity to any RPW or TNW. Based on current site conditions, the water within the SJWA is completely contained within the ponded area system with a large overflow area that conveys flows over a spillway in the southwest corner of the facility. There is no evidence of active flows within the spillway channel and all upstream flows are likely maintained within the SJWA exclusive of major flood events (50- to 100-year floods). Therefore, no significant impacts are expected in this regard, and no mitigation is required.

The MBA 2012 report concluded that none of the drainages on the project site is under the jurisdiction of the USACE, but several may be under the jurisdiction of the CDFW. Additional analysis regarding impacts to drainages potentially under CDFW jurisdiction is presented in Section 4.4.6.3., *Riparian Habitat or Other Sensitive Natural Communities*.

4.4.5.2 Adopted Policies and/or Ordinances

Threshold	Would the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Table 4.4.E summarizes the City's General Plan and Municipal Code policies regarding biological resources and their consistency with the WLCSP.

Table 4.4.E: General Plan and Municipal Code Biological Resources Policies

Goals, Objectives, Policies, Ordinances		Project Consistency
City of Moreno Valley General Plan		
Objective 7.4	Maintain, protect, and preserve biologically significant habitats where practical, including the San Jacinto Wildlife Area, riparian areas, habitats of rare and endangered species, and other areas of natural significance.	No significant riparian or other biologically sensitive habitat is on or adjacent to the study area. The project is consistent with this objective.
Policy 7.4.1	Require all development, including roads, proposed adjacent to riparian and other biologically sensitive habitats to provide adequate buffers to mitigate impacts to such areas.	No significant riparian or other biologically sensitive habitat is on or adjacent to the study area. The project is consistent with this policy.
Policy 7.4.2	Limit the removal of natural vegetation in hillside areas when retaining natural habitat does not pose threats to public safety.	Limited stands of natural plant communities or stands of native vegetation occur in the study area within hillside areas. These areas are proposed as open space under the proposed action. The project is consistent with this policy.
Policy 7.4.3	Preserve natural drainage courses in their natural state and the natural hydrology, unless the protection of life and property necessitate improvement as concrete channels.	The study area contains 14 drainages and/or basins. As specific projects are designed within the WLCSP, consistency with the policy will have to be determined.
Policy 7.4.4	Incorporate significant rock formations into the design of hillside developments.	The study area is generally not a hillside area. Limited natural rock formations occur in a proposed open space area. The project is consistent with this policy,

Table 4.4.E: General Plan and Municipal Code Biological Resources Policies

Goals, Objectives, Policies, Ordinances		Project Consistency
Policy 7.4.5	The City shall fulfill its obligations set forth within any agreement(s) and permit(s) that the City may enter into for the purpose of implementing the Western Riverside County Multiple Species Habitat Conservation Plan.	See Consistency with Chapter 3.48 of the City of Moreno Valley Municipal Code below.
City of Moreno Valley Municipal Code		
Title 3 Revenue and Finance		
Chapter 3.48 MSHCP Fee Program (Ordinance 742 Section 1.1, 2007)	Establish a local development mitigation fee to assist in the maintenance of biological diversity and the natural ecosystem processes that support this diversity; the protection of vegetation communities and natural areas within the city and western Riverside County which are known to support threatened, endangered or key sensitive populations of plant and wildlife species; the maintenance of economic development within the city by providing a streamlined regulatory process from which development can proceed in an orderly process; and the protection of the existing character of the city and the region through the implementation of a system of reserves which will provide for permanent open space, community edges, and habitat conservation for species covered by the MSHCP.	MBA conducted an MSHCP Consistency Analysis for the proposed project in 2012 and found that the study area is within the MSHCP fee area. Impacts are potentially significant and mitigation is provided.
Title 8 Buildings and Construction		
Chapter 8.60 Threatened and Endangered Species (Ordinance 502 Section 2.1, 1996)	Adopt and require certain implementation measures as required by the Stephens' Kangaroo Rat Habitat Conservation Plan (SKRHCP), the Section 10(a) Permit and the Management Authorization; and to adopt and impose an impact and mitigation fee to provide funds to the Riverside County Habitat Conservation Authority to implement the terms of the SKRHCP.	The study area is located within the known range of SKR. The study area is also located within the SKRHCP fee area and not in the SKRHCP Core Reserve Area. Impacts are potentially not consistent; however mitigation is provided.

Sources: City of Moreno Valley General Plan, 2006; City of Moreno Valley Municipal Code.

This analysis indicates the proposed project is consistent with local policies and ordinances protecting biological resources that apply to the project area. Compliance with State and Federal regulations to ensure protection and preservation of significant biological resources, and the implementation of the MSHCP are the applicable policies/programs that the project must implement. As there are no other local policies or ordinances regarding the protection of biological resources identified by the City or other local jurisdiction applicable to the project site, no impact would occur and no mitigation is required.

4.4.5.3 Habitat Fragmentation/Wildlife Movement

Threshold	Would the proposed project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Habitat fragmentation occurs when a single, contiguous habitat area is divided into two or more areas, or where an action isolates the two or more new areas from each other. Isolation of habitat occurs when wildlife cannot move freely from one portion of the habitat to another or to/from one habitat type to another. Habitat fragmentation may occur when a portion of one or more habitats is

converted into another habitat, as when scrub habitats are converted into annual grassland habitat because of frequent burning. Wildlife movement includes seasonal migration along corridors, as well as daily movements for foraging. Examples of migration corridors may include areas of unobstructed movement for deer, riparian corridors providing cover for migrating birds, routes between breeding waters and upland habitat for amphibians, and between roosting and feeding areas for birds.

The project area contains no significant cover of native plant communities and currently experiences heavy disturbance associated with agricultural activities. Additionally, the project area is adjacent to SR-60 and Gilman Springs Road on the north and east and is bordered by urban development on the west. The nearest linkage area as identified under the MSHCP is Proposed Linkage 5 and is located approximately 3 miles north of the project and approximately 3.6 miles south of the project is Proposed Constrained Link 20. The development of the project area will not impede the movement of any wildlife; therefore, the proposed project will not affect any wildlife movement corridor.

The Conservation Buffer Area located in the southern portion of the project area is owned by the CDFW and currently regularly disked as part of the SJWA's agricultural operations. It currently provides foraging habitat for various resident and migratory wildlife species. The portion of the project area adjacent to the SJWA lands has been actively farmed for decades and is regularly disked. The Conservation Buffer Area is designated as open space in the proposed project and no development is proposed for this area.

According to the project biological report, the project area does not contain any wildlife movement corridors or linkages. It is likely that wildlife moves through adjacent properties such as the SJWA and the Mystic Lake area to the south, the Badlands area to the east and the Lake Perris State Recreation Area to the southwest. The project biological report concluded that development of the project as proposed would not have any significant impact on wildlife movement in the area, and would not fragment habitat or adversely affect wildlife movement through the surrounding areas. Therefore, impacts in this regard are less than significant, and no mitigation is needed.

4.4.6 Significant Impacts

4.4.6.1 Endangered and Threatened Species

Impact 4.4.6.1: *The project may have significant impacts on listed species.*

Threshold	Would the proposed project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as endangered or threatened in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Of the special-status plant and animal species that have the potential to occur within the general vicinity of the project area, 17 plant and animal species are designated as endangered or threatened by State and/or Federal authorities (Table 4.4.F). None of these species was observed or is believed to be present on the project site; it is possible the listed birds may utilize the SJWA on a seasonal basis.

Table 4.4.F: Endangered/Threatened Species Within the Project Area

Species	Status Designation	Potential for Occurrence
Munz's onion *Allium munzii*	Federal: Endangered State: Threatened	Not Expected
San Diego ambrosia *Ambrosia pumila*	Federal: Endangered State: None	Not Expected

Table 4.4.F: Endangered/Threatened Species Within the Project Area

Species	Status Designation	Potential for Occurrence
Marsh sandwort *Arenaria paludicola*	Federal: Endangered State: Endangered	Low
Nevin's barberry *Berberis nevinii*	Federal: Endangered State: Endangered	Not Expected
Thread-leaved brodiaea *Brodiaea filfolia*	Federal: Endangered State: Threatened	Not Expected
Slender-horned spineflower *Dodecahema leptoceras*	Federal: Endangered State: Endangered	Not Expected
Spreading navarretia *Navarretia fossalis*	Federal: Threatened State: None	Not Expected
California Orcutt grass *Orcuttia californica*	Federal: Endangered State: Endangered	Not Expected
Vernal pool fairy shrimp *Brachinecta lynchi*	Federal: Threatened State: Special Animal	Not Expected
Riverside fairy shrimp *Streptocephalus woottoni*	Federal: Endangered State: Special Animal	Not Expected
Quino checkerspot butterfly *Euphydryas editha quino*	Federal: Endangered State: Special Animal	Not Expected
California tiger salamander *Ambystoma californiense*	Federal: Threatened State: Species of Special Concern	Not Expected
Southwestern willow flycatcher *Empidonax traillii extimus*	Federal: Endangered State: Special of Special Concern	Not Expected
Coastal California gnatcatcher *Polioptila californica californica*	Federal: Threatened State: Special of Special Concern	Not Expected
Least Bell's vireo *Vireo belli pusillus*	Federal: Threatened State: Special of Special Concern	Not Expected
San Bernardino kangaroo rat *Dipodomys merriami parvus*	Federal: Threatened State: Special of Special Concern	Not Expected
Stephens' kangaroo rat *Dipodomys stephensi*	Federal: Endangered State: Threatened	Not Expected

Source: *MSHCP Compliance Report,* Michael Brandman Associates. April 23, 2012 Appendix E-1.

The potential for occurrence determination was based on the results of focused biological resource surveys, and/or the lack of suitable habitat in the project limits for the referenced species. No Federal or State endangered/threatened species were detected on the project site during the focused biological resource surveys. However, to err on the side of caution, it is reasonable to conclude that, at a minimum, indirect impacts to listed species may be significant, and mitigation is required.

Project or Specific Plan Design Features. The proposed World Logistics Center Specific Plan provides for a number of project design features to address the interface between the project and the SJWA. These features include enhanced landscaping along the southern boundary, restrictions on site lighting, restrictions on native/drought-tolerant landscape materials, the installation of special drainage facilities, restrictions on public access, special architectural standards for building elevations facing the SJWA, restrictions on the orientation of adjacent buildings, signage restrictions, and other development guidelines intended to create an interface area that is sensitive to the unique relationship between the project and the SJWA.

The Specific Plan establishes a 250-foot wide development setback from the southernmost property line along the SJWA boundary, and an additional 150-foot building setback (i.e., in addition to the

setback provided by the CDFW Conservation Area) to help minimize potential impacts on biological resources of the SJWA.

It is important to note that the 910-acre area immediately south of the project was purchased by the State of California largely to serve as a buffer between the habitat area and future development to the north (at that time, the Moreno Highlands Specific Plan). The acquisition of this buffer area created a State-owned 3,000-foot wide separation between the project and the SJWA at that time.

The Specific Plan includes development restrictions that may affect off-site areas such as the SJWA, including architecture and building design, landscaping, and off-site lighting:

- *Architecture and Building Restrictions (Specific Plan Section 4.1).* Sections 4.1.2 and 4.1.3 require ground- and roof-mounted equipment to be screened from off-site view.
- *Landscaping Restrictions (Specific Plan Section 4.2).* Section 4.2.4 provides "screening criteria" in terms of adjacent land uses, including the SJWA (Section 4.2.4.3). Page 58 of the Specific Plan shows the landscaping treatment along the SJWA boundary, while page 60 shows the treatment along Gilman Springs Road.
- *Off-site Lighting (Specific Plan Section 4.3).* Section 4.1.3 indicates one of the main objectives of the project lighting is "… all lighting in the vicinity of the San Jacinto Wildlife Area shall be designed to confine all direct light rays to the project site and preclude the visibility of direct light rays from the wildlife area" (page 78). The project will also have to comply with the City's new Dark Sky Lighting Ordinance, which reduces spillover light to 0.25 foot-candles at five feet from the adjacent property lines.

The Specific Plan provides for a 250-foot development setback and an additional 150-foot building setback adjacent to the CDFW Conservation Buffer Area. The development setback area would include landscape areas, drainage facilities, site fencing and walls, etc. According to available research previously presented in Section 4.4.1.18a, a 250-foot development setback is adequate for a project-SJWA buffer and is supported by a compilation of available academic and scientific literature and studies on wildlife impacts from diesel emissions, and also the distance established in nesting bird surveys for setbacks from human activity. In addition, the Specific Plan requires solid walls along the property line, which will help provide an additional buffer from building lighting and noise and effectively mitigate potential direct and indirect impacts on the SJWA.

Roadkill. As development occurs within the WLCSP, some local wildlife will be injured or killed by the additional vehicles and trucks on SR-60, Gilman Springs Road, Redlands Boulevard north of Eucalyptus Avenue, and all internal WLCSP roads. There is no accurate way to quantify this impact, since there are no data on existing roadkill on these roadways. However, it is reasonable to assume this impact will increase linearly (from current levels) as project-related traffic increases. It should be noted that development within the Specific Plan along the west side of Gilman Springs Road will be separated from the roadway by fencing or walls as appropriate; this will help restrict human access to Gilman Springs Road and native areas along the east side of the roadway, and may incrementally reduce roadkill along Gilman Springs Road. Native wildlife will still experience incremental adverse impacts from roadkill along Gilman Springs Road as the WLC project develops in the future, but these impacts would be less than significant.

Operational Noise. The northern portion of the SJWA will experience increased, fluctuating sound levels during construction and operation (e.g., vehicle traffic and truck loading and unloading), but truck traffic and human activity will result in an incremental increase in overall ambient sound over the long term. In addition, it is possible construction activities on the project site, including areas adjacent to the SJWA, may be subject to construction activity on a 24-hour-per-day, 7-day-per-week schedule.

The calculations in Table 4.4.G were provided by the project noise consultant (Mestre Greve Associates) specifically for the southern boundary area of the project.

Table 4.4.G: Noise Levels along the Project Southern Boundary

Noise Conditions	Daytime (dB)			Nightime (dB)		
	L_{min}	L_{eq}	L_{max}	L_{min}	L_{eq}	L_{max}
Warehousing Noise						
50 feet	38.3	48.6	63.1	38.3	48.6	63.1
100 feet	37.5	47.8	62.3	37.5	47.8	62.3
250 feet	34.4	44.7	59.2	34.4	44.7	59.2
500 feet	30.6	40.9	55.4	30.6	40.9	55.4
Warehousing Noise Plus Ambient[1]						
50 feet	38.3	49.3	63.1	38.3	48.8	63.1
100 feet	37.5	48.6	62.3	37.5	48.1	62.3
250 feet	35.9	46.2	59.2	34.4	45.2	59.2
500 feet	35.9	43.9	55.4	30.6	42.1	55.4
Change in Ambient Noise Levels[2]						
50 feet	2.4	8.5	12.8	8.3	13.0	12.0
100 feet	1.6	7.8	12.0	7.5	12.3	11.2
250 feet	0.0	5.4	8.9	4.4	9.4	8.1
500 feet	0.0	3.1	5.1	0.6	6.3	4.3

1 Distances are in feet, noise levels are in dBA.
2 L_{eq} noise added logarithmically, L_{max} and L_{min} will not add in this situation.
Highest L_{max} and highest L_{min} were used.
Source: Project noise report and tabular noise data email, Mestre Greve Associates, May 2012.

The portion of the SJWA immediately south of the Specific Plan site (i.e., the Conservation Buffer Area) is vacant and regularly disked for dry farming. This area is quiet, with L_{eq} levels during the day of 35.8 dB and nighttime levels of 40.8 dB. Noise levels in this north SJWA area are affected by road noise from Gilman Springs Road to the east and from noise generated at the existing natural gas facilities.

The noise data in Table 4.4.G indicate that warehousing activity would raise ambient noise levels (measured at 50 feet) by 8 dB during the day and 13 dB at night. If a physical setback or buffer were implemented in this area to reduce impacts such as noise, the project noise consultant has estimated the noise levels for distances from 50 to 500 feet shown in Table 4.4.G.

These calculations show that the increase in noise levels from development would be close to 3 dB at a distance of 500 feet, resulting in overall noise levels (ambient plus development) of 43.9 dB measured at a distance of 500 feet (L_{eq}) during the day and 45.2 dB at 500 feet at night.

In addition to regular background noise contributions from traffic on Gilman Springs Road and the compressors at the SDG&E plant that run 24 hours per day, the SDG&E compressor plant has regular "blow-down" events, which is an automatic pipeline pressure relief process. When these occur, noise levels in the CDFW Conservation Buffer Area adjacent to the compressor plant property lines may reach 130 dB or higher, which is equivalent to a jet plane landing or a train horn at 100 feet. For more information on "blow-down" effects to humans, see Section 4.12, *Noise*, and 4.8, *Hazards and Hazardous Materials*. It should be noted that the pump noise and the blow-down events have been occurring regularly for many years, along with their potential impacts on SJWA wildlife;

however, these utility facilities already exist and are not part of any development proposed within the WLC project.

Based on available information, it is reasonable to conclude that increased noise from human activity (project construction, traffic on local roads, loading and unloading of trucks, etc.) related to the proposed project will not have significant impacts on local wildlife in the SJWA area. Available research indicates that increased noise levels near wildlife areas can contribute to behavioral changes such as increased startling in birds, which can be especially harmful during nesting periods, hunting pattern changes or avoidance which decrease habitat value and use, sleep pattern disruption, and decreased overall health from noise stress. These impacts can affect mammals, birds, and other species present within the SJWA. For these reasons, human activity should be set back from the SJWA to help minimize these impacts. The WLCSP indicates there will be a 250-foot minimum development setback and an additional 150-foot building setback along the southern boundary of the Specific Plan area to act as a buffer between the WLCSP and the SJWA. With implementation of the two setback areas (total 400 feet) and proposed solid walls along the SJWA boundary, the anticipated increase in noise from the proposed project will not have a significant impact on wildlife and would not require mitigation.

Construction Noise. Development within the WLCSP and off-site facilities must incorporate landscape elements including trees, shrubs, and groundcover, which would assist in off-site noise reduction. A noise analysis has been prepared for the project to quantify potential short-term and long-term noise impacts that could occur as a result of development of the parcel adjacent to open space areas. Based on recent studies (Landrum and Brown 2012), noise contours would exceed 60 dBA (L_{eq}) roughly 1,000 feet into the CDFW Conservation Buffer Area during construction of the southernmost areas of Phase 2. There is no projected change in noise contours associated with the operation of the facility over those of the no project condition. Therefore, any noise-related impacts would be temporary in nature and generally limited to construction of Phase 2 facilities along the southern boundary of the WLC.

Invasive Species. The WLCSP landscaping palette does not include any of the invasive plant species listed in Section 6.1.4 of the MSHCP (Table 6-2), but there should be mitigation to ensure that no on-site landscaping along the southern boundary of the site conflicts with MSHCP invasive plant guidelines.

Lighting. Lighting associated with planned warehouse development of the eastern and southern portions of the WLCSP would have various direct and indirect impacts on local wildlife, depending on the species and the nature of light exposure. There is some scientific and academic research on the effects of night lighting on various species, even though the subject species and lighting conditions vary widely. This section generally compares the results of this research to the relationship of the project and the SJWA.

Some available research[1] states that night lighting can have a wide range of adverse effects on wildlife, including mammals, birds, bats, amphibians, insects, fish, even plants. Effects range from reduced health by upsetting diurnal rhythms, reduced clutch size, egg size, or survival success of nesting birds, to actual mortality from increased predation under higher ambient light levels. Bats and certain insects are also attracted to outdoor night lighting, which may adversely affect their survival or cause them to become dependent on the lighting. Small mammals would also be attracted to these areas and might suffer increased predation or roadkill crossing streets.

[1] *Ecological Consequences of Artificial Night Lighting.* C. Rich and T. Longcore (ed), 2006.

Future development within the Specific Plan will have to comply with the off-site lighting restrictions outlined in Section 4.3 of the Specific Plan, including the requirement that "direct light rays from all lighting fixtures be directed downward, illuminate only the building or space intended, and do not spill onto adjacent properties" (Specific Plan Section 5.4.2.2, page 127).

All on-site lighting will also have to comply with the new night lighting guidelines in Section 9.08.100 of the City's Municipal Code, which limits off-site impacts to 0.25 foot-candles per square meter. As development occurs within the Specific Plan, adherence to these design guidelines and restrictions will help ensure that night lighting increases will not result in significant indirect lighting impacts on native wildlife within the SJWA.

For example, the Specific Plan requires that streetlights, parking lot lighting, and other project-related illumination sources be positioned, directed, and shielded to avoid "direct light spill" into MSHCP conservation areas including those contained within Existing Core H to the south of the project area, and Proposed Core 3 (Section 6.1.1, Proposed Core 3) to the east of the project area. Lighting installed according to the WLC Specific Plan will be consistent with MSHCP guidelines. The project will also have to comply with the City's new Dark Sky Lighting Ordinance, which reduces spillover light to 0.25 foot-candles at five feet from the adjacent property lines. However, due to the size of the WLC project and its proximity to the SJWA, additional mitigation may be necessary for cumulative lighting impacts on the SJWA.

In addition to night lighting issues associated with construction and operation, the proposed facilities are to include roof-mounted photovoltaic panels to provide electricity for the facilities and aid in the sustainability of the project and reduce additional GHG emissions. There is a potential for glare from these panels to confuse migratory birds into attempting to land in the area of the panels. However, the project design calls for the use of low glare and high solar transmission films to increase solar capacity and prevent unnecessary glare, so this impact would be less than significant.

Toxics, Water. Development plans for the project will include Water Quality Best Management Practices (BMPs) such as vegetated earthen channels, storm drain stenciling, street sweeping, and education. The BMPs recommended for the proposed WLCSP are described in more detail in Section 4.9.6.1, *Construction-Related Water Quality Impacts,* and Section 4.9.6.2*, Operational Water Quality Impacts*. (Detention basins will be designed to filter potential toxics from storm water. Section 4.9.6.2, *Operational Water Quality Impacts*, also requires the regular removal of any contaminated materials from the detention basins to protect downstream water quality.) These BMPs will be implemented as part of the storm water pollution prevention measures for the project, in accordance with all appropriate NPDES requirements.

Development of the project will result in the additional use of hazardous materials in limited quantities associated with normal logistics use such as janitorial and cleaning products, solvents, herbicides, and insecticides. However, compliance with regulations, standards, and guidelines established by the Environmental Protection Agency (EPA), State, County, and local agencies relating to the storage, use, and disposal of hazardous waste will reduce the potential risk of hazardous materials exposure.

Development plans for the project will include Water Quality BMPs such as vegetated earthen channels, storm drain stenciling, street sweeping, and education. Detention basins will be designed to filter potential toxics from storm water. These BMPs will be implemented as part of the storm water pollution prevention measures for the project, in accordance with all appropriate NPDES requirements.

Toxics, Air Pollution and Diesel Exhaust. Local wildlife (i.e., within the SJWA) may be exposed to vehicular exhaust and diesel particulates and toxic air contaminants from truck exhaust as the project

builds out. New development will produce significant amounts of diesel-related air pollutants that will be released into the atmosphere, including gases and particles of various sizes.

Most of the available (and most applicable) research is on diesel pollutant impacts on humans. Although the physiology of many animals is very different than humans, data on health effects from diesel pollution may nonetheless be somewhat instructive when attempting to assess diesel impacts on wildlife. Potential health effects on wildlife obviously depend on the species involved,[1] but in general health effects from air pollution/diesel exhaust include impaired cardiac and lung or respiratory function,[2] reduced heart function or longevity, decreased clutch size or hatching success, increased incidence of cancer and other mutagenic or teratogenic effects, ingestion of air deposited particulates, reduction in overall biodiversity, reproductive failure, etc. In general, impacts on higher animals are most commonly attributed to food loss and reproductive effects, rather than to direct toxic effects on adults. There are relatively few examples of higher animals suffering direct toxic effects from either atmospheric acidity or gaseous air pollution. However, a number of mammals are known to build up high levels of heavy metals and other pollutants in their systems from air pollution.[3]

Diesel emissions[4] contain thousands of pollutant species, and the composition depends on the fuel, vehicle, and driving conditions. The main public health concerns are from fine and ultrafine particulate matter, black or elemental carbon, polyaromatic hydrocarbons (PAHs) like phenanthrene, metallic ashes, gases like nitrogen dioxide, aldehydes like acetaldehyde, acrolein, and crotonaldehyde, volatile organic compounds like benzene and 1,3-butadiene, etc. One of the research limitations is that some health effects from these pollutants take a long time, in some cases even a lifetime, to exhibit themselves. These pollutant species can also be emitted from other sources, so in complex urban environments, it can be difficult to trace individual sources of air pollution. In this case, air quality is relatively good and the only major activity is agriculture, so the increase in most of these pollutant species would predominantly be the result of new warehouse uses within the project. Research[5] suggests that wildlife may be more susceptible to air pollutant impacts than humans, due to their smaller size, higher respiration rates, smaller lung capacities, ingestion of local plant materials that have also been exposed, higher metabolic rates, etc., although some factors like shorter lifespans would reduce the length of exposure over time. For these reasons and for the purposes of this analysis, it is assumed that animals within the SJWA would be at least as susceptible to health effects from air pollution, including diesel exhaust compared to humans.

In 2002, the EPA compiled a wide range of scientific studies on the health effects of diesel exhaust, including non-carcinogenic effects[6] of diesel exhaust on laboratory animals. Studies found that diesel particulate matter (diesel PM) had a limited effect on the survival and growth of rats and mice when exposed to diesel PM for short periods of time. However, rats, mice and hamsters all experienced increased lung to body-weight ratios when exposed to 1.5 mg/m^3 diesel PM concentrations for extended periods of time. Several studies looked at behavior effects in animals, and found that juvenile rats exposed to diesel emissions (DE) exhibited a decreased ability to move around on their own, and negatively affected their learning in adulthood.

Extended exposure to diesel emissions caused negative effects on the pulmonary functions of rats, hamsters, cats and monkeys. Depending on the species, DE levels of 1.5–11.7 mg/m^3 affected lung mechanical properties, diffusing capacity, lung volumes, and ventilator performance of the subject animal. The ability of rats to clear their airways was also severely impaired by diesel PM concentrations of 1 mg/m^{3}or greater. Data on the effect of diesel PM on airway clearance in other

1 "Air Pollution and Biodiversity: A Review." 1995.
2 "Cardiovascular and thermoregulatory responses of unrestrained rats exposed to filtered or unfiltered diesel exhaust." C. Gordon et al, Inhalation Toxicology, 2012.
3 Ibid.
4 "Diesel Emissions, Toxics, and Health Implications." M. Costantini, 2006.
5 "*Exhausted by Diesel."* NRDC 1998.
6 "*Health Assessment Document for Diesel Engine Exhaust."* United States EPA. March 2002.

animals were limited, but the pathological effects of diesel PM seemed to be dependent on the relative rates of pulmonary deposition and clearance (rate of breathing) of the subject animal. The studies also showed that diesel PM can reduce an animal's resistance to respiratory infections. Diesel PM can begin to impair an animal's immune system in as little as 2–6 hours with exposures of 5–8 mg/m^3 of diesel PM. The testing data also suggested that diesel PM may be a factor in increased allergic reactions in animals.

When comparing filtered versus non-filtered DE, studies found that diesel particulates are the main cause of noncancerous health effects. However, they could not determine if diesel PM acts additively with the gas, or whether it combines with the gases to create different effects. The studies also found that other airborne contaminants (e.g., criteria pollutants) can be altered by diesel PM when absorbed by the diesel particles and increase the physical health effects caused by the diesel PM and other contaminants. These increased health risks were only found in laboratory settings. There was no evidence for DE interacting with other contaminants in normal urban atmospheric settings except for the impaired ability of animals to resist respiratory tract infections. No other noncancerous effects were found in any of the studies.

Chapter 7 of the EPA document includes studies that concluded diesel emissions also have carcinogenic effects on animals. Studies indicated that DE and/or diesel PM did result in increased cases of cancer in laboratory animals as well as humans. Rats experienced a trend of increased tumor growth when exposed to concentrations of DE exceeding 1×10^4 $mg*hr/m^3$. Because tumors were induced at high concentrations it is believed that they are caused by the lungs experiencing particle overload. The studies also examined the effect of filtered exhaust and discovered that it did not cause tumors. They concluded that filtered exhaust either was not a carcinogenic or had low cancer potency.

In addition to pollutants associated with diesel trucks, passenger vehicles produce additional air pollutants including carbon monoxide, nitrogen oxides, particulates,[1] etc. These pollutants will also have indirect impacts on wildlife resources of the SJWA. Two impacts of most concern would be ozone degradation (e.g., plants having an unusual dry or "burned" look) and the deposition of additional nitrogen, both of which can disrupt plant growth cycles.

Direct air pollutant impacts on wildlife within the northern end of the SJWA will be reduced somewhat because prevailing winds are mainly to the southeast with the remainder mostly to the east (i.e., very little to the south), based on data from the project air quality study (MBA 2012). However, some diesel and other project-related air pollutants will still be expected to disperse toward the SJWA, including gases and particulates, from trucks and passenger vehicles, when prevailing winds are absent.

There appears to be little academic or scientific research on the specific impacts of diesel air pollutant emissions on wildlife (i.e., not laboratory animals) in natural settings, or specific setbacks for wildlife protection areas from warehouse distribution centers or other sources of diesel pollution. Most available research is too limited or specific regarding the type of pollutant and/or the species considered to be affected (e.g., impacts of one pollutant on one species). The portion of the SJWA adjacent to the WLCSP property is upland agricultural fields which may be used by foraging birds. Indeed, the northern portion of the SJWA land serves as an existing buffer and it was acquired by the CDFW in 1994 for that purpose. Additional buffer areas imposed as mitigation are discussed below.

Based on available scientific data, it is reasonable to conclude that the proposed project, due to its size and expected amount of truck traffic, will have potentially significant impacts on wildlife within the SJWA and east across Gilman Springs Road from project air pollution, including diesel truck exhaust.

[1] "Pulmonary and cardiovascular of traffic-related particulate matter from roadside and diesel engine exhaust particles." M. Gerlofs-Nijland et al. Inhalation Toxicology, 2010.

Research by the California Air Resources Board (CARB)[1] indicates that 80 percent of the particulates generally settle out of the atmosphere within 1,000 feet of emission sources. Therefore, diesel particulate deposition may occur within approximately 1,000 feet of truck activities within the project, which would extend part way into the CDFW Conservation Buffer Area. This demonstrates one benefit of the State acquiring this Conservation Buffer Area (i.e., to reduce potential impacts of future development to the north from the SJWA and Mystic Lake to the south). In addition, the Specific Plan establishes an additional 250-foot setback along the SJWA boundary, which provides additional buffering from potential air pollutant impacts.

Toxics, Health Risk Assessment. A Health Risk Assessment (HRA) (MBA 2012) was completed for the project primarily prepared for human health risks associated with airborne hazards. An HRA is a guide that helps to determine if current or future exposure to a chemical or substance could affect the health of a population. The State of California Office of Environmental Health Hazard Assessment (OEHHA) develops methods for conducting health risk assessments. As defined under the Air Toxics "Hotspots" Information and Assessment Act of 1987 ["AB 2588" (Chapter 1252, Statutes of 1987), California Health and Safety Code Section 44306], "A health risk assessment means a detailed comprehensive analysis prepared pursuant to Section 44361 to evaluate and predict the dispersion of hazardous substances in the environment and the potential for exposure of human populations and to assess and quantify both the individual and population-wide health risks associated with those levels of exposure" (Office of Environmental Health Hazard Assessment 1987).

The HRA of toxic air contaminants builds upon the assessment methodology described above but requires one additional step beyond that for *assessment* of the local pollutants. This step involves applying a risk characterization model to the results from the air dispersion model to estimate potential health risks at each sensitive receptor location.

Table 4 in the HRA (MBA 2012) provides a discussion on the air pollutants that could potentially be present as a result of the construction and/or operation of the proposed facilities and the most relevant effects from pollutant exposure to humans. No standards for impacts to wildlife have been established. Since air is not stationary, there is a potential that air quality concerns associated with the project will not be confined to the project site itself and thus would disperse into "wildland" areas. The primary wind direction near the project site is to the southeast, as shown in Exhibit 5 in the HRA (MBA 2012). The wind direction would send any air hazards toward the Badlands MSHCP Criteria Cells and points to the east across Gilman Springs Road.

Health risks within the context of this analysis are represented as the increase in cancer risk associated with exposure to diesel particulate matter emissions from project operations. These diesel particulate matter emissions arise from both exhaust and idling of diesel trucks while operating on and near the project site. The methodology applied in calculating cancer risk from diesel particulate matter has been published by the SCAQMD and the California OEHHA.

The methodology basically assumes that a person is exposed continuously to a project's emissions for a period of 350 days per year, 24 hours per day over a 70-year lifetime period. In this regard, cancer risk is expressed as the probability of an individual developing cancer due to exposure to diesel particulate matter emissions at the above-referenced durations from the project, out of a population of 1 million individuals. Thus, a receptor calculated to have a cancer risk of 1 in one million means that this receptor has a probability of 1 in 1 million of developing cancer from the continuous exposure to diesel particulate matter. The SCAQMD has established a significance threshold of 10 in 1 million for cancer risk attributable to exposure to a project's emissions. No such threshold exists for wildlife and a number of factors vary from the criteria established for human populations. The average life of migratory waterfowl ranges from 10 to 20 years. This might represent the most long-lived of the

[1] *Air Quality and Land Use Handbook.* CARB and EPA. 2005.

species in the vicinity of the project site. These species are also not present year round and may spend as little at 100 days in the project area on the SJWA.

Specific Plan Design Features. The Specific Plan requires a 250-foot development setback and an additional 150-foot building setback along the southern boundary of project development and the CDFW Conservation Buffer Area. In addition, the Specific Plan calls for native landscaping in the setback area and a wall along the north side of the 250-foot setback zone. The separation between planned development along the east side of Gilman Springs Road will be set back from the roadway. This setback, plus the width of the roadway and related shoulder areas, will be sufficient to separate the proposed project from the MSHCP criteria cell areas east of Gilman Springs Road, so no additional setback is needed in that area.

Mitigation Measures. The following measures are proposed to mitigate potential direct and indirect impacts to listed species due to the project's proximity to the SJWA site, even with the presence of the CDFW Conservation Buffer Area:

4.4.6.1A All development projects on lots adjacent to the CDFW property shall provide a minimum 250-foot setback between the CDFW property line and any building or vehicular circulation area (excluding emergency access drives). Permitted uses within or adjacent to this setback area include landscaping, drainage and water quality facilities, fences and walls, maintenance access drives, and similar related uses. Prior to issuance of any discretionary permit in the WLCSP for development adjacent to the CDFW Conservation Buffer Area, development plans shall establish a minimum 250-foot clear setback along the southern property line of the WLC Specific Plan, both east and west of the SDG&E natural gas compressor plant. For the purposes of this measure, the term "clear" shall refer to all existing or future roads, industrial buildings or related improvements, walls, truck travel areas, etc. The only allowed uses within the 250-foot setback area are landscaping per the WLCSP, drainage or water quality basins, or relocation of any impacted plant or animal species from development areas within the Specific Plan. In addition, development plans shall also establish a minimum 150-foot setback from the north edge of the clear zone to the closest logistics warehouse building. This will provide a total minimum building setback of 400 feet from the northern edge of the CDFW Conservation Buffer Area to new warehouse buildings within the Specific Plan.

Development adjacent to the 250-foot open space setback shall have a minimum six-foot tall chain link fence to help separate warehouse activity from the buffer area. Any chain link fencing installed on any properties adjacent to the 250-foot buffer area shall have metal mesh installed below and above ground level to prevent animals from accessing new development areas. In addition, all truck activity areas within 750 feet of the southern boundary of the site shall be enclosed by minimum 11-foot tall solid block walls to help reduce noise and lighting impacts on the CDFW Conservation Area to the south. This measure shall be implemented to the satisfaction of the City Planning Division.

A landscape plan for the 250-foot setback area shall be submitted with any development proposal for lots adjacent to the CDFW property. The landscape plan shall be prepared by a licensed landscape architect in consultation with a qualified biologist and shall be consistent with the design standards contained in the Specific Plan. No plant species listed in Section 6.1.4 of the MSHCP shall be installed within the setback area. In conjunction with development adjacent to the CDFW Conservation Buffer Area, cottonwood trees shall be planted along the southern boundary of the 250-foot "clear" setback zone, consistent with the WLCSP

landscaping plan and plant palette. This measure shall be implemented to the satisfaction of the City Planning Division in consultation with the SJWA Manager.

4.4.6.1B Prior to the approval of a Plot Plan for any development project, the applicant shall submit a biological assessment prepared by a qualified biologist surveying the project site for any non-covered MSHCP listed or sensitive species of plant or animal. If any such species are found, appropriate conditions shall be added to any project approval to address the treatment of such species. This measure shall be implemented to the satisfaction of the City Planning Division.

4.4.6.1C Any development projects on lots adjacent to the CDFW property shall provide runoff management and water quality facilities adequate to minimize downstream erosion, maintain water quality standards and retain pre-development flows in a manner meeting the approval of the City Engineer, in consultation with the City Planning Department. Prior to issuance of any discretionary approvals in the WLCSP, the project developer shall demonstrate whether any detention facilities for their development area are needed in the 250-foot setback identified in Mitigation Measure 4.4.6.1A. No project developer shall install plant species listed in Section 6.1.4 of the MSHCP. Any drainage improvements constructed within this setback shall be designed to minimize runoff and erosional impacts on the SJWA land to the south, to the extent practical. This measure shall be implemented to the satisfaction of the City Planning Division.

The 250-foot setback identified in **Mitigation Measure 4.4.6.1A**, and the presence of the CDFW Conservation Buffer Area, will effectively mitigate potential indirect impacts of air pollutants, including diesel particulate matter, on wildlife within the SJWA. Compliance with the off-site lighting guidelines of the Specific Plan, compliance with the night lighting standards in Section 9.08.100 of the City Municipal Code, and implementation of Aesthetics **Mitigation Measure 4.1.6.4B** (low pressure sodium lights on south sides of buildings facing SJWA) will help reduce lighting impacts on the SJWA to less than significant levels. In addition, Aesthetics **Mitigation Measure 4.1.6.1E** (painting the south sides of buildings facing the SJWA green) will help soften the appearance of buildings that face the SJWA, and Agricultural **Mitigation Measure 4.2.6.1A** (right to farm ordinance) will help maintain raptor and other bird foraging until the WLCSP property is developed.

Level of Impact After Mitigation. Compliance with the Specific Plan, Municipal Code, and implementation of the recommended **Mitigation Measures 4.4.6.1A** through **4.4.6.1C** will help reduce project impacts to listed species to less than significant levels.

4.4.6.2 Adopted Habitat Conservation Plans

Impact 4.4.6.2: *Implementation of the project may conflict with portions of the MSHCP for Western Riverside County.*

Threshold	Would the proposed project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project site is subject to the provisions of two HCPs: the SKR HCP and the MSHCP. Impacts related to these HCPs are discussed in this section.

a. Stephens' Kangaroo Rat Habitat Conservation Plan

The project site is within the SKR HCP Fee Area. The SKR is relatively widespread throughout the SKR HCP Fee Area, but the main blocks of occupied habitat are concentrated in several Core Areas that must be conserved. The proposed project site is not within an SKR Core Area. The SKR also requires species-specific monitoring and management to ensure its long-term viability in the SKR HCP, including tracking population densities and maintaining sparse, open grassland habitats.

The long-term SKR HCP provides Take Authorization for the SKR within its boundaries. The core reserves established by the SKR HCP will be managed as part of the MSHCP Conservation Area consistent with the provisions of the SKR HCP. Focused surveys for Stephens' kangaroo rat will not be required for this project because the project lies within the SKR Fee Area; therefore, no requirements under the SKR HCP other than payment of a local mitigation fee are required.

b. Summary of Western Riverside County Multiple Species Habitat Conservation Plan Impacts

The project area is located within the Reche Canyon/Badlands Area of the MSHCP. Development of the project area would not conflict with the conservation goals established by the MSHCP for Cell Group X or Cell Group E. In addition, no conflict from development would occur in relation to the Reche Canyon/Badlands Area Plan, the Area Plan Subunit 4, the Area Plan Subunit 3, Proposed Core 3, or Existing Core H.

No development is proposed within the portion of the project area that lies within Cell Group D and the SJWA. This area is already owned by the State and managed by the CFDW. However, development that will be adjacent to the SJWA property may cause significant indirect impacts to species within the SJWA, which will require mitigation (i.e., designing an appropriate buffer along this "urban edge" will help minimize potential impacts on the SJWA).

The project area is not adjacent to any Cores or Linkages identified in the MSHCP. However, it is adjacent to the SJWA and is subject to the project guidelines provided in MSHCP Section 6.1.4 (Guidelines Pertaining to the Urban/Wildlands Interface). The project is also required to adhere to the Best Management Practices (BMPs) found in Appendix C of the MSHCP.

The project does not propose to alter land use in any way that would adversely affect Cores, Linkages, or Reserve Assembly within the Reche Canyon/Badlands Area Plan.

The project is not located within any Amphibian, Mammalian, or Special Linkage Areas identified by the MSHCP. The project is in an area requiring burrowing owl surveys, is within the MSHCP Criteria Area Species Survey Area (CASSA), and is within the Narrow Endemic Plant Species Survey Area (NEPSSA).

The MSHCP and its Implementation Agreement contain a fee mitigation program pursuant to which local agencies collect development impact fees and remit such fees to the Riverside Conservation Authority (RCA). These fees are in turn used to acquire lands that are suitable for habitat preservation for species covered by the MSHCP. Payment of the local MSHCP mitigation fee will be required of the project prior to the issuance of building permits.

From available information, potential indirect impacts to avian and other biological resources within Mystic Lake and the SJWA will be reduced to less than significant levels by the creation of a 250-foot on-site setback or buffer area in **Mitigation Measure 4.4.6.1A**, which will be in addition to the existing setback provided by the CDFW Conservation Buffer Area just south of the proposed development area.

Participation in the MSHCP and contribution of MSHCP provides compensation for the loss of raptor foraging habitat due to approved projects. Typically, a project proponent would participate as outlined in the MSHCP, so that loss of raptor foraging habitat is typically considered to be less than significant and no mitigation is required.

Narrow Endemic Plant Species. No Narrow Endemic plant species are anticipated to occur in the project area and no additional action is required.

Criteria Area Plant Species. No Criteria Area plant species are anticipated to occur on the project area and no additional action is required.

Riparian/Riverine Areas and Vernal Pools. A single catch basin and portions of Drainage Features 7 and 9 contain riparian plant species and are hence considered riparian/riverine areas, as designated by the MSHCP. The project area does not contain habitat suitable for covered riparian species, such as least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. No vernal pools or ephemeral ponds were observed on the project area and no suitable habitat for any fairy shrimp species was identified on site. No additional mitigation regarding vernal pools or vernal pool species is required.

Specific Plan Design Features. The project is consistent with the major MSHCP requirements relative to core areas, criteria cells, threatened and endangered species. In addition, the project complies with the MSHCP guidelines for urban/wildland interface, riparian/riverine areas, or related buffers (with implementation of **Mitigation Measure 4.4.6.1A**). In addition, future development will be required to demonstrate that it is also consistent with all MSHCP requirements, including indirect impacts such as lighting, noise, and air pollution effects.

Regulatory Compliance. Stephens' kangaroo rats have a low potential to occur within the study area. While the study area is not within the SKR Core Reserve Area, the SKR HCP Implementing Agreement requires payment for loss of habitat within defined areas. The entire study area lies within the fee area. An assessment of individual actions for development within the WLCSP would be required prior to any implementation. The number of acres of disturbance associated with the development and any off-site improvements shall require payment to comply with the SKR HCP. In addition, prior to issuance of a grading permit on each project, applicants will be required to pay the mandatory mitigation fee for the MSHCP. The mitigation fee is a per unit fee based on a per cubic feet fee based on commercial or industrial development.

Mitigation Measures. In addition to payment of SKR and MSHCP impact fees, the following measures will help ensure that potential impacts to sensitive species are reduced to less than significant levels:

4.4.6.2A Prior to the approval of any Plot Plans for development within the project area, the applicant shall submit a biological assessment of the proposed development site prepared by a qualified biologist to identify if any of the following sensitive plants (i.e., Coulter's goldfields, smooth tarplant, or thread-leaved brodiaea) are present on the proposed development site. If plants are found in the proposed development area, they may be relocated to the 250-foot clear setback area outlined in the Specific Plan and discussed in Mitigation Measure 4.4.6.1A. Alternatively, an appropriate impact fee may be paid to the Western Riverside County Regional Conservation Authority

(RCA) or other appropriate conservation organizations to offset for the loss of these species on the WLC project site. This measure shall be implemented to the satisfaction of the City Planning Division in consultation with the County RCA.

4.4.6.2B Prior to the approval of any tentative maps for development within the WLCSP, the applicant shall conduct a Joint Project Review (JPR) with the Resource Conservation Agency (RCA). All cell groups shall be provided on tentative maps, and an application shall be completed and processed by the applicant.

In addition, the previously outlined **Mitigation Measures 4.4.6.1A** through **4.4.6.1C** will also help reduce potential direct and indirect impacts to biological resources covered by the MSHCP.

Level of Impact After Mitigation. With implementation of **Mitigation Measures 4.4.6.1A** through **4.4.6.1C** and **4.4.6.2A** and **4.4.6.2B**, potential impacts related to MSHCP consistency will be reduced to less than significant levels.

4.4.6.3 Riparian Habitat or Other Sensitive Natural Communities

Impact 4.4.6.3: *The project has the potential to result in significant impacts to riparian habitat and sensitive natural communities and may require subsequent permits from various resource agencies.*

Threshold	Would the proposed project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Riparian or riverine areas are lands that contain habitat dominated by trees, shrubs, and persistent emergents, which occur close to or depend upon soil moisture from a nearby water source; or areas with fresh water flowing during all or a portion of the year. Unvegetated drainages (ephemeral streams) may be included if alterations to that drainage have the potential to affect Covered Species and Conservation Areas.

One catch basin and portions of Drainage Feature 7 and 9 on the WLC project are considered riparian/riverine areas, as defined by MSHCP. If impacts to any of these areas cannot be avoided, a DBESP report and relevant mitigation will be required by the RCA.

The project area does not contain habitat suitable for sensitive riparian species, such as least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. Additionally, no vernal pools or ephemeral ponds were observed on the project area and no suitable habitat for any fairy shrimp species was identified on site.

Raptor Foraging Habitat. The WLCSP and off-site facilities contain flat, open areas with sparse vegetation, which could be considered foraging habitat for some raptor species. Due to the regular, heavy disturbance associated with the various agricultural activities in the WLCSP and off-site facilities resulting in a rather limited prey base, and the limited size of the site in relation to the expansive foraging habitat in the near vicinity including both the CDFW Conservation Buffer Area and the SJWA, LSSRA and the extensive Badlands to the east, the foraging habitat on site is considered marginally suitable and an adverse but not significant impact to raptor foraging habitat is anticipated.

Project or Specific Plan Design Features. The WLCSP does not contain any design features related to riparian habitat or other sensitive natural communities.

Mitigation Measures. The Jurisdictional Delineation (JD) prepared for the project in 2012 is programmatic in nature because no specific development activity or building plans are proposed at this time. The 2012 JD determined the on-site drainages were not under the jurisdiction of the USACE, but one or more may be under the jurisdiction of the CDFW. Therefore, **Mitigation Measure 4.4.6.3A** will help ensure there will be no significant impacts to riparian areas associated with Waters of the U.S. or Waters of the State as a result of future development within the project.

In addition to the previously identified **Mitigation Measures 4.4.6.1A** through **4.4.6.1C**, the following measures have been identified to reduce the significance of potential impacts to riparian/riverine habitat:

4.4.6.3A Prior to the approval of any Plot Plans proposing development adjacent to any on-site drainage channels identified in the project programmatic Jurisdictional Delineation (MBA 2012), the developer shall retain a qualified biologist to prepare a site-specific jurisdictional delineation and submit it to the U.S. Army Corps of Engineers (USACE) and California Department of Fish and Wildlife (CDFW) for review and concurrence. If the development plan will not affect identified jurisdictional areas, no USACE permitting is required. However, permitting through the Regional Water Quality Control Board (RWQCB) and CDFW (i.e., Streambed Alternation Agreement) may still be required for this development.

The applicant shall consult with USACE, CDFW and RWQCB to establish the need for permits based on the results of the 2012 jurisdictional delineation and final design plans for each of the proposed the facilities. Consultation with the three agencies shall take place and appropriate permits obtained. Compensation for losses associated with the altering of drainages on site shall be in agreement with the permit conditions.

Any development adjacent to Drainage 9 shall be designed with the channel in its relatively natural condition, and shall provide a minimum 25-foot open space setback from the top of each bank. Any landscaping of this setback area shall use only native species to help protect resources residing within or traveling through these drainages between the SJWA and the Badlands, and to protect any riparian vegetation along this drainage. This measure shall be implemented to the satisfaction of the City Planning Division.

4.4.6.3B As an alternative to Mitigation Measure 4.3.6.3A, the project developer shall retain a qualified biologist to prepare a Determination of Biologically Equivalent or Superior Project (DBESP) relative to development along Drainage 9 in order to maximize protection or preservation of the drainage, otherwise the DBESP must demonstrate why protection or preservation is not possible. This measure shall be implemented to the satisfaction of the City Planning Division in consultation with the County Resource Conservation Agency (RCA).

The DBESP shall be prepared to document measures to reduce impacts to riparian/ riverine habitats in accordance with the MSHCP as well as CDFW and USFWS guidelines. The DBESP shall include specific measures to reduce impacts to riparian areas and provide mitigation in the form of on-site preservation of riparian areas and/ or a combination of compensation through purchase and placement of lands with riparian/riverine habitat into permanent conservation through a conservation easement and/or restoration or enhancement efforts at off-site or on-site locations.

Level of Significance after Mitigation. With implementation of **Mitigation Measures 4.4.6.1A** through **4.4.6.1C** and **4.4.6.3A** and **4.4.6.3B**, potential impacts to riparian habitat or other sensitive natural communities, including on-site drainages, will be reduced to less than significant levels.

4.4.6.4 Candidate, Non-listed Sensitive, or Special-Status Species

Impact 4.4.6.4: *The proposed project has the potential to affect the burrowing owl, designated "species of special concern" by the California Department of Fish and Wildlife.*

Threshold	Would the proposed project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Critical Habitat. No USFWS designated Critical Habitat for any species is located within the project area; therefore, no further action with regard to Critical Habitat is necessary.

Los Angeles Pocket Mouse. Focused surveys for the LAPM were conducted in August 2005, June 2010, and June 2012. Suitable habitat was found within Drainage Feature 9, one of the main drainage features located in the eastern end of the project area. In its MSHCP Consistency Report, MBA concluded that LAPM is absent from the project area. However, the Specific Plan indicates this drainage will remain in its present natural condition, except for the southern end as it becomes the Street H channel and outlets to the SJWA land to the south. Extensive surveys were completed in 2005, 2010, and 2012, which concluded that pocket mouse was not present. However, to ensure that no impacts occur, Mitigation Measure 4.4.4.6E has been added below.

Migratory or Nesting Birds. The project area contains suitable nesting habitat for several tree-, shrub-, and ground-nesting avian species. Therefore, MBA recommends construction activities avoid the avian nesting season, from February to August, if possible. If construction activity must take place during the nesting season, a pre-construction nesting bird survey should be conducted prior to any ground disturbance activities. The survey can be conducted in conjunction with the pre-construction survey for burrowing owl.

If passerine birds are found to be nesting or if there is evidence of nesting behavior within 250 feet of the impact area, a 250-foot setback will be required around the nest where no vegetation disturbance will be permitted. For raptor species such as hawks and owls, this buffer should be expanded to 500 feet. A qualified biologist will be required to closely monitor nests until it is determined that they are no longer active, at which time construction activity in the vicinity of nests could continue. Construction activity may proceed within the buffer area at the discretion of the biological monitor.

Burrowing Owl. For those species that are not covered by the take and incidental take provisions of the MSHCP (e.g., burrowing owl), the MSHCP requirements dictate that further protective action be taken. While no burrowing owls were identified within the project's proposed area of disturbance, because suitable habitat is present within the project area for the burrowing owl and because the species is highly mobile, a potential exists that, at some future date prior to project development, this species may occupy the development sites. This is a potentially significant impact requiring mitigation.

Plant Survey Areas. The project limits are within MSHCP Survey Area 10 of the NEPSSA and MSHCP Survey Area 9 of the CASSA for plant species. The MSHCP requires that a habitat site assessment (HSA) be conducted for all proposed developments within NEPSSAs and CASSAs. The HSA for most NEPSSA and CASSA plants must be done during a normal rainfall year and/rainy season. If it is determined during the HSA that suitable soils and/or growing conditions are present on

site to support identified NEPSSA species, a focused plant survey is required during the plant species blooming period.

Habitat suitability of the site for NEPSSA and CASSA species is detailed in the General Biological Resources and MSHCP Compliance Report (EIR Appendix E). None of the species analyzed in the NEPSSA or CASSAs is anticipated to occur on the WLC project site. The implementation of the WLC project would not affect the habitat or result in a direct impact for any special status plant species.

Project or Specific Plan Design Features. The WLCSP does not contain any design features relative to sensitive species or birds, other than the landscape palette that contains all native and/or drought-tolerant plants that may be utilized by birds tolerant of human activity.

Mitigation Measures. The following measures have been identified to reduce the significance of potential impacts to special status bird species:

Listed or Sensitive Species:

The previously identified **Mitigation Measures 4.4.6.1A** through **4.4.6.1D** will reduce potential impacts on listed or otherwise sensitive plant or animal species or critical habitat to less than significant levels, other than the following:

Migratory/Nesting Birds:

4.4.6.4A Pursuant to the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (CFGC), site preparation activities (removal of trees and vegetation) shall be avoided during the nesting season of potentially occurring native and migratory bird species (generally February 1 to August 31). If site preparation activities must occur during the nesting season, a pre-activity field survey shall be conducted by a qualified biologist prior to issuance of grading permits for such development. The survey shall determine if active nests of species protected by the MBTA or CFGC are present in the construction zone. If active nests of these species are found, the developer shall establish an appropriate buffer zone with no grading or heavy equipment activity within of 500 feet from an active listed species or raptor nest, 300 feet from other sensitive or protected bird nests (non-listed), or 100 feet for sensitive or protected songbird nests. In the event no special status avian species are identified within the limits of disturbance, no further mitigation is required. In the event such species are identified within the limits of ground disturbance, Mitigation Measure 4.4.6.4B shall also apply. This measure shall be implemented to the satisfaction of the City Planning Division.

4.4.6.4B If it is determined that project-related grading or construction will affect nesting special status avian species, no grading or heavy equipment activity shall take place within the limits established in Mitigation Measure 4.4.6.4A until it has been determined by a qualified biologist that the nest/burrow is no longer active, and all juveniles have fledged the nest/burrow. This measure shall be implemented to the satisfaction of the City Planning Division.

Burrowing Owl:

4.4.6.4C Prior to issuance of any grading permits, a pre-construction survey for burrowing owls shall be prepared by a qualified biologist and submitted to the City. This survey shall be required and conducted no more than 30 days prior to initiation of ground-disturbing activities. If construction is to be initiated during the breeding season (February 1 through August 31) and burrowing owl is determined to occupy any portion of the study area during the 30-day pre-construction survey, consultation with

the CDFW and USFWS shall take place and no construction activity shall take place within 500 feet of an active nest/burrow until it has been determined that the nest/ burrow is no longer active and all juveniles have fledged the nest/burrow. No disturbance to active burrows shall occur without appropriate permitting through the MBTA and/or CDFW.

If active burrowing owl burrows are detected outside the breeding season (September through January), or within the breeding season but owls are not nesting or in the process of nesting, passive relocation may be conducted following consultation with the CDFW and USFWS. Construction activity may occur within 500 feet of the active nests at the discretion of the biological monitor.

If active nests are identified in a development area, the nests shall be avoided or the owls actively or passively relocated to the 250-foot setback area in the southern portion of the Specific Plan site (see Mitigation Measure 4.4.6.1A). This setback area shall be considered a "conservation area" for burrowing owl or other species of animals or plants that need to be relocated from the portions of the WLCSP site to be developed. In the event no burrowing owls have been identified within the limits of ground disturbance, no further mitigation is required. In the event burrowing owls are identified within the limits of ground disturbance, Mitigation Measure 4.4.6.4D shall apply. To avoid active nests adequately, no grading or heavy equipment activity shall take place within at least 250 feet of an active nest during the breeding season (February 1 through August 31) and 160 feet during the non-breeding season. This measure shall be implemented to the satisfaction of the City Planning Division.

4.4.6.4D If active burrowing owl burrows are detected outside the breeding season, passive and/or active relocation may be undertaken following consultation with and approval by the CDFW and/or USFWS. The installation of one-way doors may be installed as part of a passive relocation program. Burrowing owl burrows shall be excavated with hand tools by a qualified biologist when determined to be unoccupied, and back filled to ensure that animals do not re-enter the holes/dens. Owls may also be actively relocated on site to the 250-foot clear buffer zone along the southern boundary of the WLCSP, as outlined in Mitigation Measure 4.4.6.1A. This measure shall be implemented to the satisfaction of the City Planning Division.

Los Angeles Pocket Mouse:

4.4.6.4E Prior to the approval of any Plot Plans proposing the development of land including or adjacent to Drainage 9, a protocol survey for the Los Angeles Pocket Mouse (LAPM), including 100 feet upstream and downstream of the affected reach shall be prepared by a qualified biologist and submitted to the City. If the affected drainage is not occupied, the area is considered not to be occupied and development can continue without further action. If the species is found within the specific survey area, no development shall occur until an appropriate mitigation fee is paid or appropriate amount of land set aside on the project site or off site to compensate for any loss of occupied LAPM habitat. Alternatively, individuals may be relocated to the 250-foot setback zone along the southern boundary of the property identified in Mitigation Measure 4.4.6.1A, or other appropriate areas as determined by the USWFS. If necessary, this measure shall also be coordinated with Mitigation Measure 4.4.6.2B regarding preparation and processing of a DBESP report. This measure shall be implemented to the satisfaction of the City Planning Division.

Resource Management:

4.4.6.4F Prior to approval of any discretionary permits for development along the southern border of the WLCSP, a Biological Resource Management Plan (BRMP) shall be prepared to prescribe how the 250-foot "safe zone" outlined in Mitigation Measure

4.4.6.1A will be managed and maintained to provide a buffer and resources for wildlife of the adjacent SJWA. This plan will identify frequent and infrequent vegetation management requirements (i.e., removal of invasive plants) and maintaining trees along both the north and south sides of the detention basins to provide roosting and nesting opportunities for raptors and other birds. The BRMP will also describe how relocation of listed or sensitive species will occur from other locations as outlined in Mitigation Measures 4.4.6.2A, 4.4.6.4D, and 4.4.6.4E.

Preparation and implementation of the BRMP shall be to the satisfaction of the City Planning Division in consultation with the SJWA Manager. The BRMP shall cover all the land within the 250-foot setback zone along the entire southern boundary of the WLCSP. Implementation of the plan shall be supervised by the Riverside Land Conservancy or a qualified conservation organization or biologist, to the satisfaction of the City Planning Division.

4.4.6.4G Mitigation Measure 4.4.6.1A specifies that a landscape plan shall be submitted with any development proposal for lots adjacent to the CDFW property prior to issuance of a precise grading permit. The landscape plan shall be prepared by a licensed landscape architect in consultation with a qualified biologist and shall be consistent with the design standards contained in the Specific Plan. No plant species listed in Section 6.1.4 of the MSHCP shall be installed within the setback area. In conjunction with development adjacent to the CDFW Conservation Buffer Area, cottonwood trees shall be planted along the southern boundary of the 250-foot "clear" setback zone, consistent with the WLCSP landscaping plan and plant palette.

4.4.6.4H As outlined in Mitigation Measure 4.4.6.1A, development adjacent to the 250-foot open space setback shall have a six-foot chain link fence to help separate human activity and the buffer area. Any chain link fencing installed on any properties adjacent to the 250-foot buffer area shall have metal mesh installed below and above ground level to prevent animals from accessing new development areas.

Level of Significance after Mitigation. Implementation of the above-listed mitigation measures would reduce impacts to burrowing owl, migratory bird species, and Los Angeles pocket mouse to less than significant levels.

4.4.7 Cumulative Impacts

The cumulative area for biological resources is the Western Riverside County MSHCP area. The MSHCP establishes a comprehensive, multi-jurisdictional program focused on the conservation of 146 species and their habitats in western Riverside County. As stated in its Conservation Element, the City reviews all public and private development and construction projects and other land use plans/activities within the MSHCP area to ensure compliance with the conservation criteria procedures and mitigation requirements set forth in the MSHCP. As a signatory to the MSHCP Implementing Agreement, the City has been issued "Take Authorization," which allows the implementation of land use decisions consistent with the MSHCP without individual authorization by State or Federal authorities. As required by the MSHCP, focused biological resource studies have been conducted to assess potential impacts associated with development of the proposed uses. Where impacts to special status bird species and jurisdictional areas have been identified, mitigation has been identified to reduce the project specific impacts to a less than significant level. Additionally, the MSHCP and its Implementation Agreement contain a fee mitigation program pursuant to which local agencies collect development impact fees and remit such fees to the RCA. These fees are in turn used to acquire lands which are suitable for habitat preservation for species covered by the MSHCP. In fact, habitat lands created by the MSHCP also have biological benefits for species technically not covered by the MSHCP, such as the burrowing owl. Habitat acquired by the MSHCP may be suitable as owl habitat. The latest adjustment of the MSHCP fee mitigation (July 1, 2009)

allows the collection of fees of $6,597 per acre of industrial development. The payment of required MSHCP is a standard requirement for all development occurring within the MSHCP area.

This EIR determined that indirect impacts of the project on the SJWA would be less than significant with mitigation, and the regional (cumulative) implications of the project can be addressed through the fee payment program of the MSHCP because it provides a regional and comprehensive approach to conservation planning. For example, future development that impacts Drainage 9 would be required to prepare a DBESP report consistent with MSHCP requirements. Through the implementation of the stated mitigation for project-specific impacts, and the payment of required MSHCP mitigation fees, no significant cumulative effect on biological resources would result from the development of the proposed uses with implementation of the identified program mitigation measures.

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4.5 CULTURAL AND PALEONTOLOGICAL RESOURCES

This section identifies and evaluates the potential of the proposed project to have adverse effects on archaeological, historical, and paleontological resources. The resources of concern include, but are not limited to, prehistoric and historic artifacts, burials, sites of religious or cultural significance to Native American groups, and historic structures. This section provides a detailed discussion of impacts potentially attributable to the proposed project, and criteria used to determine impact significance to cultural resources.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements that affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

The analysis contained in this section is based on the following technical study prepared for the proposed project:

- Cultural Resources Assessment, Michael Brandman Associates, April 12, 2012 (Appendix F).
- Copies of City correspondence illustrating City compliance with SB 18 tribal consultation requirements (Appendix A).

In addition to this technical study, the analysis contained in this section is also based on the following reference documents:

- Moreno Valley General Plan Conservation Element, adopted October, 2006.
- Moreno Valley General Plan Environmental Impact Report, certified July, 2006.

4.5.1 Existing Setting

4.5.1.1 Archaeological Resources

Archaeological resources are those associated with prehistoric cultural sites, prehistoric isolates, and the remnants of historic cultural sites that lack substantive building remnants (termed "historic archaeological sites") such as roads and trails. Prehistoric cultural resources consist of those physical properties that predate the advent of written records in a particular region that are considered important to a culture, subculture, or community for scientific or humanistic reasons. These include geographic districts, structures, sites, objects, and other physical evidence of past human activity. Similar to prehistoric cultural resources, historic cultural resources in a particular geographic region are considered important to a culture, subculture, or community, and postdate the advent of written records. An archaeological records search was conducted through the Eastern Information Center (EIC) at the University of California, Riverside by the project archaeologist, Michael Brandman Associates (MBA).

The results of this records search indicated that the project site and surrounding area contain a number of Native American (NA) sites, mainly milling features and slicks associated with the uplands of the nearby Mount Russell Range. The area also contains several historic sites mainly remnant artifacts and foundations of historic homestead/farmstead buildings and/or ranch complexes.

4.5.1.2 Historic Resources

The following is excerpted and summarized from Viola Hamner's "In the Beginning", a history of life in Moreno Valley (Hamner 2003):

> *Our valley was once called San Jacinto Plains. It was so named because the land was considered a part of the huge Rancho San Jacinto, dating back to mission times. It has been described as part of the tableland that stretches between Box Springs and the San Jacinto Mountains, and between the Badlands and Temecula.*
>
> *Great bands of sheep and herds of cattle from the rancho roamed our valley and munched the grasses and weeds. Indian made trails and camped near the hills. Just as new, the hills turned brown during the summer months and into the spring, the undisturbed land became a billowy lake of blossoms…*
>
> *When the huge Alessandro Tract on the western part of our valley was recorded in August 1887, and the town of Alessandro was established, our valley became known as Alessandro Valley or Alessandro Plains. After 1890 when the town of Moreno was established, it became known as Moreno Valley as well as Alessandro Valley.*
>
> *Then in 1890 appeared Frank E. Brown and his Bear Valley and Alessandro Development Company, coming in like a great wind, and in one big swoop, changed our valley forever… Brown and his partner Edward Judson, devised a plan to build a dam and transport water to their land from Big Bear Mountain. They then founded the successful colony of Redlands. They concluded that if they built the Bear Valley Dam higher, there would be enough water in the big reservoir to establish another colony in what is now Moreno Valley.*
>
> *Brown and his investors bought and subdivided thousands of acres of land throughout the valley.*
>
> *In April 1891, the precious Bear Valley water finally arrived. It traveled down the mountain and through pipelines, tunnels, and ditches for a distance of forty miles… With only a promise of water, the excited settlers started to improve their parcels.*
>
> *For several years, there was great hope and planting activity in the valley. Then, in 1894, a series of misfortunes befell the valley, including several years of drought and a lack of*

irrigation water as a result of losing a water rights decision with Redlands. It turned out the Big Bear Dam had not been built large enough to handle drought conditions.

The drought continued and by 1898, Big Bear Lake was virtually dry. Depopulation of Moreno Valley began, and some settlers moved to nearby towns, taking their houses with them. An English writer described it as a "Valley on Wheels." Even the three-story Hotel de Moreno (at the corner of Alessandro Avenue and Redlands Boulevard). "Some businesses continued to operate in the town of Moreno. The General Store and Post Office continued on for over 100 years. The town may have withered, but it never died.

Over the years, other settlers who could afford it, dug their own wells and continued to raise citrus. In the spring, the sweet smell of orange blossoms gave delightful encouragement. Olives and other crops were planted, but most of the acreage in Moreno Valley was filled with "amber fields of grain." The dry-land farming had only the winter rains to sustain them.

The author then refers to the "second coming or the second spurt of development. This began with the subdivision of the Sunnymead Orchard Tract in 1912, the establishment of Alessandro Flying Field (March Field) in 1918, and the subdivision of the Edgemont Tract in 1923."

Finally, the author refers to the "third coming when huge parcels of open land were turned into housing tracts, starting in the 1960's, resulting in an explosion of population. The city of Moreno Valley was founded in November 1984. It encompassed the Moreno, Sunnymead, and Edgemont areas. It became the 20th City in Riverside County and the second largest in population at that time."

4.5.1.3 Paleontological Resources

The project site is located at the northern end of the Peninsular Range Geomorphic Province California Geologic Survey (2002), a 900-mile long northwest-southeast trending structural block that extends from the tip of Baja California to the Transverse Ranges and includes the Los Angeles Basin. This region is characterized by a series of mountain ranges separated by northwest-trending valleys sub-parallel to faults branching from the San Andreas Fault. The trend of topography is similar to that of the Coast Ranges Geomorphic Province located to the north, but the geology is more like that of the Sierra Nevada, with granitic rock intruding on the older metamorphic rocks. It contains extensive pre-Cretaceous (greater than 65 million years ago) igneous and metamorphic rocks covered by limited exposures of post-Cretaceous sedimentary deposits.

Specifically, the project site is located on the Perris Block, which extends from the southern foot of the San Gabriel and San Bernardino Mountains southeast to the vicinity of Bachelor Mountain and Poly Butte. It is bounded on the southwest by the Elsinore Fault Zone and on the northeast by the San Jacinto Fault. The surface of the Perris Block consists of granitic exposures that have been tectonically tilted eastward, leaving granitic outcrops elevated and exposed on the west side of the Perris Block (Jurupa Hills) and allowing Pleistocene sediments to cover the east side, filling the eastern San Bernardino, Lakeview, Perris, and San Jacinto Valleys.

The project site lies between the plutonic batholith of Mt. Russell, the San Jacinto fault zone and the Pliocene-era non-marine sedimentary rocks of The Badlands.[1] Within the project limits, Holocene alluvial sediments and isolated Pleistocene alluvial sediments have been mapped across much of the site, with a small outcrop of Cretaceous granitic bedrock on the surface in the southwestern portion of the site. It is possible that deposits of middle to late Pleistocene (300,000 to 10,000 years ago) alluvium are present just below the surface in isolated locations of the site, but there are no surface expressions of this older formation on the surface within the project site.

[1] *Cultural Resources Assessment*, Michael Brandman Associates, Inc., April 24, 2012.

Artificial Fill. Artificial fill consists of sediments that have been removed from one location and transported to another by human activity. Artificial fill will sometimes contain modern debris such as asphalt, wood, bricks, concrete, metal, glass, plastic, and plant material. Artificial fill can contain fossils, but since these fossils have been removed from their original location, it is unlikely to contain in-situ fossils. Artificial fill can be found in isolated areas on the project site, mainly associated with former ranch/farm sites or existing residences and farms.

Holocene Alluvial Fan Deposits. Holocene Alluvial Fan Deposits are also known as Recent to Young Alluvial Fan Deposits. They are found at the mouths of canyons or along the sides of hills that flank river and stream valleys (e.g., the Badlands to the east and northeast). They represent deposition by small streams that flow out of mountains and hills. They were deposited during the early to late Holocene and range in age from the recent to 10,000 years before the present. Although Holocene alluvium can contain remains of plants and animals, generally not enough time has passed for the remains to become fossilized. In addition, the remains are contemporaneous with modern species, and these remains are usually not considered to be significant. These deposits are too young to contain in-situ fossils and have low paleontological sensitivity; however, it should be noted that although an area may be mapped with younger alluvium on the surface, deposits of older alluvium are often encountered at shallow depths below the surface, and these older sediments can and do contain fossils.

Pleistocene Alluvial Fan Deposits. Pleistocene Alluvial Fan Deposits are also known as Old Alluvial Fan Deposits and Very Old Alluvial Fan Deposits. Like the Holocene Alluvial Fan Deposits described above, they are found at the mouths of canyons and along the sides of hills that flank river and stream valleys, they are older than the Holocene deposits. The Old Alluvial Fan Deposits were deposited during the late to middle Pleistocene (10,000–300,000 years ago) and the Very Old Alluvial Fan Deposits were deposited during the middle to Early Pleistocene (300,000–1.8 million years ago). Within the subsurface of the project area, sediments from the middle to late Pleistocene likely exist at depths (i.e., possibly as shallow as 5 feet). In addition, as early to middle Pleistocene alluvial sediments are mapped as occurring just to the east and west of the project area, it is also likely that these older sediments may be encountered as well. Fossils are known in similar Pleistocene deposits from excavations for roads, housing developments, and quarries within the Southern California area. These sediments have the potential to contain in-situ fossils and have a high paleontological sensitivity.

Heterogeneous Granitic Rocks. Heterogeneous mixtures of granitic rocks contain some metamorphic rocks such as schist and gneiss. Granitic rocks range in composition from hornblende-rich quartz diorite to leucocratic tonalite and from potassium feldspar-free rocks to granodiorite and quartz diorite. Because of its igneous origin, granitic rocks do not contain paleontological resources. Surface bedrock deposits are found in the upland areas near the southwest portion of the project site, associated with the Mount Russell Range surrounding Lake Perris.

Summary. A paleontological locality search indicated that there was a low potential for significant paleontological resources to be encountered by construction excavation on the project site at the depths planned for the project, although it is possible that Pleistocene alluvial deposits, which have a higher potential to contain fossils, may be found in some locations during project grading.

4.5.1.4 Ethnographic Context

The Moreno Valley General Plan EIR states that the Luiseño and Cahuilla peoples occupied the region during the Late Prehistoric period. Unfortunately, there is a lack of definitive archaeological evidence linking the prehistoric site complexes located within the City limits of Moreno Valley to any single modern tribal group. It is likely that northern Luiseño and western Cahuilla peoples accessed this area during the late prehistoric period for resource gathering. Areas located at the base of Mt. Russell would have been a logical place for a trade route, as it would link prehistoric site complexes at the north end of the City with the marshy areas at the north end of the San Jacinto Valley. Serrano peoples may have also used the San Jacinto Valley to link with their more southern groups.

a. Cahuilla

The Cahuilla Indians occupied the San Timoteo valley prior to contact with Spanish Mission padres and military personnel, which places the project area near their traditional use areas. Of all the southern California Indians, the Cahuilla existed within the most geographically diverse region, constrained only by water supplies and topography. Currently, it is thought that a migration of Shoshonean peoples from the Great Basin occurred approximately 1,000 to 600 years ago, with populations moving into much of desert and coastal Southern California. Included among these migrants were the forbearers to the modern Cahuilla. The prehistoric Cahuilla were characterized by the occupation of sedentary villages in subsistence territories that permitted them to reach the majority of their resources within a day's walk. Villages were commonly located near reliable sources of water. During October to November, much of the village population moved to temporary camps in the mountains to harvest acorns and hunt game.

Inland groups also had fishing and gathering spots on the coast that they visited annually. In comparison with the Gabrielino and Luiseño, the Cahuilla appear to have had a lower population density and a less rigid social structure. The Cahuilla patterns may have been relatively stable until mission secularization in 1834, due to the policy of the Catholic Mission fathers or padres to maintain imported European traditional style settlement and economic patterns.

b. Luiseño

The Luiseño, belong to the Shoshonean linguistic family, which is also shared by Cahuilla, Gabrielino, and Serrano among others.[1] Luiseño villages could be found from the Pacific Ocean inland to the western base of the San Jacinto River and near Fallbrook. The villages were typically established near defined water and food sources and in good defensive locations, so these villages were commonly located along valley bottoms, streams, or coastal strands. The Luiseño characteristically lived in sedentary villages, therefore one clan or family occupied several food-gathering locations and aggressively guarded these areas against other clans.

c. Serrano

The project area is considered to be in an area historically used by the Serrano. All indigenous groups adjacent to the eastern San Bernardino Mountains were decimated by the Spanish, but some Serrano survived for many years thereafter in the far eastern San Bernardino Mountains due to the ruggedness of the terrain and the dispersed population. It is believed Serrano families inhabited the *Guachama Ranchería* or *Politana* in the early 1800s. This village apparently housed the Rancho San Bernardino *estancia* after about 1819. Their range is generally thought to have been located in and east of the Cajon Pass area of the San Bernardino Mountains, north of Yucaipa, west of Twentynine Palms and south of Victorville. Like all prehistoric Californians, the range of this group was

[1] *Cultural Resources Assessment*, Michael Brandman Associates, Inc., April 24, 2012.

determined by reliable water sources. A Serrano village typically consisted of a collection of families centered about a ceremonial house, with individual families inhabiting willow-framed huts with tule thatching. Considered hunter-gatherers, the Serrano exhibited a sophisticated technology devoted to hunting small animals and gathering roots, tubers, and seeds of various kinds. Today, Serrano descendants are found mostly on the Morongo and San Manuel reservations.

4.5.1.5 Local History

a. Spanish Period (A.D. 1769 to 1821)

The earliest record of exploration of the Moreno Valley area is from the journal of Juan Bautista de Anza, a Spanish explorer who traveled from Mexico City through the San Jacinto Valley, passing by Mystic Lake and through the Moreno Valley area, on his way to Monterrey and San Francisco in 1774.

Father Junipero Serra was sent to Alta California to create a chain of Missions and Mission outposts to bring Christianity to the indigenous population, and create a foundation for colonization of the region. Located between the previously established presidios in Monterey and San Diego, Serra had military assistance in his quest and the San Bernardino area came under the early control of Spanish soldier Pedro Fages and Father Francisco Garces. In 1819, Rancho San Bernardino was established. This followed a decision by the heads of the mission system to expand their agricultural holdings into the interior and later establish a chain of additional Missions in the desert interior. A decision was made to create an *estancia*, or a ranch headquarters with a chapel that was occasionally visited by padres at the *Guachama Ranchería*. Work on the San Bernardino *Asistencia* was started about 1830, and it was not yet finished when the project was abandoned in 1834. The rancho traditions were kept once Mexico established control over the area, but without the original authority of the Mission padres.

b. Mexican Period (A.D. 1821 to 1848)

After years of internal fighting, Mexico achieved its independence from Spain in 1821 and Alta California became the northern frontier of the State of Mexico. The Mission padres were then forced to swear allegiance to Mexico in 1822. Secularization of the missions took place over the next decade and the former mission lands were transferred to the large Mexican families that had settled in the area. Affiliated with Mission San Luis Rey, the Rancho San Jacinto was formed on December 21, 1842 and granted to Jose Antonio Estudillo. This rancho provided Estudillo with twice as much land, 8 square leagues, or 46,080 acres, as he had petitioned for the previous August. Lands north of the modern Alessandro Boulevard were not claimed by any family, probably because little reliable water existed in the area, except for the Mystic Lake cienega, and because it was a two-day ride from the closest Missions, San Gabriel, and San Luis Rey. The property was petitioned for division by Estudillo's brother-in-law Miguel de Pedrorena, soon after and a small portion of The Badlands north of Hemet was added to form the Rancho San Jacinto Nuevo y Potrero.

There is historical evidence a road led from the Rancho San Jacinto headquarters northwest along the base of The Badlands to the springs in the Box Springs Mountains east of what is now Riverside, then over to roads near the Santa Ana River. The route, which likely followed the current alignment of Gilman Springs Road, has been used for travel for over 160 years. The primary purpose of the interior ranchos was to raise cattle and sheep; however, beyond the Mystic Lake *cienega* west of Eden Hot Springs, little reliable water was found north of San Jacinto. The trail likely brought travelers along the base of Mt. Russell as this would shorten the trip to Box Springs. The upper San Jacinto Valley proved marginal in terms of food production for Native Americans, a factor that limited agricultural growth expansion well into the 1950s.

c. Moreno Valley Before 1893

Theodore Street was the eastern border of the old Bear Valley and Alessandro Development Company (BV&A) development. BV&A conceptualized the town of Moreno and the community of Alessandro in 1889. Frank Elwood Brown, an engineer who moved to California in 1876, was the co-founder with Hiram Judson of the town of Redlands. In 1890, Brown and other investors formed the BV&A to "plat out new towns, bring Bear Valley water to the [Moreno] Valley, and open another large area to agricultural and town site development".[1] Brown and Judson began growing citrus in Redlands between 1878 and 1882 using meager local water supplies. Brown formed the Bear Valley Land and Water Company (BVLWC) in the early 1880s and constructed the Big Bear Dam in 1883. After successfully creating Big Bear Lake, at that time the largest man-made reservoir in the world, water began flowing from the dam through a series of flumes and canals to Redlands orchards in 1885. This demonstration led locals to believe that the area could be successfully irrigated using water brought in from the mountains to the north.

The potential for Big Bear Lake seemed enormous because the winters between 1875 and 1885 were some of the wettest winters on record. Brown assumed that the abundance of water stored in the reservoir in those years was typical and would continue as such. With little knowledge of precipitation fluctuations in southern California, water supplies appeared unlimited and Brown and others fostered grandiose schemes for attracting moneyed investors. Between 1889 and 1890, Brown began trading stocks from his own companies to develop land south of Redlands and consolidate his water rights. After organizing the BV&A in 1889, Brown and his associates bought all of the BVLWC stock individually. They then incorporated the Bear Valley Irrigation Company (BVIC), which bought all of the original BVLWC stock, including the dam, from the BV&A.[2]

Frank Brown hoped to duplicate the success of the City of Redlands, which by 1890 was a thriving commercial citrus center located along an established railroad right-of-way. Turning his attention to the valley south of Redlands, a 280-acre town site was named the Town of Moreno. Initially, the town was to have been named New Haven, after New Haven, Connecticut where many of the investors, including Brown, were from. However, to honor Brown, the name Moreno, which is the Spanish word for "brown," was chosen. North-south streets in the BV&A development in Moreno and Alessandro were named for the corporation leaders, while east-west streets were named for plant and tree species common in California at the time. Hopes were high that Moreno would prosper and local newspapers in 1891 declared that "Moreno will be a rail road town in the future [which has] every advantage of the most favored locality in Southern California and the disadvantages of none."

In April 1891, it was estimated that between 1,500 and 2,000 people went to the new town site of Moreno to purchase town lots being sold at public auction. In the following eight months, a Congregational Church, four brick commercial buildings, a lumberyard, two brickyards, a cement pipe works, and a school were constructed with as many as "thirty houses being built at one time."

By 1893, the Hotel de Moreno, three stories high and encompassing an entire city block, was operational and doing a brisk business with people needing a place to stay while developing their land. Investors interested in Moreno Valley land were from nearby locations, Los Angeles, San Diego, San Bernardino, and from as far away as Wisconsin, Pennsylvania, and New York. A map was created to show potential buyers what types of irrigation systems would be built and where the land was located.[3]

1 *Cultural Resources Assessment*, Michael Brandman Associates, Inc., April 24, 2012.
2 Ibid.
3 Ibid.

d. Moreno Valley After 1893

Moreno had become a small boomtown with new businesses developing, and orchards and crops being planted on nearby fields. The success for both local businesses and the farmers depended on the availability and consistency of water. Although Brown had studied the feasibility of bringing water into the Valley and had initially been successful piping water from Bear Valley, by 1893 Brown and others realized that without a higher dam, the reservoir could not hold enough water to meet the irrigation needs of Redlands and Moreno. To worsen the situation for Moreno, Redlands was the town for whom the reservoir was initially built and therefore had first rights to the water. A legal suit won by Redlands in 1894, in effect permanently shut off the water to Moreno, although a local judge ordered that domestic water to Moreno homes must be reinstated.[1]

In addition to the lack of water, it is likely that the Recession (Panic) of 1893 forced many potential farmers in southern California to reconsider their options, and new farmers went out of business. The Panic was caused by railroad overbuilding and speculation, much of which was driven by westward expansion into California. According to several sources, over 15,000 businesses and 500 banks failed during this period, many of them in California. The Northern Pacific Railway, the Union Pacific Railroad, and the Atchison, Topeka & Santa Fe Railroad all failed. The resultant depression lasted for three years and farmers went bankrupt nationwide; good economic times did not resurface until about 1899. By that time, the speculative land boom in this part of Southern California was over.

The City remained a rural agricultural community for many decades, until after World War II. The expansion of the Federal freeway system and housing boom following the war led to the start of suburbanization in the Moreno Valley area that slowly converted agricultural land to new homes, shopping centers, etc. In the 1990s at one time, Moreno Valley was one of the fastest-growing communities in the nation. The older agriculture-oriented towns of Alessandro and Moreno gave way to suburban residential neighborhoods. By 2010, “Moreno” had suburban development to the west and agricultural fields to the east.

4.5.1.6 NOP/Scoping Comments

The Sierra Club expressed concern about how the project would affect Native American sites in this area, as well as the agricultural history of this area. In addition, Susan Nash provided information about the route that Juan Bautista de Anza took through the San Jacinto Valley and the project site on his travels from San Diego to points north. These comments are addressed in this section of the EIR.

4.5.2 Existing Policies and Regulations

4.5.2.1 Federal Regulations

National Historic Preservation Act (NHPA) of 1966 (as amended), Section 106. The NHPA declares a national policy of historic preservation to protect, rehabilitate, restore, and reuse districts, sites, buildings, structures, and objects significant in American architecture, history, archaeology, and culture. The NHPA established the National Register of Historic Places (National Register), State Historic Preservation Offices (SHPOs) and programs, and the Advisory Council on Historic Preservation. This Act applies to all properties on or eligible for inclusion in the National Register. The Section 106 review process requires consultation to mitigate damage to “historic properties” (defined per 36 CFR 800.16[1] as places that qualify for the National Register), including Native American traditional cultural places (TCPs). Evaluation of cultural resources consists of determining whether it is significant (i.e., whether it meets one or more of the criteria for listing in the National Register). These eligibility criteria are defined in 36 CFR 60.4 as follows:

[1] Ibid.

The quality of significance in America history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association:

A. That is associated with events that have made a significant contribution to the broad patterns of our history;

B. That is associated with the lives of persons significant in our past;

C. That embodies the distinctive characteristics of a type, period or method of construction, or that represents the work of a master, or possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; and/or

D. That has yielded, or may be likely to yield, information important to prehistory or history.

4.5.2.2 State Regulations

California Environmental Quality Act. An "historic resource" includes, but is not limited to, any object, building, site, area, place, record, or manuscript that is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.[1] CEQA mandates that lead agencies consider a resource "historically significant" if it meets the criteria for listing in the California Register of Historic Resources (California Register). Such resources meet this requirement if they (1) are associated with events that have made a significant contribution to the broad patterns of California history, (2) are associated with the lives of important persons in the past, (3) embody distinctive characteristics of a type, period, region, or method of construction, and/or (4) represent the work of an important creative individual or possesses high artistic value.[2] These criteria mimic the criteria utilized to determine eligibility for the National Register.

In addition, Public Resources Code Section 21083.2 and *CEQA Guidelines* Section 15064.5(f) recognize that historical or unique archaeological resources other than potential Native American burials may be accidentally discovered during project construction. This guideline recommends that immediate evaluation defined by qualified archaeologists be included in mitigation measures. This guideline also recommends that if the find is determined to be a historical or unique archaeological resource, that contingency funding and time allotments sufficient to allow for implementation and avoidance measures be available.

Senate Bill 18. Signed into law in September 2004, and effective March 1, 2005, SB 18 permits California Native American tribes recognized by the Native American Heritage Commission (NAHC) to hold conservation easements on terms mutually satisfactory to the tribe and the landowner. The term "California Native American tribe" is defined as "a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC."

The bill also requires that, prior to the adoption or amendment of a city or county's general plan, the city or county consult with California Native American tribes for the purpose of preserving specified places, features, and objects located within the city or county's jurisdiction. SB 18 also applies to the adoption or amendment of specific plans. This bill requires the planning agency to refer to the California Native American tribes specified by the NAHC and to provide them with opportunities for involvement.

[1] Public Resources Code, Section 5020.1(j).
[2] Public Resources Code, Section 5024.1(c).

California Health and Safety Code. The California Health and Safety Code Section 7050.5 states that if human remains are discovered on site, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition. If the Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC. This regulation is applicable to any project where ground disturbance would occur.

4.5.2.3 City of Moreno Valley General Plan Policies

The General Plan defines goals and policies related to cultural resources within the City of Moreno Valley. The Chapter 9 Goals and Policies section provides the following guidelines to City staff:

Objective 7.6: Identify and preserve Moreno Valley's unique historical and archaeological resources for future generations.

Policies in Response to Objective 7.6:

7.6.1) Historical, cultural and archaeological resources shall be located and preserved, or mitigated consistent with their intrinsic value.

7.6.2) Implement appropriate mitigation measures to conserve cultural resources that are uncovered during excavation and construction activities.

7.6.3) Minimize damage to the integrity of historic structures when they are altered.

7.6.4) Encourage restoration and adaptive reuse of historical buildings worthy of preservation.

7.6.5) Encourage documentation of historic buildings when such buildings must be demolished.

To help define when a cultural resource becomes "significant" within the context of Moreno Valley history, a professional cultural resource manager must conduct an assessment with consideration of an appropriate threshold. Certain cultural resources will have an intrinsic value to the City. City policy suggests that significant cultural resources uncovered during project-related excavation and construction activities should be preserved and/or mitigated to the extent feasible consistent with their intrinsic value.

Prehistoric sites on Mount Russell and located within lands under the jurisdiction of the City and the County of Riverside are part of an unofficial prehistoric district known as the Wolfskill Ranch North Complex, and its general location has been published in the Moreno Valley General Plan Final EIR.[1] Page 5.10-14 of the Moreno Valley General Plan Final EIR notes that the North Complex is located on Open Space and that a project's potential affect to all prehistoric cultural resources in the City, including those of the Wolfskill complex, is considered a significant impact.

4.5.3 Methodology

4.5.3.1 Phase 1 Research

a. Cultural Resource Assessment

Over the past ten years, a number of cultural resource assessments have been conducted on the project site and in surrounding areas. The following information summarizes the results of those surveys as described in Tables 1 and 2 from the Cultural Resources Assessment conducted for the

[1] City of Moreno Valley General Plan EIR, 2006

project. There are 45 archaeological NA and historical resource sites in the general area of the project, with most being milling features or slicks in the Mount Russell area.[1]

Table 4.5.A lists 11 sites were identified in the southwest portion of the project site, which is designated "Open Space" in the Specific Plan and will not be disturbed. These sites are all milling features associated with the Mount Russell Range and will not be affected by development of the project.

Table 4.5.A: Cultural Resources Identified in the Southwest Portion of the Project Site

CA-RIV-610	CA-RIV-3238	CA-RIV-3345	CA-RIV-8006
CA-RIV-860	CA-RIV-3343	CA-RIV-3346*	CA-RIV-8007**
CA-RIV-2993	CA-RIV-3344	CA-RIV-3347	

* Includes a midden.
** Renamed from CA-RIV-2775, 2776, and 2777.

It should be noted that the cultural assessments for the project do not show the specific locations of the cultural resource sites. This information is restricted from the public, and is considered confidential and protected under CEQA, to protect the resources from illegal or inappropriate damage or theft. The project's Cultural Resources Assessment fulfills the requirements of CEQA as outlined in Section 4.5.6.2, *Significant Impacts*. (*See, e.g. Clover Valley Foundation v. City of Rocklin* (2011) 197 Cal.App.4th 200.)

The project's cultural assessments also found five sites within the project area during previous excavations for the MWD pipeline (four sites) and the EMWD Gilman tunnel (CA-RIV-6200) that will not be affected by development within the project:[2]

- CA-RIV-6065 (P33-8168);
- CA-RIV-6066 (P33-8169);
- CA-RIV-6067 (P33-8170);
- CA-RIV-6068 (P33-8171); and
- CA-RIV-6200 (P33-8709).

All of these sites are buried prehistoric Native American artifacts found during trench work except CA-RIV-6200, which was a deeply buried hearth (21 feet below ground surface). All of these resources remain in their original locations and will not be disturbed by the development of the project.

Four (4) historic-era cultural resource sites were identified within the project site in areas that could be affected by development as outlined in Tables 1 and 2 from the project cultural assessment:[3]

- CA-RIV-4201H (historic foundation remnants and trash);
- CA-RIV-4210H (old farm location);
- CA-RIV-5862 (historic era 2-room farmhouse); and
- P33-11621 (historic farmstead in the open space area of the project).

CA-RIV-4201H consists of historic foundation remnants and historical trash (e.g., bottles, nails, and broken dishes) along Virginia Street. Old topographic maps and photographs show a historic farm

1 *Cultural Resources Assessment*, Michael Brandman Associates, Inc., April 24, 2012.
2 Ibid.
3 Ibid.

complex here. This site was Phase 2 tested by MBA in 2011 and found to be not significant according to CEQA criteria. CA-RIV-4210H consists of a historic structure, foundations, and trash deposits. Old topographic maps and photographs show a farm complex at this location. The MBA report indicates this site was Phase II-tested and found to be not significant under CEQA. CA-RIV-5862 consists of a historic era two-room farm structure, but it is on MWD property and is not considered a significant cultural resource under CEQA. P33-11621 is a historic farmstead but is within the open space property in the southern portion of the project site and will not be directly affected by construction within the project.[1]

In addition, there are seven rural residential properties within the project site that may contain historic buildings or resources, but these are private property and MBA staff did not access them and no detailed assessment was conducted. The Specific Plan designates these properties as "Light Logistics" and they will eventually be developed. There is evidence that at least one structure located east of Redlands Boulevard and north of Brodiaea Avenue was built around 1900. These sites will be investigated in connection with any development proposals affecting these properties.

4.5.3.2 Phase II Testing

Based on the results of Phase I survey work on a portion of project-related lands (i.e., plowed and vacant parcels) performed in August and September of 2005, Phase II testing of certain prehistoric cultural resources, located in the southwest portion of the site, was undertaken in the summer of 2006. A monitor representing the Soboba Band of Luiseño Indians was in attendance. Additional properties in the Specific Plan were surveyed in the summer and fall of 2007. The last pieces of agricultural land within the Specific Plan boundary were surveyed in July 2011. Known as the Lee Property, these exhibited two previously recorded historic-era cultural resources. MBA also re-located prehistoric archaeological site CA-RIV-3347 during the July 2011 survey. The Phase I surveys had revealed three historic-era cultural resource sites, ten prehistoric-era cultural resource sites, and six isolated artifacts located within the boundaries of the project, but not in areas planned for development within the Specific Plan. Each resource was recorded.

In early 2006, a subsurface significance-testing program (Phase II testing) on a series of nine prehistoric cultural resources located at the southwest portion of the project site was conducted to determine if these resources should be considered significant under CEQA. The Phase II-tested sites included:

- CA-RIV-610
- CA-RIV-860
- CA-RIV-3238
- CA-RIV-3343
- CA-RIV-3344
- CA-RIV-3345
- CA-RIV-3346
- CA-RIV-8006
- CA-RIV-8007

All of these sites are milling features, and CA-RIV-8006 and -8007 are milling slicks. The testing work revealed that only one of these sites exhibited evidence of intact subsurface cultural resources (CA-RIV-3346). For this reason, CA-RIV-3346 should be considered a significant cultural resource for the purposes of CEQA.[2] MBA also determined that the other eight prehistoric sites lacked additional subsurface resources.[3] The MBA report concluded that development of the Specific Plan would not impact the nine prehistoric sites, so no further research on these sites was recommended unless the project created proposed physical disturbance (grading) of these areas.[4] The 75 acres of open space shown in the Specific Plan (previously referenced Figure 3.8) encompasses all of the nine prehistoric

1 *Cultural Resources Assessment*, Michael Brandman Associates, Inc., April 24, 2012.
2 Ibid.
3 Ibid.
4 Ibid.

sites identified by MBA. Therefore, development under the project will not have a significant impact on archaeological resources.

Several buried and isolated prehistoric resources were detected during the monitoring phase of the Highland Fairview Corporate Park Project,[1] located adjacent to the northern edge of the Specific Plan. Likewise, several buried sites adjacent to Davis Road were detected in connection with the 1998 Inland Feeder Project by MWD. Given previous finds in the project area, MBA concluded that certain portions of the project site have a "high" and "moderate" probability of containing significant buried cultural resources, while other areas of the project site have a "low" probability of containing significant buried cultural resources. The high probability areas are within 1,000 feet of the base of the southwestern foothills, while the moderate probability areas are within 2,000 feet of the same area

4.5.3.3 Native American Consultation (SB 18)

MBA contacted the NAHC in March 2011 requesting a Sacred Lands File search for the project area in order to determine if there were records of cultural resources in the area. The response from the NAHC was received on March 25, 2011, indicating that no sacred lands or traditional cultural properties are known to the NAHC within the 3,814 acres of the project area, including the Specific Plan area, Conservation Areas, and Public Facilities. However, other cultural sites have been found in the uplands outside of the project area (i.e., Lake Perris National Recreation Area to the southwest and the San Jacinto Wildlife Area to the south).

Pursuant to SB 18, on February 29, 2012, MBA sent information-request letters to each of the 11 tribal entities identified by the NAHC (see previously referenced Table 2.C for a summary of the correspondence in this regard). In response, two tribes requested government-to-government consultation under SB 18 during the 90-day notification period (Pechanga and Soboba). The City met with the Pechanga Tribe on May 30, 2012, and with the Soboba Tribe on November 27, 2012. No other Native American entities requested a government-to-government consultation meeting. In addition, several tribes provided information to the City regarding cultural resources to be included in the EIR but did not include a consultation request.

4.5.3.4 Paleontological Contacts

MBA contacted Eric Scott of the Division of Geological Sciences of the San Bernardino County Museum on June 2005 requesting a paleontological records check of the original Moreno Highlands Specific Plan area. Mr. Scott's paleontological review showed that the project area rests entirely on exposures of Holocene (Recent) alluvium and granitic bedrock. Both the alluvium and the bedrock have low potential for fossil deposits to be uncovered during grading. However, the Holocene alluvium rests upon a veneer of Older Pleistocene alluvium and San Timoteo Formation deposits, both of which are highly sensitive for fossil resources.

MBA's monitoring work at the Highland Fairview Corporate Park project, located north and adjacent to this project area, included monitoring for paleontological resources. During construction of the Highland Fairview Corporate Park, it was shown that shallow soils (0 to 20 feet) did not contain paleontological resources. Therefore, MBA recommends that full-time paleontological monitoring on this project should take place only in those portions of the project where earthmoving occurs 20 feet or more below existing grade.

[1] *Cultural Resources Assessment*, Michael Brandman Associates, Inc., April 24, 2012.

4.5.4 Thresholds of Significance

4.5.4.1 Importance of Cultural Resources

Prior to determining whether a cultural resource is significant under *CEQA Guidelines* and therefore subject to mitigation, a threshold of significance must be developed prior to testing/evaluation. This procedure is recommended by the Office of Historic Preservation (OHP)/State Prehistoric Preservation Officer (SHPO). The threshold of significance is simply a point where the qualities of significance are defined during the analysis such that the resource can be defined as a historical resource. An adverse effect to a historic resource is regarded as the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource will be reduced such that it no longer meets the significance criteria. In lay terms, should an analysis show that future development will destroy elements that make the cultural resource historical, but leave non-unique elements intact, then the significance of the resource will be lost and there must be mitigation for that loss.

CEQA Section 15064.5, Determining the Significance of Impacts to Archaeological and Historical Resources, states that:

> "Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, Section 4852) including the following:
>
> (A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
>
> (B) Is associated with the lives of persons important in our past;
>
> (C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
>
> (D) Has yielded, or may be likely to yield, information important in prehistory or history."

If a prehistoric cultural resource is tested, it is traditionally held that buried features such as hearths, burials, and middens could hold analytical information that will pass the significance threshold and make the site eligible for the cultural resource under Criterion D alone (listed above) For resources created after the historic period began (post-1769 AD) and which are at least 45 years old, analysis of the condition and integrity of exposed features may cause the resource to pass Criterion A, B, C, and/or D thresholds (shown above).

For buildings and other structures at least 45 years old, the completeness and integrity of the structural architecture may cause the site to pass Criterion A, B, and/or C thresholds. The threshold should be associated with the site context or theme. If sets of unusual artifacts, buried but unusual buildings, or human remains are detected during tests of cultural resources in the project site, or if a historical review of the resource finds that it was once associated with a person and/or event of historical significance at the State/National level, such resources will likely be considered potentially significant for California Register/National Register listing. In the event that the significance of the historical resource will be reduced below the threshold because of development, feasible mitigation must be developed.

4.5.4.2 Definition of Cultural Resource Sites and Isolates

Prehistoric and historic cultural resources can vary in form and function from area to area, but it is a "site" as opposed to isolated artifacts and certain features that must be considered significant. Prehistoric and historic cultural resource sites are defined in this study as three or more items, such

as lithics, stone tools, glass, cans, etc., that are not from a single source or material found within a 10 square meter area. There is no limit to the physical size of a site.

Sites that could qualify as significant are typically more than 45 years old or have the potential to be more than 45 years old. These definitions assume that items found in an area with a diversity of materials can represent more than a single activity at a location. Discrete components of a site may be identified to represent repeated activity, such as milling stations, hearths, or isolated structures. Isolated artifacts and certain isolated features do not meet these minimal criteria. Isolates could consists of one or two cans, stone flakes, one metate fragment or fence posts, brass section markers, or well heads. Potential impacts to isolates need not be mitigated.

4.5.4.3 CEQA Thresholds

Based on Appendix G of the *CEQA Guidelines*, the effects of a project on cultural resources are considered to be significant if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA Guidelines* Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; and/or
- Result in any disturbance of human remains, including those interred outside of formal cemeteries.

4.5.5 Less Than Significant Impacts

The following impacts were determined to be less than significant. In each of the following issues, either no impact would occur (therefore, no mitigation would be required) or adherence to established regulations, standards, and policies would reduce potential impacts to a less than significant level.

4.5.5.1 Human Remains

Threshold	Would the proposed project disturb any human remains, including those interred outside of formal cemeteries?

The project site is currently undeveloped. No evidence suggesting the project site has been utilized in the past for human burials has been identified. In the unlikely event that human remains are discovered during grading or construction activities within the project site, compliance with State law (Health and Safety Code § 7050.5) (HSC § 7050.5) would be required. These requirements are imposed on any construction activity in which human remains are detected, and include the following provisions:

- There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
  - The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required; and
  - If the coroner determines the remains to be Native American:
    - The coroner shall contact the Native American Heritage Commission within 24 hours.

- The NAHC shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
- The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code § 5097.98 (PRC § 5097.98), or

o Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further and future subsurface disturbance pursuant to PRC § 5097.98(e).

- The NAHC is unable to identify a most likely descendant.
- The most likely descendant is identified by the NAHC, fails to make a recommendation within 48 hours of being granted access to the site; or
- The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner.

There is a small possibility that ground-disturbing activities during construction may uncover previously unknown buried human remains. In the event of an accidental discovery or recognition of any human remains, California State Health and Safety Code § 7050.5 dictates that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to CEQA regulations and PRC § 5097.98.Compliance with existing State law would ensure that impacts related to the discovery of buried human remains would be less than significant and no mitigation is required.

4.5.6 Significant Impacts

The following potential impacts were determined to be potentially significant. In each of the following issues, mitigation measures have been recommended to reduce the significance of impacts.

4.5.6.1 Archaeological Resources

Impact 4.5.6.1: *The proposed project has the potential to affect known or previously undetected subsurface archaeological resources.*

Threshold	Would the proposed project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Review of all cultural resource factors in and near the project site suggests that the project site is sensitive for archaeological resources in the southwestern portion of the site and the Specific Plan has set aside these 75 acres as open space to permanently protect these resources. There is no evidence that any other cultural resources are located in or near the project area; however, two tribes indicated a desire to consult with the City under SB 18 regarding the potential of such resources on the site.

The nine prehistoric cultural resources located near the southwestern portion of the project site were Phase II tested for significance: CA-RIV-610, CA-RIV-860, CA-RIV-3238, CA-RIV-3343, CA-RIV-3344, CA-RIV-3345, CA-RIV-3346, CA-RIV-8006, and CA-RIV-8007. Of these nine sites, only CA-RIV-3346 (milling features and a “midden”) is considered a significant resource under *CEQA Guidelines* because it exhibited evidence of intact subsurface cultural resources (MBA 2012). The project cultural assessment concluded that all the identified prehistoric sites are outside of the

development area of the Specific Plan and thus there would be no significant impact to archaeological resources from the proposed development.

Unknown Cultural Resources. It is possible that unknown cultural resources could be discovered during project-related construction. The land within 1,000 feet of exposed granitic bedrock outcrop areas in the southwesterly corner of the project is considered to have "high" sensitivity, while areas located within 2,000 feet of this area are considered to have "moderate" sensitivity. The remainder of the site is considered to have "low" sensitivity for cultural resources. As set forth below, a qualified archaeologist should be retained by the City to monitor any earthmoving in the areas of high and moderate sensitivity.

In addition, a number of project-related improvements, including the SR-60/Theodore Street interchange, SR-60/Gilman Springs Road interchange, three reservoir sites, water, sewer, and storm drain connections, debris basins, etc. are off site and cultural surveys will be conducted when specific sites are identified for these off-site improvements.

Project or Specific Plan Design Features. The 75-acre open space area in the southwest corner of the WLCSP encompasses the entire foothill area considered sensitive for archaeological resources. This area is designated as Open Space in the Specific Plan and only passive open space uses and a recreational trail will be permitted. A public multi-use trail is proposed to be established in this Open Space area. The alignment of this trail will be established to avoid disturbance of these cultural resources.

Mitigation Measures. The following measures are proposed to help reduce potential impacts on known, unknown, or potential archaeological or historical resources to less than significant levels:

4.5.6.1A Prior to the approval of any grading or other discretionary permit for any of the "Light Logistics" parcels, the parcels shall be evaluated for significance by a qualified archaeologist since they were not available for survey during preparation of the EIR. A Phase I Cultural Resources Assessment shall be conducted on each of the "Light Logistics" parcel prior to development to determine if it contains significant archaeological or historical resources. A Phase II evaluation shall be completed for any of these sites that are determined to contain significant archaeological or historical resources based on the results of the Phase I assessment. Cultural resources include but are not limited to stone artifacts, bone, wood, shell, or features, including hearths, structural remains, or historic dumpsites. If a particular resource is determined to be significant, it shall be adequately documented using DPR523 forms for archival research/storage in the Eastern Information Center (EIC). If the particular resource is determined to be not significant, no further documented is required. Any artifacts determined to be significant shall be considered for relocation or archival documentation, as appropriate, depending on whether the building or buildings are determined to be significant under CEQA. If any building is determined to be significant, a Phase III recovery study shall be conducted to recover remaining significant cultural artifacts. If necessary, a feasibility study shall be conducted to determine if a significant structure can be relocated effectively to off-site parcels. The study shall also identify if there are appropriate parcels available within or close to the Moreno area of the City. If the structure cannot be feasibly relocated, or there is not an appropriate parcel to relocate the structure to, the structure shall be demolished after complete archival recordation in a manner determined by the project archaeologist.

4.5.6.1B Prior to the approval of any grading or ground-disturbing permit by the City construction of off-site improvements for the WLCSP, the developer requesting the permit shall retain a qualified archaeologist to prepare a Phase I cultural resource assessment (CRA) of the project site if an up to date CRA is not available for the site at the time of development. If archaeological resources are uncovered or discovered during construction activities, no further excavation or disturbance of the area where the resources were found shall occur until a qualified archaeologist evaluates the find. If the find is determined to be a unique archaeological resource, appropriate action shall be taken to include but not be limited to: (a) planning construction to avoid archeological sites; (b) capping or covering archeological sites with a layer of soil before building on the affected site; or (c) excavation to adequately recover the scientifically consequential information from and about the resource. Work may continue on other parts of the project site while the unique archaeological resource mitigation takes place. This measure shall be implemented to the satisfaction of the City Planning Division.

If the qualified archaeologist determines that the find is a unique archaeological resource, the resource site shall be evaluated and recorded in accordance with requirements of the State Office of Historic Preservation (OHP). If the site is determined to be significant, an adequate amount of data at the specific site shall be collected by the qualified archaeologist and the findings of the report shall be submitted to the City. If the site is not determined to be not significant, the site need not be mitigated for as described above.

4.5.6.1C Prior to any discretionary approvals for development within 3,750 feet of the southwest corner of the site, the project developer shall retain a qualified archaeologist to monitor grading as this area has been identified as having moderate to high sensitivity for cultural resources. Project-related archaeological monitoring shall include the following requirements:

1. All construction-related earthmoving shall be monitored to a depth of ten (10) feet below grade by the Project Archaeologist or his/her designated representative;
2. Once 50 percent of the earth to be moved has been examined, the Project Archaeologist may, at his or her discretion, terminate monitoring if and only if no buried cultural resources have been detected;
3. If buried cultural resources are detected, monitoring shall continue until 100 percent of virgin earth within the permit area has been disturbed and inspected by the Project Archaeologist or his/her designated representative.
4. Grading shall cease in the area of a cultural artifact or potential cultural artifact as delineated by the Project Archaeologist or his/her designated representative. Grading should continue in other areas of the site while particular find are investigated; and
5. If cultural artifacts are uncovered during grading, they shall be Phase II tested by the Project Archaeologist, evaluated for significance in accordance with §15064.5 the *CEQA Guidelines*, and curated in a museum chosen by the City if the resource(s) are determined to be significant. Appropriate actions for significant resources include but are not limited to avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds (Phase III recovery). A mitigation-monitoring report must accompany any archived artifacts.
6. No further grading shall occur in the area of the discovery until the City approves specific actions to protect identified resources. Any archaeological artifacts

recovered as a result of mitigation shall be donated to a qualified scientific institution approved by the City where they would be afforded long-term preservation to allow future scientific study.

7. The developer shall make reasonable efforts to avoid, minimize, or mitigate significant adverse impacts on cultural resources on the WLCSP property, and the SHPO and local Native American tribes will be consulted and the Advisory Council on Historic Preservation will be notified within 48 hours in compliance with 36 CFR 800.13(b)(3). This measure shall be implemented to the satisfaction of the City Planning Division.

4.5.6.1D Prior to the issuance of any grading permit within 3,750 feet of the southwest corner of the site, the City and the applicant shall invite interested Tribal Group(s) representatives to help monitor grading if they so desire. Qualified representatives of the Tribal Group(s) shall be granted access to the permit site to monitor grading as long as they provide 48-hour notice to the developer of their desire to monitor, so the developer can make appropriate safety arrangements on the site. This measure shall be implemented to the satisfaction of the City Planning Division.

4.5.6.1E It is possible that ground-disturbing activities during construction may uncover previously unknown, buried cultural resources (archaeological or historical). In the event that buried cultural resources are discovered during grading and no Project Archaeologist or Historian is present, grading operations shall stop in the immediate vicinity of the find and a qualified archaeologist shall be retained to determine the most appropriate course of action regarding the resource. The Archeologist shall make recommendations to the City on the actions that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with §15064.5 of the *CEQA Guidelines*. Cultural resources could consist of, but are not limited to, stone artifacts, bone, wood, shell, or features, including hearths, structural remains, or historic dumpsites. Any previously undiscovered resources found during construction within the project area should be recorded on appropriate DPR forms and evaluated for significance in terms of CEQA criteria. If the resources are determined to be unique historic resources as defined under §15064.5 of the *CEQA Guidelines*, mitigation measures shall be identified by the Archaeologist and recommended to the City. Appropriate protective actions for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds.

No further grading shall occur in the area of the discovery until the City approves the measures to protect these resources. Any archaeological artifacts recovered as a result of mitigation shall be donated to a qualified scientific institution approved by the City where they would be afforded long-term preservation to allow future scientific study.

In addition, reasonable efforts to avoid, minimize, or mitigate adverse effects to the property will be taken and the SHPO and Native American tribes with concerns about the property, as well as the Advisory Council on Historic Preservation will be notified within 48 hours in compliance with 36 CFR 800.13(b)(3).

Level of Significance After Mitigation. Adherence to **Mitigation Measures 4.5.6.1A through 4.5.6.1E** will reduce potential impacts to archaeological resources to less than significant levels.

4.5.6.2 Historic Resources

Impact 4.5.6.2: *The proposed project has the potential to directly or indirectly affect local historical resources.*

Threshold	Would the proposed project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the *State CEQA Guidelines*?

The California Register of Historical Resources. The California Register criteria are based on National Register criteria. For a property to be eligible for inclusion in the California Register, one or more of the following criteria must be met:

1. It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2. It is associated with the lives of persons important to local, California, or national history;
3. It embodies the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values; and/or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

The California Register requires that a resource possess integrity, which is defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance" (California Office of Historic Preservation 1999). To retain integrity, a resource should have its original location, design, setting, materials, workmanship, feeling, and association. Which of these factors is most important depends on the particular criterion under which the resource is considered eligible for listing (California Office of Historic Preservation 1999).

The prehistoric sites recorded within or adjacent to the project boundaries are typical example of common resource type; a prehistoric milling complex lacking temporally diagnostic artifacts or a "single-use resource extraction and processing location." Although broadly associated with prehistoric Native American occupation, the sites do not represent unique archaeological information. The sites are not associated with significant events or persons, and do not embody distinctive characteristics of a type, period, or method of construction, nor do they appear to have the potential to yield information important in prehistory. Therefore, they do not meet any of the above criteria and are not eligible for listing in the California Register. However, they do constitute locally important examples of Native American activity and are not considered a historical resource under CEQA. Impacts to these sites relative to Native American resources are addressed in more detail in Section 4.5.6.1, *Archaeological Resources*.

The project site contains two previously identified historic sites: CA-RIV-4201H and CA-RIV-4210H. Both of these are historic-era homesteads and previously contained farm buildings and related out-buildings. They were located in the eastern portion of the Specific Plan, but MBA could find no remains of these facilities or related artifacts. The MBA report concludes the buildings were demolished and/or their materials removed for disposal or reuse at some point in the past.

There are seven rural residential structures and associated out-buildings currently present on the project site, and one (APN 478-220-009) near Redlands Boulevard contains a farm building that was built around 1900 and may be one of the oldest surviving buildings of the historic Moreno community.[1] No other evidence of past structures or unique features was identified; however, access to the seven rural residential properties was not available at the time of survey, and it appears from general observations, historical aerial photographs, and historical records that one or more of these buildings

[1] *Cultural Resources Assessment*, Michael Brandman Associates, Inc., April 24, 2012.

may be older than 40 years. Without more information, there is a possibility that removal of these buildings could represent a significant impact to historic structures, features, or resources, and mitigation is required.

In addition, historical evidence indicates Juan Bautista de Anza traveled through the project area (i.e., along the base of Mt. Russell from south to northwest), which should be acknowledged as part of the trail proposed within the Specific Plan.

Specific Plan Design Features. The Specific Plan does not contain policies concerning historic resources.

Mitigation Measures. Mitigation Measure 4.5.6.1A requires surveying the seven occupied parcels for archaeological resources since these properties could not be surveyed at the time the EIR was prepared. These surveys will identify the potential for significant historical resources on these properties. In addition, the following measure will further reduce the potential impacts of the project on historical resources:

4.5.6.2A If any historic resources are found during implementation of Mitigation Measure 4.5.6.1A, the project Archaeologist or Historian (as appropriate) shall offer any artifacts or resources to the Moreno Valley Historical Society (MVHS) or the Eastern Information Center/County Museum or the Western Science Center in Hemet as appropriate for archival storage. From the time any artifacts are turned over to the Moreno Valley Historical Society or other appropriate historical group, the developer shall have no further responsibility for their management or maintenance. This measure shall be implemented to the satisfaction of the City Planning Division in consultation with the Moreno Valley Historical Society.

In addition, the following measure is proposed to acknowledge the route of Juan Bautista de Anza through the project area as an important historical event:

4.5.6.2B As part of construction of the trail segment connecting Redlands Boulevard to the California Department of Fish and Wildlife property, the developer shall contribute $5,000 to the City for the installation of a historical marker acknowledging the passing of Juan Bautista de Anza through this area during his exploration of California. This measure shall be incorporated into trail plans for this segment and that will be subject to review and approval by the Park and Recreation Department in consultation with the Moreno Valley Historical Society.

Level of Impact After Mitigation. Implementation of **Mitigation Measures 4.5.6.1A, 4.5.6.2A,** and **4.5.6.2B** will help reduce potential impacts to historical resources to less than significant levels.

4.5.6.3 Paleontological Resources

Impact 4.5.6.3: *The proposed project has the potential to affect previously undetected subsurface paleontological resources.*

Threshold	Would the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As described in the *Paleontological Resources Assessment*, no paleontological resources were observed during the field survey. The majority of the project site is underlain by a thin veneer of

Holocene alluvium that caps Pleistocene alluvial sediments. In addition, there is a small outcrop of Cretaceous granite that is exposed on the surface, and likely within the subsurface in some areas as well. The results of the assessment indicate that there are no known paleontological resources located within the project limits or within a one mile radius around the project site. The Holocene Alluvium that is exposed on the surface has a low sensitivity for containing paleontological resources. The Cretaceous granitic rocks that are exposed in a small area of the project have no sensitivity for containing paleontological resources. However, the Pleistocene Alluvium that exists in the subsurface of the project has produced paleontological resources in many areas of the Inland Empire and Southern California area.

The portions of the site underlain by older Pleistocene alluvium and San Timoteo Formation rock units should be assigned a "moderate" paleontological sensitivity because these deposits have yielded paleontological resources in other areas in the past. Overall, the project site is considered to have a moderate paleontological sensitivity; therefore, impacts are considered potentially significant and mitigation is required.

Specific Plan Design Features. The Specific Plan does not contain any policies regarding paleontological resources.

Mitigation Measures. The following mitigation measures have been identified to address potential impacts to paleontological resources that may be located within the project limits:

4.5.6.3A Prior to the issuance of any grading permits for development within the WLCSP, the project developer shall retain a City-approved Paleontologist to conduct paleontological monitoring as needed for all grading related to development. Development permits shall include the following actions:

1. Monitoring must occur in areas where excavations are expected to exceed twenty (20) feet in depth, or in areas where fossil-bearing formations are found during grading. This monitoring must be conducted by a qualified Project Paleontologist in all areas found to or suspected of containing fossil-bearing formations.
2. Paleontological monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates.
3. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens.
4. Monitoring may be reduced if the potentially fossiliferous units described herein are not present, or, if present, are determined upon exposure and examination by a qualified Project Paleontologist to have low potential to contain fossil resources. The sole discretion to reduce monitoring rests with the City.

This measure shall be implemented to the satisfaction of the City Planning Division. It should be noted that the Project Paleontologist and the Project Archaeologist described in Mitigation Measure 4.5.6.1C may be the same person if they meet the qualifications of both positions.

4.5.6.3B Prior to the issuance of any grading permits for the construction of any off-site improvements necessary for development in the WLCSP, the project developer shall retain a qualified paleontologist to conduct an assessment for paleontological resources on each off-site improvement location. If any site is determined to have a potential for exposing paleontological resources, the project paleontologist shall

monitor off-site grading/excavation, subject to coordination with the City. Development permits shall include the following mitigation measures:

1. Monitoring must occur in areas where excavations are expected to reach fossil-bearing formations during grading. This monitoring must be conducted by a qualified Project Paleontologist in all areas found to or suspected of containing fossil-bearing formations.
2. The Project Paleontologist shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates.
3. The Project Monitor shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens.
4. Monitoring may be reduced if the potentially fossiliferous units described herein are not present, or, if present, are determined upon exposure and examination by a qualified Project Paleontologist to have low potential to contain fossil resources. The sole discretion to reduce monitoring rests with the City.

Level of Significance After Mitigation. Adherence to **Mitigation Measures 4.5.6.3A** and **4.5.6.3B** will reduce potential impacts to paleontological resources to less than significant levels.

4.5.7 Cumulative Impacts

The cumulative area for cultural resources is the City of Moreno Valley and the western portion of Riverside County. Implementation of the proposed project and related off-site improvements would require measures to identify, recover, and/or record any cultural and/or paleontological resource that may occur within the project limits. Although unlikely to occur, potential impacts associated with human remains would be reduced to a less than significant level through adherence to existing State law. With implementation of the recommended mitigation measures, potential impacts to archaeological or paleontological resources from future development will be reduced to less than significant levels. Since this region contains archaeological, historical, and paleontological resources that have been found in the past, future development in the surrounding region may impact these resources as well. However, implementation of the mitigation measures outlined in this document, and other CEQA documents for development projects in the area, will help reduce potential impacts to cultural resources to less than significant levels. With implementation of the project-level mitigation for future development identified in Section 4.5.6, the proposed project will not have significant impacts related to cultural resources, and will also not make any significant contributions to cumulatively considerable impacts relative to cultural resources. Therefore, no additional mitigation is required.

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4.6 GEOLOGY AND SOILS

This section describes the location of the proposed project relative to the known geologic features and soil conditions and qualitatively evaluates potential impacts. Additionally, this chapter evaluates whether development on the proposed project site would significantly be affected by fault rupture, seismic shaking, erosion or unstable slopes, liquefaction, settlement, expansive soils, or other soil or geologic conditions.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements, which affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

The following documents were prepared to analyze the geologic impacts of the proposed WLC project:

- *Preliminary Geotechnical Evaluation for Environmental Impact Report the World Logistics Center Specific Plan South of Highway 60 Between Redlands Boulevard and Gilman Springs Road City of Moreno Valley, California.* Leighton and Associates, Inc. January 23, 2013. (Appendix G).
- *Response to NOP Comments for the World Logistics Center Specific Plan.* Leighton and Associates, Inc. May 2012 (Appendix G).
- *"Preliminary Geotechnical Report, Tentative Parcel Map 35629, Moreno Valley, California, Project No. 111061-108," by Leighton and Associates, Inc. June 15, 2007.*
- *"Update Preliminary Geotechnical Report, Tentative Parcel Map 35629, Highland Fairview Corporate Park, City of Moreno Valley, California, Project No. 111061-108," by Leighton and Associates, Inc. April 30, 2008.*

- *"Update Geotechnical Report, Moreno Highlands Specific Plan Area, Southeast Corner of Highway 60 and Redlands Boulevard, City of Moreno Valley, California, Project No. 111061-108," by Leighton and Associates, Inc. July 21, 2008.*
- *"Preliminary Geotechnical Evaluation for Environmental Impact Report, "The Highlands Specific Plan," South of Highway 60 between Redlands Boulevard and Gilman Springs Road, City of Moreno Valley, California, Project No. 111061-127", by Leighton and Associates, Inc. December 13, 2011.*

In addition, the analysis contained in this section is based on the following reference documents:

- Moreno Valley General Plan, Safety Element, July 11, 2006;
- U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Survey Geographic (SSURGO) database for Western Riverside Area, California, September 15, 2003; and
- Geotechnical reports, comments, and responses to comments on geotechnical issues from the Westridge, Skechers, and ProLogis Environmental Impact Reports (various dates).

4.6.1 Existing Setting

The City lies within the Perris Block, a structural unit that is located within the Peninsular Range Geomorphic Province, one of the major geologic provinces of southern California. The Perris Block is a large mass of granitic rock generally bounded by the San Jacinto Fault, the Elsinore Fault, the Santa Ana River, and a non-defined southeast boundary. The Perris Block has had a history of vertical land movements of several thousand feet due to shifts in the Elsinore and San Jacinto Faults. The materials within the valley area are characterized by Pliocene-Pleistocene-aged alluvium ranging from relatively thin (20 feet to 200 feet) to intermediate thickness (up to 2,000 feet), which overlies the older granitic bedrock. The rocky, mountainous areas, including the Box Springs Mountains and the Mount Russell/Lake Perris State Recreation area, have underlying granitic bedrock that consists of quartz diorite, and displays granite rock outcrops and large boulders. The Badlands range, at the eastern end of the area, comprises deposits of what was once an inland sea later elevated and deformed by geologic processes, before becoming severely eroded to its present state. This area consists of folded semi-consolidated sedimentary sandstone, siltstone, and shale. The proposed project is located within the northern portion of the San Jacinto Valley, a fault-bounded tectonic basin that has evolved from movement along the San Jacinto fault system resulting in a down-dropped northwest-trending trough.

The existing setting for geology and soils includes faulting and seismicity, soils, and geologic and seismic hazards, which are discussed below.

4.6.1.1 Faulting and Seismicity

Pursuant to Public Resources Code Section 2690 *et seq*. Leighton & Associates prepared a geotechnical report that analyzes the seismic hazards underlying the project site. Much of the information set forth below and throughout this document is taken from that report. The proposed project site, like the rest of Southern California, is located within a seismically active region as a result of being located near the active margin between the North American and Pacific tectonic plates. The principal source of seismic activity is movement along the northwest-trending regional fault systems such as the San Andreas, San Jacinto, and Elsinore Fault Zones. Currently, these fault systems accommodate up to approximately 55 millimeters per year (mm/yr) of slip between the plates. The on-site San Jacinto Fault Zone is estimated to accommodate slip of approximately 12 mm/yr. However, geodetic measurements between 1973 and 1981 show that the San Jacinto and San Andreas Faults

currently have comparable strain rates. It has been estimated that an average slip rate of as much as 20 mm/yr occurs for the San Jacinto Fault. The San Jacinto Fault zone presents a substantial seismic hazard in Southern California.

By definition of the California Geological Survey, an active fault is a fault, which has had surface displacement within Holocene time (about the last 11,000 years). This definition is used in delineating Earthquake Fault Zones as mandated by the Alquist-Priolo Geologic Hazards Zones Act of 1972 and as most recently revised in 2007 as the Alquist-Priolo Earthquake Fault Zoning Act and Earthquake Fault Zones. The intent of this act is to require fault investigations on sites located within Earthquake Fault Zones to ensure that certain inhabited structures are not constructed across the traces of active faults. The nearest Alquist-Priolo zoned "active faults" is the on-site Claremont Segment of the San Jacinto Fault Zone (see Figure 4.6.1). The western portion of the site is crossed by the City of Moreno Valley Seismic Zone and the postulated trace of the Casa Loma Fault. The nearest off-site fault zones include Casa Loma Segment of the San Jacinto Fault Zone, located 1.6 miles to the south, the San Andreas Fault Zone, located 12.7 miles northeast, and the Glen Ivy Segment of the Elsinore Fault is located approximately 22.7 miles to the southwest of the site.

4.6.1.2 Soils

Based on the *Soil Survey of Western Riverside County,* the project area contains 20 different soil-mapping units belonging to 10 different soil series. (See Table 4.6.A below and Figure 4.2.1 in Section 4.2.) A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thickness, arrangement, and other distinct characteristics. The project site is dominated by San Emigdio loam (SgA and SgC) and San Emigdio fine sandy loam (SeC2), with smaller inclusions of Arbuckle loam (AkC), Badland (BaG), Gorgonio loamy sand (GhC), Greenfield sandy loam (GyA, GyD2), Hanford coarse sandy loam (HcC and HcD2), Metz loamy sand (MdC and MeD), Metz loamy fine sand (MfA), Metz gravelly sandy loam (MID), Ramona sandy loam (RdD2), Rockland (RtF), San Emigdio fine sandy loam (SeA and SeD2), and San Timoteo loam (SmE2).[1]

4.6.1.3 Geologic and Seismic Hazards

Geologic and seismic hazards discussed in this subsection include the following:

- Surface rupture;
- Ground shaking;
- Liquefaction;
- Subsidence and seismic settlement;
- Landslides/slope stability; and
- Compressible, expansive and collapsible soils.

Surface Rupture. Surface rupture occurs where displacement or fissuring occurs along a fault zone. While primary ground damage due to earthquake fault rupture typically results in a relatively small percentage of the total damage in an earthquake, the location of structures or facilities too close to a rupturing fault can cause profound damage. It is difficult to reduce the hazards of surface rupture through structural design. The primary method to avoid this hazard is to either set structures and facilities away from active faults, or avoid their construction in close proximity to an active fault.

[1] Habitat Assessment, MSHCP Consistency Analysis, and HANS Review Highland Fairview Specific Plan City of Moreno Valley, Riverside County, California, November 10, 2011.

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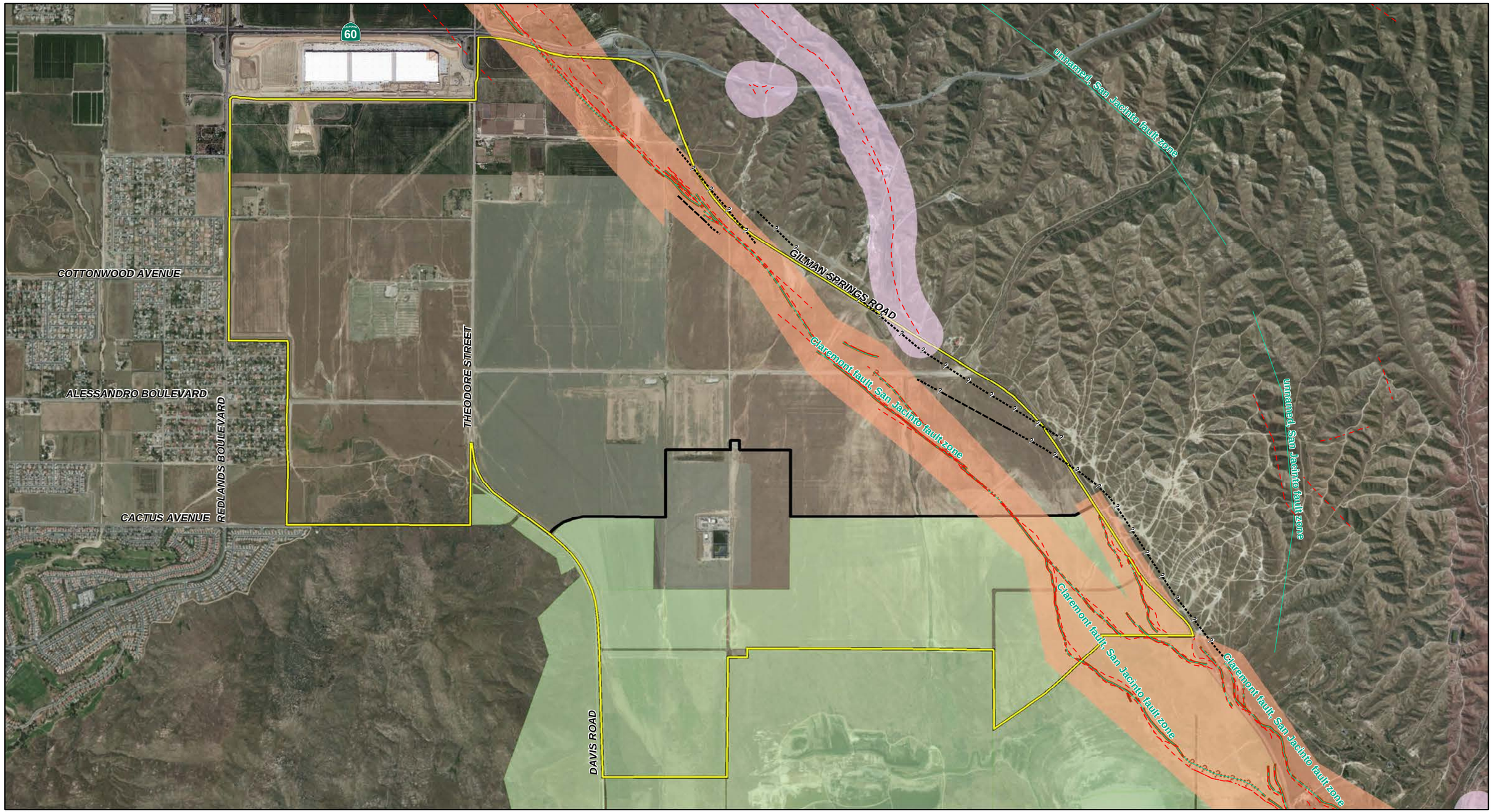

LSA

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FEET

Project Boundary

Specific Plan Boundary

CDFW Land

Alquist-Priolo Fault Zone

Alquist-Priolo Zone

Fault, Concealed

Fault, Inferred

Fault, Approximate

Fault, Certain

CGS Faults (2005)

Riverside County Fault

Riverside County Fault Zone

Approximate Location of Dibblee Mapped Fault Trace

Approximate

Concealed

SOURCE: County of Riverside, 2011; ESRI World Imagery & Bing Imagery, 2010; California Geological Survey, 2002 & 2005; Riverside County, 2011; Thomas Dibblee, 2003; California Dept of Fish & Wildlife. 2011.

I:\HFV1201\Reports\EIR\fig4-6-1_Faults.mxd (1/8/2013)

FIGURE 4.6.1

World Logistics Center Project
Environmental Impact Report

Alquist-Priolo Zones and Earthquake Faults

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Table 4.6.A: Major On-site Soil Types

Soil Name	Map Symbol	Shrink-Swell Potential	Runoff Potential	Permeability	Erosion Hazard
San Emigdio loam	SgA, SgC	Low	Slow (SgA) Moderate (SgC)	Moderate	Slight (SgA) Moderate (SgC)
San Emigdio fine sandy loam	SeC2	Low	Medium	Moderately rapid	Moderate
San Emigdio fine sandy loam	SeA, SeD2	Low	Very slow (SeA) Medium (SeD2)	Moderate	Slight(SeA) Moderate (SeD2)
Arbuckle loam	AkC	Moderate	Medium	Moderately slow	Moderate
Badland	BaG	NI	NI	NI	NI
Gorgonio loamy sand	GhC	Low	Slow	Rapid	Slight
Greenfield sandy loam	GyA, GyD2	Low	Slow (GyA) Medium (GyD2)	Moderate	Slight (GyA) Moderate (GyD2)
Hanford coarse sandy loam	HcC, HcD2	Low	Slow to Medium (HcC) Medium (HcD2)	Moderate	Slight to Moderate (HcC) Moderate (HcD2)
Metz loamy sand	MdC, MeD	Low	Slow	Rapid	Slight (MdC) High (MeD)
Metz loamy fine sand	MfA	Low	Slow	Rapid	Slight
Metz gravelly sandy loam	MID	Low	Slow to Medium	Moderately rapid	Slight to Moderate
Ramona sandy loam	RdD2	Low	Medium	Moderately slow	Moderate
Rockland	RtF	-	Slow	Slow	Moderate to High
San Timoteo loam	SmE2	Low	Rapid	Moderate	High

NI = no information
Source: Soil Survey of Western Riverside County, U.S. Soil Conservation Service

Faults throughout southern California have formed over millions of years. Some of these faults are considered inactive under present geologic conditions, and other faults are known to be active.[1] Such faults have either generated earthquakes in historic times (200 years), or show geologic and geomorphic indications of movement within the last 11,000 years. Faults that have moved in the relatively recent geological past are generally presumed to be the most likely candidates to generate damaging earthquakes in the lifetimes of residents, buildings, or communities. As previously identified, the Claremont Segment of the San Jacinto Fault Zone is located on the eastern portion of the site; therefore, ground surface rupture is an identified seismic hazard within the project limits.

Ground Shaking. The vast majority of earthquake damage is caused by ground shaking. Source effects include earthquake size, location, and distance. The bigger and closer the earthquake is, the more severe the damage will be. The exact way that rocks and other earth materials move along the fault can also influence shaking, as can the subsurface orientation of the fault.

[1] The Alquist-Priolo Earthquake Fault Zoning Act defines *active faults* as those that show proven displacement of the ground surface within about the last 11,000 years. *Potentially active faults* are those that show evidence of movement within the last 1.6 million years.

Path effects are caused by seismic waves that change direction as they travel through the earth's contrasting layers, just as light bounces (reflects) and bends (refracts) as it moves from air to water. Sometimes this can focus seismic energy at one location, and cause damage in unexpected areas.

Site effects are brought about by seismic waves that slow down in the loose sediments and weathered rock at the surface of the earth. As they slow, their energy converts from speed to amplitude, which increases shaking. This is identical to the behavior of ocean waves. As the waves slow down near shore, their crests grow higher. Sometimes, too, seismic waves get trapped at the surface and resonate. Whether resonance will occur depends on the period (the length) of the incoming waves. Waves, soils and buildings all have resonant periods. When these match, tremendous damage can occur.

The primary threat associated with on-site and the nearby faults previously identified is the intensity of ground shaking that could be generated at the project site.

Liquefaction. Liquefaction occurs primarily in saturated, loose, fine-to-medium-grained soils in areas where the groundwater table is within 50 feet of the surface. Shaking suddenly causes soils to lose strength and behave as a liquid. Excess water pressure is vented upward through fissures and soil cracks, and a water-soil slurry bubbles onto the ground surface. The resulting features are called “sand boils,” “sand blows,” or “sand volcanoes.” Liquefaction-related effects include loss of bearing strength, ground oscillations, lateral spreading, and flow failures or slumping. Based on Figure 6-3 of the Safety Element of the City’s General Plan, the project site is not located in an area identified as having a liquefaction potential. Site-specific geotechnical studies by Leighton have concluded the project site has a very low potential for liquefaction.

Subsidence and Seismic Settlement. Ground subsidence is typically a gradual settling or sinking of the ground surface with little or no horizontal movement, although fissures (cracks and separations) can result from lowering of the ground surface.

The common causes of subsidence that can produce small or local collapses to broad regional subsidence include:

- Dewatering of peat or organic soils;
- Dissolution in limestone aquifers;
- First-time wetting of moisture-deficient, low-density soils (hydrocompaction);
- Natural compaction;
- Liquefaction;
- Crustal deformation;
- Ground shaking;
- Subterranean mining; and
- Withdrawal of fluids (groundwater, petroleum, or geothermal).

Most of the damage caused by subsidence is the result of oil, gas, or groundwater extraction from below the ground surface, or the organic decomposition of peat deposits. Ground subsidence may occur as a response to natural forces such as earthquake movements, which can cause abrupt elevation changes of several feet or densification of low density granular soils during an earthquake event that may cause several inches of settlement.

Landslides/Slope Stability. Significant factors that contribute to slope failure include slope height and steepness, shear strength and orientation of weak layers in the underlying geologic units, and pore water pressures. There are no known landslides within the project area; however, a large older landslide has been mapped primarily off site on the northeasterly flanks of Mount Russell, near the southwest portion of the property. The landslide appears to have originated on the higher slopes (off site) and moved northeast, partially onto the subject property.

Alluvial Soil. Alluvial soil was encountered in all exploratory borings, fault trenches, and test pits excavated at the site.[1] The alluvial soils were deposited as part of a complex depositional environment and generally include interbedded fine sands and silts with varying amounts of clay. The yellow-brown to medium gray recent alluvial soils (younger alluvium) are found in drainages and believed to constitute the upper surficial materials (upper 3 to 10 feet). The deeper materials (older alluvium and older fan-deposits) are generally dark yellow-brown to dark gray and consist of silty fine sand to sandy silt with interbedded lenses of silt clay and sandy gravel. The alluvium along the southeastern side of the site is significantly denser and contains considerable amounts of coarser sands and gravel. Pertinent engineering characteristics of the encountered alluvium are summarized below:

- **Compressibility Characteristics.** The alluvium is generally loose in the upper 10 to 15 feet in most areas. At depths greater than 15 feet, the alluvium is generally medium dense. The results of testing by Leighton also indicate a high rebound potential during unloading for some of the tested alluvium. This rebound affect may cause some elevation rise in areas of significant excavation.
- **Expansive Soils.** Expansive soils generally have a significant amount of clay particles that can give up water (shrink) or take on water (swell). The change in volume exerts stress on buildings and other loads placed on these soils. The extent of shrink/swell is influenced by the amount and kind of clay in the soil. The occurrence of these soils is often associated with geologic units having marginal stability. The majority of the site materials are expected to have a low expansive potential; however, expansive soils are known to exist on site. The more expansive soils are expected to be localized and associated with interbedded silt and clay layers.
- **Collapse Potential.** Hydroconsolidation, or soil collapse, typically occurs in recently deposited Holocene (less than 10,000 years before present time) soils that were deposited in an arid or semi-arid environment. Soils prone to collapse are commonly associated with man-made fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. Particles of these soils, which typically contain minute pores and voids, may be partially supported by clay or silt, or chemically cemented with carbonates. When saturated, collapsible soils undergo a rearrangement of their grains and the water removes the cohesive (or cementing) material, and a rapid, substantial settlement may occur. An increase in surface water infiltration (such as from irrigation) or a rise in the groundwater table, combined with the weight of a building or structure, may initiate settlement, causing foundations and walls to crack. Soil borings and laboratory testing conducted by Leighton determined that on-site soils have low to moderate potential for collapse with the exemption of dispersed areas just south of the extension of Eucalyptus Avenue.[2]

[1] *Preliminary Geotechnical Evaluation for Environmental Impact Report World Logistics Center Specific Plan South of Highway 60 Between Redlands Boulevard and Gilman Springs Road City of Moreno Valley, California.* Leighton and Associates, Inc. January 2013.

[2] Ibid.

4.6.1.4 Off-site Improvements

After the approximate locations of the various project-related off-site improvements were identified (e.g., reservoirs, and the Theodore Street/SR-60 interchange), the project geologist (Leighton) conducted a brief geotechnical assessment of the various off-site areas to identify the potential for geotechnical constraints (see Appendix G). Leighton concluded that none of the off-site improvement areas had substantial seismic or seismically related constraints, but did recommend additional testing and evaluation for localized soil constraints once specific improvement footprints had been established.

4.6.1.5 NOP/Scoping Comments

Several members of the public said the EIR should examine potential seismic and other impacts related to the San Jacinto Fault Zone, as well as the Casa Loma and Farm Road Faults. These comments were addressed by the project geologist and geotechnical consultant (Leighton) and are addressed in Sections 4.6.5 and 4.6.6 in relation to project impacts.

4.6.2 Policies and Regulations

4.6.2.1 State Regulations

Alquist-Priolo Earthquake Fault Zoning Act. The major State legislation regarding earthquake fault zones is the *Alquist-Priolo Earthquake Fault Zoning Act* (A-P Act). In 1972, the State of California began delineating "Earthquake Fault Zones" (called Special Studies Zones prior to 1994) around and along faults that are "sufficiently active" and "well defined" to reduce fault-rupture risks to structures for human occupancy (California Public Resources Code Sections 2621–2630). The boundary of an "Earthquake Fault Zone" is generally 500 feet from major active faults and from 200 to 300 feet from well-defined minor faults. The mapping of active faults has been completed by the State Geologist, and these maps are distributed to all affected cities, counties, and State agencies for their use in developing planning policies and controlling renovation or new construction.

Before a project can be permitted within an identified Earthquake Fault Zone, cities and counties must require a geologic investigation to demonstrate that proposed buildings will not be constructed across active faults. A site-specific evaluation and written report must be prepared by a licensed geologist. If an active fault is identified, a structure intended for human occupancy cannot be placed over the trace of the fault and must be set back from the fault.

The A-P Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards.

The Seismic Hazards Mapping Act. Passed in 1990, the Seismic Hazards Mapping Act (SHMA) addresses non-surface fault rupture earthquake hazards, including strong ground shaking, liquefaction, and seismically induced landslides. The California Geological Survey (CGS) is the principal State agency charged with implementing the 1990 SHMA. Pursuant to the SHMA, the CGS is directed to provide local governments with seismic hazard zone maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. The goal is to minimize loss of life and property by identifying and mitigating seismic hazards. The seismic hazard zones delineated by the CGS are referred to as "zones of required investigation." Site-specific geotechnical hazard investigations are required by SHMA when construction projects fall within these areas.

Natural Hazards Disclosure Act. Effective June 1, 1998, the Natural Hazards Disclosure Act requires that sellers of real property and their agents provide prospective buyers with a "Natural Hazard Disclosure Statement" when the property being sold lies within one or more State-mapped hazard areas. If a property is located in a Seismic Hazard Zone as shown on a map issued by the State Geologist, the seller or the seller's agent must disclose this fact to potential buyers.

4.6.2.2 Local Policies

City of Moreno Valley General Plan Policies. The City of Moreno Valley General Plan includes policies and goals related to geologic and seismic hazards. The following goals and policies are applicable to the proposed WLC project.

Safety Element

Goal 6.1 To achieve acceptable levels of protection from natural and man-made hazards to life, health and property.

Goal 6.2 To have emergency services which are adequate to meet minor emergency and major catastrophic situations.

Safety Element Objectives and Policies

Objective 6.1

Minimize the potential for loss of life and protect residents, workers, and visitors to the City from physical injury and property damage due to seismic ground shaking and secondary effects.

Policies:

6.1.1 Reduce the effects from fault rupture and liquefaction hazards through the identification and recognition of potentially hazardous conditions and areas as they relate to the San Jacinto fault zone and the high and very high liquefaction hazard zones. During the review of future development projects, the City shall require geologic studies and mitigation for fault rupture hazards in accordance with the Alquist-Priolo Special Study Zones Act. Additionally, future geotechnical studies shall contain calculations for seismic settlement on all alluvial sites identified as having high or very high liquefaction potential. Should the calculations show a potential for liquefaction, appropriate mitigation shall be identified and implemented.

6.1.2 Require all new developments, existing critical and essential facilities and structures to comply with the most recent Uniform Building Code seismic design standards.

4.6.3 Methodology

The analysis of potential geologic and soil-related impacts is based upon the preliminary site specific geotechnical study prepared by Leighton and Associates, the City's Safety Element of the General Plan, literature prepared by the California Department of Mines and Geology (CDMG), information from the federal Natural Resources Conservation Service (NRCS), mapping published by the United States Geological Survey (USGS), and other documents such as the City's Building Code, and the City's Standard Design Guidelines, which were reviewed and summarized to establish existing conditions. In determining the level of significance, the analysis assumes that construction and operation of the proposed project would comply with relevant Federal and State laws and regulations, as well as City General Plan policies.

4.6.4 Thresholds of Significance

The following thresholds of significance regarding potential impacts to geology and soils are based on *CEQA Guidelines* (2011). A project would have a significant impact related to geology and soils if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Maps issued by the State Geologist for the area or based on other substantial evidence of a known fault.
  - Strong seismic ground shaking.
  - Seismic-related ground failure, including liquefaction.
  - Landslides.
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994 or most current edition), creating substantial risks to life or property; and/or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

4.6.5 Less Than Significant Impacts

The following impacts were determined to be less than significant. In each of the following issues, either no impact would occur (therefore, no mitigation would be required) or adherence to established regulations, standards and policies would reduce potential impacts to a less than significant level.

4.6.5.1 Landslides and Rockfalls

Threshold	Would the proposed project expose persons or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

A large older landslide has been mapped primarily off site on the north easterly flanks of Mount Russell, near the southwest portion of the property. The landslide appears to have originated on the higher slopes off site, and moved northeast, partially onto the subject property. The Specific Plan designates 75 acres in the southwestern portion of the property as open space. This 75 acres includes the steepest slopes on site (i.e., the Mount Russell foothills), which will reduce the potential for significant landslide or rockfall impacts on the project to less than significant levels; therefore, no mitigation is needed.

4.6.5.2 Soil Erosion or Loss of Topsoil

Threshold	Would the proposed project result in substantial soil erosion or the loss of topsoil?

The proposed project includes the grading of approximately 2,684 acres for the construction of the proposed logistics buildings. In addition, the project proposes the construction of various

infrastructure improvements both on site and off site. These improvements include the construction of on-site and off-site water, sewer, freeway interchange and roadway/intersection improvements, debris basins, reservoirs, water and sewer lines, utility substations, etc. These activities have the potential to cause erosion both on site and off site.

Development of the site would require the movement of on-site soils. Portions of the site have been and are being used for dry farming, and several rural residences are present. Prior to the issuance of grading permits, the project proponent will be required to prepare and submit detailed grading plans as each phase is developed. These plans will be prepared in conformance with applicable standards of the City's Grading Ordinance. Construction of off-site utility and roadway improvements will also result in the movement of soil. Plans are not available at this time for off-site improvements but that construction will be subject to the same permitting and plan checking processes.

Development of the site and related off-site improvements would involve the disturbance of more than one acre; therefore, the project is required to obtain a National Pollutant Discharge Elimination System (NPDES) permit. A Storm Water Pollution Prevention Plan (SWPPP) will also be required to address erosion and discharge impacts associated with the proposed on-site grading. Compliance with storm water regulations include minimizing storm water contact with potential pollutants by providing covers and secondary containment for construction materials, designating areas away from storm drain systems for storing equipment and materials and implementing good housekeeping practices at the construction site. The following SWPPP components will reduce potential impacts of soil erosion or loss of topsoil to less than significant levels:

- Protect all storm drain inlets and streams located near the construction site to prevent sediment-laden water from entering the storm drain system.
- Prevent erosion by implementing one or more of the following soil stabilization practices: mulching, surface roughening, permanent or temporary seeding.
- Limit vehicular access to and from the site. Stabilize construction entrances/exits to minimize the track out of dirt and mud onto adjacent streets. Conduct frequent street sweeping.
- Protect stockpiles and construction materials from winds and rain by storing them under a roof, secured impermeable tarp or plastic sheeting.
- Avoid storing or stockpiling materials near storm drain inlets, gullies or streams.
- Phase grading operations to limit disturbed areas and duration of exposure.
- Perform major maintenance and repairs of vehicles and equipment off site.
- Wash out concrete mixers only in designated washout areas at the construction site.
- Set-up and operate small concrete mixers on tarps or heavy plastic drop cloths.
- Keep construction sites clean by removing trash, debris, wastes, etc. on a regular basis.
- Clean up spills immediately using dry clean-up methods (e.g., absorbent materials such as cat litter, sand or rags for liquid spills; sweeping for dry spills such as cement, mortar or fertilizer) and by removing the contaminated soil from spills on dirt areas.
- Maintain all vehicles and equipment in good working condition. Inspect frequently for leaks, and repair promptly.
- Cover open dumpsters with secured tarps or plastic sheeting. Clean out dumpsters only in approved locations on the construction site.
- Arrange for an adequate debris disposal schedule to insure that dumpsters do not overflow.

A preliminary WQMP was prepared for the WLCSP and is included in Appendix J-2. The preliminary WQMP contains the following post-construction measures, which will help reduce potential impacts to

soil erosion to less than significant levels and identifies measures to treat and/or limit the entry of contaminants into the storm drain system:

- *Maximize the permeable area.* A significant portion of the project will remain pervious for the purposes of landscaping, water quality treatment, and flood detention. By incorporating more pervious, lower Runoff Coefficient (C factor) surfaces into the project, lower volumes of runoff will be produced.
- *Incorporate landscaped buffer areas between sidewalks and streets.* Bioretention areas between sidewalks and streets will be incorporated and serve the dual purpose of landscaping and water quality treatment.
- *Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought-tolerant trees and large shrubs.* Although most of the project area will require mass grading, some existing native trees and shrubs will be preserved where feasible.
- *Use natural drainage systems.* The majority of the project site currently sheet flows to small earthen ditches. Under the proposed condition, most of these natural ditches will be removed, with the exception of one natural drainage course. This natural drainage path, located at the eastern portion of the project, will be maintained under the proposed condition.
- *Where soils conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration.* Infiltration basins will be proposed where soil conditions are appropriate.
- *Construct on-site ponding areas or retention facilities to increase opportunities for infiltration consistent with vector control objectives.* Detention basins and/or infiltration basins will be provided on site. The locations of these facilities will be shown in the project-specific WQMP.
- *Construct streets, sidewalks and parking lot aisles to the minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised.* Street, sidewalk, and parking design will incorporate minimum street widths that still meet City requirements and emergency access requirements.
- *Reduce widths of street where off-street parking is available.* Street design will incorporate minimum street widths that still meet City requirements and emergency access requirements.
- *Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design.* The use of impervious surfaces for decorative purposes will be minimized where possible.
- *Conserve natural areas.* There are 1,205 acres of natural areas that will be designated as undisturbed open space. The proposed project designates 1,086 acres of CDFW land, and an additional 44 acres of natural areas maintained by utility companies, and 75 acres within the WLC Specific Plan, for Open Space use.
- *Development sites will be designed to contain and infiltrate roof runoff, or direct roof runoff to vegetative swales or buffer areas, where feasible.* Runoff from impervious areas will sheet flow or be directed to Treatment Control BMPs.
- *Where landscaping is proposed, impervious sidewalks, walkways, and trails will be designed to drain into adjacent landscaping.* Streets, sidewalks, and parking lots will sheet flow to landscaping/bioretention areas.
- *Increase the use of vegetated drainage swales in lieu of underground piping or imperviously lined swales.* Runoff from impervious areas will sheet flow to vegetated swales, bioretention areas, infiltration basins, and/or detention basins.
- *Rural swale system: street sheet flows to vegetated swale or gravel shoulder, curbs at street corners, culverts under driveways and street crossings.* Streets will sheet flow to adjacent landscaping/bioretention areas.

- *Urban curb/swale system; street slopes to curb, periodic swale inlets drain to vegetated swale/biofilter.* Streets will sheet flow to adjacent landscaping/bioretention areas.
- *Design driveways to drain into landscaping prior to discharging to the MS4.* Driveways will sheet flow to adjacent landscaping/bioretention areas.
- *Uncovered parking may be paved with a permeable surface, or designed to drain into landscaping prior to discharging to the MS4.* Parking lots will sheet flow to adjacent landscaping/ bioretention areas.

The WQMP is incorporated by reference and/or attached to the project's SWPPP as the Post-Construction Management Plan.

As soils covering the project site have a slight-to-high erosion hazard potential and because the project would be required to adhere to the City's Grading Ordinance, obtain an NPDES Permit, and prepare an SWPPP and a WQMP, construction and operational impacts associated with soil erosion hazards are considered to be less than significant, and no mitigation is required.

Grading for off-site improvements would require subsequent grading permits or related approvals from both the City and County of Riverside, depending on the improvement and its location. Most roadway and intersection improvements will occur within existing rights-of-way or on land that has been previously disturbed. The SWPPP and the WQMP establish performance standards for future development, and implementation the identified measures in those plans will reduce potential erosion impacts to less than significant levels (See also Section 4.9, *Hydrology and Water Quality*, for a discussion of potential issues associated with soil erosion during construction and project operations).

4.6.5.3 Septic Tanks

Threshold	Would the proposed project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

All buildings within the project will be connected to existing wastewater facilities (sewer) owned and operated by the Eastern Municipal Water District. Septic tanks will not be used anywhere within the project. No mitigation is required.

4.6.5.4 Seismic-Related Ground Failure

Threshold	Would the proposed project expose persons or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic ground failure?

Development of the proposed project will result in the construction of up to 41.6 million square feet of logistics warehouse uses. The project site is located within Seismic Zone 4 as defined by the Uniform Building Code (UBC). Exhibit S4 of the Safety Element of the City's General Plan indicates that the project site is not located in an area susceptible to landslides or slope instability.

The project site lies on relatively flat terrain (±2% grade) and no landslide areas or mass movement were observed onsite. The only steep topographical features are located in the southwest corner of the project area (see Section 4.6.6.3 below). This area is designated for Open Space uses and is not proposed for development.

The project does not propose any activity known to cause damage by subsidence (e.g., oil, gas, or groundwater extraction). Settlement generally occurs within areas of loose, granular soils with relatively low density. The project site is underlain by relatively dense alluvial and dense sedimentary bedrock materials at depth and the potential for settlement is considered low. Because the project site does not exhibit characteristics of a high potential for subsidence or settlement, impacts are considered less than significant. No mitigation is required.

The potential for liquefaction generally occurs during strong ground shaking within relatively cohesionless loose sediments where the groundwater is typically less than 50 feet below the surface. Because the project site does not exhibit characteristics of a high potential for liquefaction induced settlement (i.e., relatively dense soils with groundwater levels in excess of 100 feet), impacts are considered less than significant. No mitigation is required.

4.6.6 Significant Impacts

The following impacts were determined to be potentially significant. In each of the following issues, mitigation measures have been recommended to reduce the significance of the identified impacts.

4.6.6.1 Fault Rupture

Impact 4.6.6.1: *Future development permitted by the project would locate development in an area susceptible to fault rupture.*

Threshold	Would the proposed project expose persons or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Maps issued by the State Geologist for the area or based on other substantial evidence of a known fault.

Surface rupture occurs where displacement or fissuring occurs along a fault zone. While primary ground damage due to earthquake fault rupture typically results in a relatively small percentage of the total damage in an earthquake, the location of structures or facilities too close to a rupturing fault can cause profound damage. The primary method to avoid this hazard is to either set structures and facilities away from active faults, or avoid their construction in close proximity to an active fault.

Faults throughout southern California have formed over millions of years. Some of these faults are generally considered inactive under present geologic conditions and other faults are known to be active.[1] Such faults have either generated earthquakes in historic times (within the last 200 years) or show geologic and geomorphic indications of movement during the last 11,000 years. Faults that have moved in the relatively recent geological past are generally presumed to be the most likely candidates to generate damaging earthquakes in the lifetimes of residents, buildings, or communities.

The western portion of the site is crossed by the City of Moreno Valley Seismic Zone, a postulated trace of the Casa Loma Fault and the Farm Road Strand. A detailed fault investigation was performed by Leighton for these projected faults. Although no active faulting was observed, some local discontinuous fracturing was observed and documented. Because of the potential for ground movements in this area, mitigation is required.

[1] The Alquist-Priolo Earthquake Fault Zoning Act defines *active faults* as those that show proven displacement of the ground surface within about the last 11,000 years. *Potentially active faults* are those that show evidence of movement within the last 1.6 million years.

Specific Plan Design Features. The Specific Plan does not contain any policies that specifically address seismic limitations, but does acknowledge that all future development will require the preparation of site-specific geotechnical reports to ensure compliance with all applicable standards.

Mitigation Measures. State law prohibits the construction and placement of habitable structures[1] over the trace of an active fault pursuant to the Alquist-Priolo Act. The A-P Earthquake Fault Zone is located on the eastern border of the project site (refer to Figure 4.6.1). Trenching conducted by Leighton across the Claremont Segment of the San Jacinto Fault in the eastern area of the project site identified the location of a portion of the fault; however, the entire length of the fault through the project site was not trenched. Although no habitable structure can be located on an active fault per State law, fault rupture hazard represents a potential significant seismic hazard on site that would require mitigation. To ensure fault rupture impacts are appropriately mitigated, the following measure has been identified:

4.6.6.1A Prior to approval of any projects for future development between Redlands Boulevard and Theodore Street, south of Dracaea Avenue (projected east from Redlands Boulevard), and the area south of Alessandro from the western boundary along the Mount Russell toe of slope easterly into the site 1,500 feet, the City shall determine if a detailed fault study of the Casa Loma Fault Zone area is required based on available evidence. If necessary, any additional investigations shall be prepared by a qualified geologist and determine if structural setbacks are needed, and shall identify specific remedial earthwork and/or foundation recommendations. Structures intended for human occupancy shall not be located within any structural setback zone as determined by those studies. This measure shall be implemented to the satisfaction of the City Engineer in consultation with the Project Geologist.

4.6.6.1B Prior to approval of any projects for future development within or adjacent to the San Jacinto Alquist-Priolo Earthquake Fault Zone, the City shall review and approve a geotechnical fault study prepared by a qualified geologist to confirm the alignment and size of any required building setbacks related to the fault zone. If necessary, this study shall identify a "special foundation or grading remediation zone" for the areas supporting structures intended for human occupancy where coseismic deformation (fractures) is observed. This zone shall be determined after subsurface evaluation based on proposed building locations. Specific remedial earthwork and foundation recommendations shall be evaluated as necessary based on proposed building locations.

This study will likely involve future trenching to adequately identify the location of the Claremont segment of the San Jacinto Fault Zone that crosses the eastern portion of the WLCSP property. This measure shall be implemented to the satisfaction of the City Engineer in consultation with the Project Geologist.

4.6.6.1C Prior to the approval of project grading permits, or permits for construction of off-site improvements, whichever comes first, the City shall review and approve plans confirming that the project has been designed to withstand anticipated ground shaking and other geotechnical and soil constraints (e.g., settlement). The project proponent shall submit improvement plans to the City or County as appropriate for review and approval prior to construction of any offsite improvements related to the project. This measure shall be implemented to the satisfaction of the City Engineer.

[1] California Code of Regulations, Section 3601 states, "A structure for human occupancy is any structure used or intended for supporting or sheltering any use of occupancy, which is expected to have a human occupancy rate of more than 2,000 person-hours per year."

Level of Impact After Mitigation. Adherence to the measures identified in the geotechnical investigations, as well as other requirements identified and required by the City, will ensure fault rupture hazards are reduced to a less than significant level.

4.6.6.2 Ground Shaking

Impact 4.6.6.2: *Future development permitted by the proposed project would locate development in an area susceptible to strong seismic ground shaking.*

Threshold	Would the proposed project expose persons or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong ground shaking?

Southern California is a seismically active area and, therefore, will continue to be subject to ground shaking resulting from seismic activity on regional faults. Ground shaking from earthquakes associated with nearby and more distant faults is expected to occur during the lifetime of the project. The level of potential ground motion is considered moderate to high in the City of Moreno Valley and, therefore, in the project area.

Project or Specific Plan Design Features. The Specific Plan does not contain any policies that specifically address seismic limitations, but does acknowledge that all future development will require the preparation of site-specific geotechnical reports to ensure compliance with all applicable standards.

Mitigation Measures. In accordance with the City's General Plan Safety Element (Objective 6.1),[1] project development will require geological and geotechnical investigations by State-licensed professionals. The geotechnical investigations will provide design considerations and earthwork recommendations to ensure that ground shaking impacts are appropriately mitigated. In addition, California Code of Regulations (CCR), Title 24, also known as the California Building Standards Code, contains building design and construction requirements relating to fire and life safety, and structural safety. The California Building Code (CBC) also includes standards designed to ensure that structures within California are built to withstand expected levels of seismic activity for each earthquake region throughout the State. Specifically, Part 2 of Title 24, including Chapters 4, 16-18, and Appendix J provide guidance regarding grading, soils, and construction techniques related to seismic protection. These codes are provided to protect public safety and ensure that all structures built in the State can withstand anticipated seismic ground shaking and other related geotechnical and soils constraints.

To ensure ground shaking impacts are appropriately mitigated, the following measure is recommended:

4.6.6.2A Prior to issuance of any building permits the City shall review and approve plans to confirm that the siting, design and construction of all structures and facilities are in accordance with the regulations established in the California Building Code (California Code of Regulations, Title 24), City Building Code, and/or professional engineering standards appropriate for the seismic zone in which such construction may occur.

In addition, adherence to **Mitigation Measure 4.6.6.1C** addresses impacts of off-site improvements in this regard.

[1] Moreno Valley General Plan, Chapter 9 Goals and Objectives, pg. 9-30.

Level of Significance After Mitigation. Adherence to the measures identified in the geotechnical investigations, as well as other requirements identified and required by the City, will ensure ground shaking hazards are reduced to a less than significant level.

4.6.6.3 Unstable Soils

Impact 4.6.6.3: *Future development permitted by the proposed project may locate development in an area with expansive soils.*

Threshold	Would the proposed project be located on expansive soil, creating substantial risks to life or property?

As previously identified, expansive soils generally have a substantial amount of clay particles, which can give up water (shrink) or absorb water (swell). The change in the volume exerts stress on buildings and other loads placed on these soils. The extent or range of the shrink/swell is influenced by the amount and kind of clay present in the soil. Expansive soils can be widely dispersed and they can occur in hillside areas as well as low-lying alluvial basins. On-site soils (Dv and Wb soils) are identified as having a moderate to low shrink-swell potential. Because the potential exists to locate development on moderately expansive soils, impacts are considered significant and mitigation is required.

Project or Specific Plan Design Features. The Specific Plan does not contain any policies that specifically address seismic limitations, but does acknowledge that all future development will require the preparation of site-specific geotechnical reports to ensure compliance with all applicable standards.

Mitigation Measures. In accordance with the City's General Plan Safety Element (Implementation Measure I.E.1) and as indicated previously, development of the project will require geological and geotechnical investigations by State-licensed professionals. To ensure impacts from expansive soils are addressed for specific development sites, adherence to **Mitigation Measures 4.6.6.3A** through **4.6.6.3D** will be required.

4.6.6.3A Prior to the approval of a Plot Plan for any development project or associated off-site improvements, a geotechnical report evaluating the site and planned improvements shall be submitted to and approved by the City. These investigations shall identify any site-specific impacts from compressible and expansive soils based on the actual location of individual pads proposed in the future, so that differential movement can be further verified or evaluated in view of the actual foundation plan and imposed fill or structural loads. Compliance with this measure will ensure that future buildings are designed to protect the structure and occupants from on-site soil limitations, consistent with State Building Code requirements. This measure shall be implemented to the satisfaction of the City Engineer.

4.6.6.3B Prior to issuance of any grading permit for development within the Specific Plan, any cut slopes in excess of five (5) feet in vertical height shall be constructed as "replacement fill slopes" per the project geotechnical report, due to the variable nature of the onsite alluvial soils. This measure shall be implemented to the satisfaction of the City Land Development Division and the City Engineer.

4.6.6.3C Prior to issuance of any discretionary permit for development within the Specific Plan, additional geotechnical and soils site investigations will be required as appropriate once site grading and foundations plans become available for individual building

sites. These studies shall address if or to what degree compressible and/or expansive alluvium on or underlying individual pads is present, or if there is a potential for differential settlement. This measure shall be implemented to the satisfaction of the City Engineer.

4.6.6.3D Prior to issuance of any discretionary permit and during grading for development within the Specific Plan, a geotechnical engineer shall observe and/or supervise site preparation, removal of unsuitable soils, mapping of all earthwork excavations, approval of imported earth materials, fill placement, foundation installation, and other geotechnical operations. Laboratory testing of subsurface materials to confirm compacted dry density and moisture content, consolidation potential, corrosion potential, expansion potential, and resistance value (R-value) shall be performed prior to and during grading as appropriate. This measure shall be implemented to the satisfaction of the City Engineer.

Level of Impact After Mitigation. Implementation of **Mitigation Measures 4.6.6.3A** through **4.6.6.3D**, and adherence to actions identified in subsequent geotechnical investigations, as well as other requirements identified and required by the City, will ensure that the potential impact from expansive soils are reduced to a less than significant level.

4.6.7 Cumulative Impacts

The cumulative area for geologic issues is the City of Moreno Valley and western Riverside County, within the larger context of southern California due to regional seismicity. The project area has potential geotechnical and soils constraints, as the entire southern California area contains a number of major regional and local faults, including the San Andreas, San Jacinto, and Elsinore Faults.

The presence of regional faults creates the potential for damage to structures or injury to persons during seismic events. However, City, County, and State regulations provide guidelines for development in areas with geologic constraints and ensure that the design of buildings is in accordance with applicable CBC standards and other applicable standards, which reduces potential property damage and human safety risks to less than significant levels. Anticipated development in the City and surrounding area in general will not have a cumulatively considerable impact on earth resources, nor will regional geotechnical constraints have a cumulatively considerable impact on the proposed WLC project or cumulative projects, as long as proper design and engineering are implemented based on available seismic and other geotechnical data. The proposed WLC project represents an incremental portion of this potential impact, so the project will not have cumulatively significant impacts in this regard.

Because it is reasonable to conclude that all development within seismically active areas will be required to adhere to applicable State regulations, CBC standards, and the design and siting standards required by local agencies, a less than significant cumulative impact would occur with implementation of the proposed WLC project.

4.7 GREENHOUSE GAS EMISSIONS, CLIMATE CHANGE, AND SUSTAINABILITY

This section provides a discussion of global climate change, existing regulations pertaining to global climate change, and an analysis of greenhouse gas (GHG) emissions associated with the proposed project. This analysis examines the short-term construction and long-term operational impacts and evaluates the effectiveness of measures incorporated as part of the project design.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements, which affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

This section analyzes the proposed project's potential climate impacts based on the following technical study:

- *Air Quality, Greenhouse Gas, and Health Risk Assessment Report World Logistics Center Specific Plan* (Michael Brandman Associates, Inc. January 2013) contained in Appendix D of this EIR.

4.7.1 Existing Setting

4.7.1.1 Global Climate Change

Global climate change is the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred by some

scientists and policy makers to "global warming" because it helps convey the notion that there are other changes in addition to rising temperatures.

Climate change refers to any significant change in measures of climate such as temperature, precipitation, or wind, lasting for decades or longer (U.S. Environmental Protection Agency [EPA], 2007). Climate change may result from:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation); and/or
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, and desertification).

The primary observed effect of global climate change has been a rise in the average global tropospheric[1] temperature of 0.36 degrees Fahrenheit (°F) per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming could occur, which would induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns or more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold and increased intensity of tropical cyclones (hurricanes). Specific effects in California might include a decline in the Sierra Nevada snowpack, erosion of California's coastline, and seawater intrusion in the Delta.

Human activities, such as fossil fuel combustion and land use changes release carbon dioxide (CO_2) and other compounds, cumulatively termed greenhouse gases (GHGs). GHGs are effective in trapping infrared radiation that otherwise would have escaped the atmosphere, thereby warming the atmosphere, the oceans, and earth's surface (EPA, 2007). Many scientists believe that "most of the warming observed over the last 50 years is attributable to human activities."[2] The increased amounts of CO_2 and other GHGs are alleged to be the primary causes of the human-induced component of warming.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. They include CO_2, methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). In the last 200 years, substantial quantities of GHGs have been released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, enhancing the natural greenhouse effect, which is believed to be causing global climate change. While human-made GHGs include CO_2, CH_4, and N_2O, some (like chlorofluorocarbons [CFCs]) are completely new to the atmosphere.

GHGs vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The global warming potential is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

[1] The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

[2] Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2007: The Physical Science Basis*, http://www.ipcc.ch.

Natural sources of CO_2 include the respiration (breathing) of humans and animals and evaporation from the oceans. Together, these natural sources release approximately 150 billion tonnes[1] of CO_2 each year, far outweighing the 7 billion tonnes of human-made emissions from fossil fuel burning, waste incineration, deforestation, and cement manufacture. Nevertheless, natural removal processes such as photosynthesis by land- and ocean-dwelling plant species cannot keep pace with this extra input of human-made CO_2, and consequently the gas is building up in the atmosphere.[2]

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Human-made sources include the mining and burning of fossil fuels; digestive processes in ruminant animals such as cattle; rice paddies; and the burying of waste in landfills. Total annual emissions of CH_4 are approximately 500 million tonnes, with human-made emissions accounting for the majority. As for CO_2, the major removal process of atmospheric CH_4—chemical breakdown in the atmosphere—cannot keep pace with source emissions, and CH_4 concentrations in the atmosphere are increasing.

Worldwide emissions of GHGs in 2008 were 30.1 billion metric tons of CO_2e[3] and have increased considerably since that time. It is important to note that the global emissions inventory data are not all from the same year and may vary depending on the source of the emissions inventory data.[4] Emissions from the top five countries and the European Union accounted for approximately 55 percent of the total global GHG emissions, according to the most recently available data. The United States was the number two producer of GHG emissions. The primary GHG emitted by human activities in the United States was CO_2, representing approximately 84 percent of total GHG emissions. CO_2 from fossil fuel combustion, the largest source of GHG emissions, accounted for approximately 80 percent of the GHG emissions.[5]

In 2009, the United States emitted approximately 6.6 billion metric tons of CO_2e or approximately 25 tons per year (tpy) per person. Of the six major sectors nationwide (electric power industry, transportation, industry, agriculture, commercial, and residential), the electric power industry and transportation sectors combined account for approximately 62 percent of the GHG emissions; the majority of the electrical power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Between 1990 and 2006, total United States GHG emissions rose approximately 14.7 percent.[6]

World carbon dioxide emissions[7] are expected to increase by 1.9 percent annually between 2001 and 2025. Much of the increase in these emissions is expected to occur in the developing world where emerging economies, such as China and India, fuel economic development with fossil energy. Developing countries' emissions are expected to grow above the world average at 2.7 percent annually between 2001 and 2025; and surpass emissions of industrialized countries near 2018.

The California Air Resources Board (CARB) is responsible for developing the California Greenhouse Gas Emission Inventory. This inventory estimates the amount of GHGs emitted into and removed from the atmosphere by human activities within the State of California and supports the Assembly Bill (AB) 32 Climate Change Program. The CARB's current GHG emission inventory covers the years

1 A tonne means a ton in the metric unit system; it is also called a metric ton. A tonne is 1,000 kilograms, or approximately 2,204 pounds.
2 Enviropedia, http://www.enviropedia.org.uk/Global_Warming/Emissions.php.
3 United Nations, *The Millennium Development Goals Report 2011,* http://unstats.un.org/unsd/default.htm, accessed July 26, 2011.
4 US Environmental Protection Agency, "Inventory of US Greenhouse Gas Emissions and Sinks 1990–2006," http://www.epa.gov/climatechange/emissions/usinventoryreport.html, 2008.
5 Ibid.
6 U.S. Environmental Protection Agency (EPA). 2011. *Inventory of U.S. Greenhouse Gas Emissions And Sinks: 1990 – 2009*. http://www.epa.gov/climatechange/emissions/usinventoryreport.html. Accessed July 2011.
7 http://www.eia.gov/oiaf/1605/ggccebro/chapter1.html.

1990 through 2008 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

According to CARB emission inventory estimates, California emitted approximately 457 million metric tons of CO_2e emissions in 2009.[1] The year 2009 saw a small decrease in statewide GHG emissions from 485 mmt CO_2e in 2008 to 457 mmt, driven by a noticeable drop in on-road transportation emissions. 2009 also reflects the beginning of the economic recession and fuel price spikes. As the economy recovers, GHG emissions are likely to rise again without other mitigation actions. California's net emissions of GHG decreased 1.3 percent from 459 mmt of CO_2e in 2000 to 453 mmt in 2009, with a maximum of 483.9 mmt in 2004. During the same period from 2000 to 2009, California's GHG emissions per person decreased by 9.7 percent, but the emissions reductions were offset by the state's population increase of 9.0 percent.

The CARB estimates that transportation was the source of approximately 38 percent of the State's GHG emissions in 2009, followed by electricity generation at 23 percent. Other sources of GHG emissions were industrial sources at 20 percent, residential plus commercial activities at 9 percent, and agriculture at 7 percent.

The CARB staff has projected statewide GHG emissions for the year 2020, which represent the emissions that would be expected to occur with reductions anticipated from Pavley I and the Renewables Portfolio Standard (RPS) (38 mmt CO_2e total), will be 507 mmt of CO_2e.[2] GHG emissions from the transportation and electricity sectors as a whole are expected to increase at approximately 36 percent and 22 percent of total CO_2e emissions, respectively. The industrial sector consists of large stationary sources of GHG emissions and the percentage of the total 2020 emissions is projected to be 18 percent of total CO_2e emissions. The remaining sources of GHG emissions in 2020 are high global warming potential gases at 7 percent, residential and commercial activities at 9 percent, agriculture at 6 percent, and recycling and waste at 2 percent.

4.7.1.2 Effects of Global Climate Change

Climate change is a change in the average weather of the earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use these data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The IPCC constructed several emission trajectories of greenhouse gases needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to 6.4 °C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios (IPCC 2007a). The IPCC concluded that global climate change was largely the result of human activity, mainly the burning of fossil fuels. However, the scientific literature is not consistent regarding many of the aspects of global warming or climate change, including actual temperature changes during the 20th century, the accuracy of the IPCC report, and contributions of human versus non-human activities.

Effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme weather events, and degradation of air quality. There may be direct temperature effects

[1] CARB, Greenhouse Gas Inventory Data - 2000 to 2008. http://www.arb.ca.gov/cc/inventory/data/data.htm. Accessed July 2011.

[2] CARB, Greenhouse Gas Inventory – 2020 Emissions Forecast). http://www.arb.ca.gov/cc/inventory/data/forecast.htm. Accessed January 2013.

through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.

Additionally, according to the 2006 California Climate Action Team (CAT) Report,[1] the following climate change effects, which are based on trends established by the IPCC, can be expected in California over the course of the next century:

- A diminishing Sierra snowpack declining by 70 percent to 90 percent, threatening the State's water supply.
- A rise in sea levels resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. (Note: This condition would not affect the project area as it is a significant distance away from coastal areas.)
- An increase temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- Increased risk of large wildfires if rain increases as temperatures rise. Wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant fuel available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- Increasing temperatures from 8 to 10.4 °F under the higher emission scenarios, leading to a 25 percent to 35 percent increase in the number of days ozone pollution levels are exceeded in most urban areas (see below).
- Increased vulnerability of forests due to forest fires, pest infestation, and increased temperatures.
- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.
- Increased electricity demand, particularly in the hot summer months.
- Increased ground-level ozone formation due to higher reaction rates of ozone precursors.

[1] California Environmental Protection Agency, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, March 2006.

4.7.1.3 Greenhouse Gases

The most common greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Greenhouse gases defined by AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Natural processes and human activities emit greenhouse gases. The presence of greenhouse gases in the atmosphere affects the earth's temperature. Many scientists believe that emissions from human activities, such as electricity production and vehicle use, have led to elevated concentrations of these gases in the atmosphere beyond the level of naturally occurring concentrations. Table 4.7.A lists greenhouse gases, the effects of each greenhouse gas, and sources for each of the greenhouse gases.

In order to attempt to quantify the impact of greenhouse gases, the gases are assigned global warming potentials. Individual greenhouse gas compounds have varying global warming potential and atmospheric lifetimes. Carbon dioxide, the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a greenhouse gas is a measure of how much a given mass of a greenhouse gas is estimated to contribute to global warming. To describe how much global warming a given type and amount of greenhouse gas may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing greenhouse gas emissions since it normalizes various greenhouse gas emissions to a consistent reference gas, carbon dioxide. For example, methane's warming potential of 21 indicates that methane has 21 times greater warming effect than carbon dioxide on a molecule per molecule basis. A carbon dioxide equivalent is the mass emissions of an individual greenhouse gas multiplied by its global warming potential.

Table 4.7.A: Greenhouse Gas Properties, Effects, and Sources

Constituent	Description and Physical Properties	Health Effects	Sources
Water Vapor	Water vapor (H_2O) is the most abundant, important, and variable greenhouse gas in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization.	There are no health effects from water vapor. When some pollutants come in contact with water vapor, they can dissolve and then the water vapor can be a transport mechanism to enter the human body.	The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.
Carbon Dioxide	Carbon dioxide (CO_2) is an odorless, colorless natural greenhouse gas.	Outdoor levels of carbon dioxide are not high enough to result in negative health effects.	Carbon dioxide is emitted from natural and anthropocentric (human) sources. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Methane	Methane (CH_4) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10–12 years) compared to other greenhouse gases.	There are no health effects from methane.	Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.
Nitrous Oxide	Nitrous oxide (N_2O), also known as laughing gas, is a colorless greenhouse gas.	Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses it is harmless. In some cases, heavy and extended use can cause Olney's Lesions (brain damage).	Concentrations of nitrous oxide also began to rise at the beginning of the Industrial Revolution. In 1998, the global concentration was 314 ppb. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, e.g., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars.
Chloro-fluorocarbons	Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface).	In confirmed indoor locations, working with CFC-113 or other CFCs is thought to have resulted in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.	CFCs have no natural source, but were first synthesized in 1928. They were used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.
Hydro-fluorocarbons	Hydrofluorocarbons (HFCs) are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the greenhouse gases, they are one of three groups with the highest global warming potential. Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant.	None.	HFCs are man-made for applications such as automobile air conditioners and refrigerants.
Per-fluorocarbons	Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6).	None.	The two main sources of PFCs are primary aluminum production and semiconductor manufacture.
Sulfur Hexafluoride	Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated, 23,900. Concentrations in the 1990s were about 4 ppt.	In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.	Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.
Aerosols	Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols.	Similar health effects associated with particulate matter.	Sulfate aerosols are emitted when fuel containing sulfur is burned. Another source of aerosols (in the form of black carbon or soot) is the result of incomplete combustion or the incomplete burning of fossil fuels. Although particulate matter regulation has been lowering aerosol concentrations in the United States, global concentrations are likely increasing as a result of other sources around the world.

Source: LSA Associates 2012 as summarized from Table 8, MBA 2013

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4.7.1.4 Greenhouse Gas Inventories

The City of Moreno Valley estimated greenhouse gas emissions for the community for 2007 and 2010 and projected emissions for 2020 are shown in Table 4.7.B, which shows the reduced 2020 emissions are below the reduction target.

Table 4.7.B: City of Moreno Valley Projected Greenhouse Gas Emissions

Source Category	Moreno Valley Greenhouse Gas Emissions ($MTCO_2e$ per year)			
	2007	2010	BAU 2020	Reduced 2020
Transportation	517,098	513,581	788,267	421,561
Energy	287,261	277,230	356,192	251,372
Area	69,390	69,437	84,665	73,046
Water and Wastewater	21,595	16,831	20,216	14,158
Solid Waste	44,294	43,633	49,203	38,000
Total	**939,638**	**920,712**	**1,298,543**	**798,137**
Reduction Target	—	—	**798,693**	**798,693**

Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalents BAU = business as usual
Source: Table 9, City of Moreno Valley Greenhouse Gas Analysis, 2012., MBA 2013

The existing WLC project site is largely vacant with scattered dry farming that generates minimal greenhouse gas emissions. For the purposes of this analysis, a zero baseline will be assumed to identify the "worst case" emissions (i.e., GHG emissions from the entire WLC project without removal of any existing GHG emissions).

4.7.2 Regulatory Setting

4.7.2.1 International Regulation of Climate Change

Intergovernmental Panel on Climate Change (IPCC). In 1988, the United Nations created the IPCC to provide independent scientific information regarding climate change to policymakers. The IPCC does not conduct research itself, but rather compiles information from a variety of sources into reports regarding climate change and its impacts. The IPCC has thereafter periodically released reports on climate change, and in 2007 released its Fourth Assessment Report which concluded most global climate change was the result of human activity, mainly the burning of fossil fuels (see Section 4.7.1.1).

United Nations Framework Convention on Climate Change. On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change (Convention). Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol. The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas emissions at average of five per cent against 1990 levels over the five-year period 2008-2012. The Convention (discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions

over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities." The United States has not entered into force of the Kyoto Protocol.

Moreover, since the United States declined to ratify the Kyoto Protocol in 1995, it has become increasingly clear that global climate change cannot be addressed without limiting GHG emissions from developing, as well as developed, countries. According to many sources, China has already surpassed the United States as the world's largest GHG emitter and is building new coal-fired power plants at a rate of approximately one per week. A recent study conducted by economists at the UC Berkeley and UC San Diego estimated that China's CO_2 emissions are growing by as much as 11 percent annually. In 2007, China released its first national plan on climate change, which includes goals related to increasing energy efficiency and increasing use of renewable resources. The plan, however, makes no commitments regarding reduction of GHG emissions.

Like China, India is already one of the top emitters of GHGs and continues to grow rapidly. India has recently pledged to take more action to fight global warming, for example, by pursuing solar energy, urging energy efficiency, and conservation, but it has not set any concrete goals in these areas, let alone pledged to reduce its carbon emissions. To the contrary, India's emissions are projected to increase fourfold by 2030 (see "Melting Asia," *The Economist*, June 5, 2008). Similarly, Brazil, the largest economy in South America, and another rapidly developing country, has no national policy requiring it to reduce carbon emissions. Brazil's carbon emissions increased by more than 60 percent between 1990 and 2004, and are projected to continue to rise at a similar pace (see International Energy Agency, World Energy Outlook 2006).

The Kyoto Protocol expired in 2012. Formal negotiations to replace the protocol officially began in December 2007 at the UNFCCC Climate Change Conference in Bali, Indonesia (http://unfccc.int/2860.php). Whether a workable agreement can be reached, however, remains to be seen, as the United States continues to press for an agreement that requires firm commitments from developing nations, and countries like China and India continue to oppose binding targets (see http://news.bbc.co.uk/2/hi/science/nature/7145608.stm).

In addition, it should be noted that most mitigation measures that address greenhouse gas reduction typically parallel those that reduce the consumption of energy (i.e., electricity and natural gas). Reducing energy use in a market economy typically reduces the cost of energy. However, a reduced cost of energy can release pent-up demand (latent demand) for energy use, particularly in less developed portions of the world, such as Africa and Asia. As such, it is not clear how much energy use reduction in California or the U.S. would actually reduce worldwide energy use. The same would apply to measures to reduce greenhouse gas emissions.

4.7.2.2 Federal Regulations/Standards

Prior to the last decade, there have been no concrete Federal regulations of greenhouse gases or major planning for climate change adaptation. The following are actions regarding the Federal government, greenhouse gases, and fuel efficiency.

Greenhouse Gas Endangerment. *Massachusetts v. EPA* (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that the EPA regulate four greenhouse gases, including carbon dioxide, under Section 202(a)(1) of the Clean Air Act. A decision was made on April 2, 2007, in which the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009,

the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- *Endangerment Finding:* The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- *Cause or Contribute Finding:* The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing greenhouse gas emissions standards for vehicles, as discussed in the section "Clean Vehicles" below.

The EPA denied ten petitions for Reconsideration of the Endangerment and Cause or Contribute Findings in 2010. Some of the petitioners included the Ohio Coal Association, Peabody Energy Company, and the State of Texas.

In September 2011, the EPA Office of Inspector General evaluated the EPA's compliance with established policy and procedures in the development of the endangerment finding, including processes for ensuring information quality. The evaluation concluded that the technical support document should have had more rigorous EPA peer review.

In June 2012, a Federal appeals court rejected a lawsuit by thirteen states against the EPA. The suit alleged that the EPA violated the law by relying almost exclusively on data from the United Nations IPCC rather than doing its own research or testing data according to Federal standards. The states include Virginia, Texas, Alabama, Florida, Hawaii, Indiana, Kentucky, Louisiana, Mississippi, Nebraska, North Dakota, Oklahoma, South Carolina, South Dakota, and Utah. Virginia intends to petition the Supreme Court to review the case.

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's Highway Traffic and Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the National Highway Safety Administration are working on a second-phase joint rulemaking to establish national standards for light-duty vehicles for model years 2017 and beyond.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies are proposing engine and vehicle standards that begin

in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel vehicles by 2018 model year (12% and 17% respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year, which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by the 2018 model year.

New Source Review. The EPA issued a final rule on May 13, 2010, that establishes thresholds for greenhouse gases that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the Federal Code of Regulations, the EPA states:

> *This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.*

EPA estimates that facilities responsible for nearly 70 percent of the national greenhouse gas emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest greenhouse gas emitters—power plants, refineries, and cement production facilities.

Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources. As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new affected fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatt would be required to meet an output based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology.

Cap and Trade. Cap and trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. Successful examples in the United States include the Acid Rain Program and the NO_X Budget Trading Program in the northeast. There is no Federal cap and trade program currently and no pending legislation exists to establish a cap and trade program.

Energy Policy and Conservation Act. The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the U.S. Pursuant to the Act, the National Highway Traffic and Safety Administration (NHTSA), which is part of

the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards. Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon (mpg). Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. The Corporate Average Fuel Economy (CAFE) program, administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992. The Energy Policy Act (EPAct) of 1992 was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain Federal, State, and local governments and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the Act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005. The Energy Policy Act of 2005 includes provisions for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a Federal purchase requirement for renewable energy.

Federal Regulation of Climate Change. The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO_2 emissions under the Federal Clean Air Act (CAA). While there currently are no adopted Federal regulations for the control or reduction of GHG emissions, the EPA commenced several actions in 2009 that are required to implement a regulatory approach to global climate change.

On December 7, 2009, the EPA Administrator signed a final action under the CAA, finding that six greenhouse gases—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change. This EPA action does not impose any requirements on industry or other entities. However, the findings are a prerequisite to finalizing the GHG emission standards for light-duty vehicles mentioned below.

On April 1, 2010, the EPA and NHTSA announced a final joint rule to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. EPA is finalizing the first-ever national GHG emissions standards under the CAA, and NHTSA is finalizing CAFE standards under the EPAct. The EPA GHG standards require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile in model year 2016, equivalent to 35.5 mpg.

4.7.2.3 State Regulations/Standards

California Code of Regulations Title 24, Part 6. Enacted in 1978, this part of the California Code established energy efficiency standards for residential and nonresidential buildings in response to a legislative mandate to reduce California's energy consumption. These standards are updated

periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The most recent standards were adopted and went into effect January 1, 2010.[1] Such standards include the provision of cool roofs, demand control ventilation, skylights for day-lighting in buildings, thermal breaks for metal building roofs, and lighting power limits. These standards are expected to reduce the growth in electricity use of residential and non-residential buildings. Continual updates to Title 24 along with the State's implementation of AB 1493 and SB 1368 will have a major impact on the State's attainment of the AB 32 goals.

California Code of Regulations Title 24, Part 11. This part of the California Code is known as the California Green Building Standards Code (CALGreen Code) and was enacted to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts with positive environmental impacts and through encouragement of sustainable construction practices. The CALGreen Code is not intended to substitute for or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). This update to Part 11 of Title 24 of the California Code of Regulations was effective January 1, 2011. Key provisions of the CALGreen Code that apply to the type of new non-residential development proposed for the project site are as follows:

Division 5.1—Planning and Design

Section 5.106 Site Development

5.106.4 Bicycle Parking and Changing Rooms

5.106.5 Clean Air Vehicle Parking

5.106.8 Light Pollution Reduction

5.106.10 Grading and Paving

Division 5.2—Energy Efficiency

Section 5.201.1 Energy Efficiency (15 percent reduction in energy usage when compared to the mandatory energy efficiency standards from the California Energy Code (California Code of Regulations, Title 24, Part 6)

Division 5.3—Water Efficiency and Conservation

Section 5.303 Indoor Water Use

5.303.1 Meters

5.303.2 Twenty Percent Savings (use of plumbing fixtures and fittings that will reduce the overall use of potable water within the building by 20 percent reduction from the maximum allowable water use per fixture and fitting as required by the California Building Code (California Code of Regulations, Title 24, Part 2)

5.303.4 Wastewater Reduction

5.303.6 Plumbing Fixtures and Fittings

Section 5.304 Outdoor Water Use

5.304.1 Water Budget

5.304.2 Outdoor Water Use

5.304.3 Irrigation Design

[1] *Nonresidential Compliance Manual for California's 2008 Energy Efficiency Standards*, California Energy Commission, effective January 1, 2010, http://www.energy.ca.gov/title24/2008standards/index.html, website accessed on March 4, 2010.

Division 5.4—Material Conservation and Resource Efficiency

Section 5.407 Water Resistance and Moisture Management

Section 5.408 Construction Waste Reduction, Disposal and Recycling

5.408.1 Construction Waste Diversion

5.408.2 Construction Waste Management Plan

5.408.3 Construction Waste Diversion of at Least 50 Percent

Section 5.410 Building Maintenance and Operation

5.410.1 Recycling by Occupants

Division 5.5—Environmental Quality

Section 5.504 Pollutant Control

5.504.3 Covering of Duct Openings and Protection of Mechanical Equipment During Construction

5.504.4 Finish Material Pollutant Control

5.404.5.3 Filters

California Code of Regulations Titles 14 and 27. These parts of the California Code require energy-efficient practices as part of solid and hazardous waste handling and disposal.

Pavley Regulations and Fuel Efficiency Standards. California AB 1493, enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. The regulation was stalled by automaker lawsuits and by the EPA's denial of an implementation waiver. On January 21, 2009, the CARB requested that the EPA reconsider its previous waiver denial. On January 26, 2009, President Obama directed that the EPA assess whether the denial of the waiver was appropriate. On June 30, 2009, the EPA granted the waiver request. On September 8, 2009, the U.S. Chamber of Commerce and the National Automobile Dealers Association sued the EPA to challenge its granting of the waiver to California for its standards. California assisted the EPA in defending the waiver decision. The U.S. District Court for the District of Columbia denied the Chamber's petition on April 29, 2011.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near term (2009–2012) standards will result in about a 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

Low Carbon Fuel Standard, Executive Order S-01-07. The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission (CEC), the CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting

development of the protocols was included in the State Implementation Plan (SIP) for alternative fuels (State Alternative Fuels Plan adopted by the CEC on December 24, 2007) and was submitted to the CARB for consideration as an "early action" item under AB 32. The CARB adopted the Low Carbon Fuel Standard on April 23, 2009. The Low Carbon Fuel Standard was challenged in the United States District Court in Fresno in 2011. The court's ruling issued on December 29, 2011, included a preliminary injunction against the CARB's implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012 pending final ruling on appeal, allowing the CARB to continue to implement and enforce the regulation.

Senate Bill (SB) 1368. In 2006, the State Legislature adopted SB 1368, which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission (CPUC) to adopt a performance standard for greenhouse gas emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law will effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will lead to dramatically lower greenhouse gas emissions associated with California's energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out-of-state producers that cannot satisfy the performance standard for greenhouse gas emissions required by SB 1368. The CPUC adopted the regulations required by SB 1368 on August 29, 2007.

SB 97 and the *CEQA Guidelines* Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research (OPR) pursuant to subdivision (a)." Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010, for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of greenhouse gases would not violate CEQA.

On April 13, 2009, the OPR submitted to the Secretary for Natural Resources its recommended amendments to the *CEQA Guidelines* for addressing greenhouse gas emissions. On July 3, 2009, the Natural Resources Agency commenced the Administrative Procedure Act rulemaking process for certifying and adopting these amendments pursuant to Public Resources Code section 21083.05. Following a 55-day public comment period and two public hearings, the Natural Resources Agency proposed revisions to the text of the proposed Guidelines amendments. The Natural Resources Agency transmitted the adopted amendments and the entire rulemaking file to the Office of Administrative Law on December 31, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing *CEQA Guidelines* to reference climate change.

A new section, *CEQA Guidelines* Section 15064.4, was added to assist agencies in determining the significance of GHG emissions. The new section allows agencies the discretion to determine whether a quantitative or qualitative analysis is best for a particular project. However, little guidance is offered on the crucial next step in this assessment process—how to determine whether the project's estimated greenhouse gas emissions are significant or cumulatively considerable.

Also amended were *CEQA Guidelines* Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts respectively. Greenhouse gas mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze greenhouse gas emissions in an EIR when a project's incremental contribution of emissions may be cumulatively considerable; however, it does not answer the question of when emissions are cumulatively considerable.

Section 15183.5 permits programmatic greenhouse gas analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support a determination that a project's cumulative effect is not cumulatively considerable, according to proposed Section 15183.5(b).

In addition, the amendments revised Appendix F of the *CEQA Guidelines*, which focuses on energy conservation. The sample environmental checklist in Appendix G was amended to include greenhouse gas questions.

Executive Order S-3-05. Executive Order S-3-05 was signed by Governor Schwarzenegger in 2005 proclaiming California is vulnerable to the impacts of climate change. It states that increased temperatures could reduce the Sierra Nevada's snowpack, worsen California's air quality problems, and potentially cause a rise in sea levels. The Executive Order establishes total GHG emission targets including emissions reductions to the 2000 level by 2010, and the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Assembly Bill 32 (AB 32). California's major initiative for reducing GHG emissions is outlined in AB 32, the "Global Warming Solutions Act," passed by the California State legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 mmt CO_2e. The emissions target of 427 mmt requires the reduction of 169 mmt from the State's projected business-as-usual (BAU) 2020 emissions of 596 mmt. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change.

The Scoping Plan was approved by the CARB on December 11, 2008, and includes measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures.[1] Emission reductions that are projected to result from the recommended measures in the Scoping Plan are expected to total 174 mmt CO_2e, which would allow California to attain the emissions goal of 427 mmt CO_2e by 2020. The Scoping Plan includes a range of GHG reduction actions that may include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. The Scoping Plan, even after Board approval, remains a recommendation. The measures in the Scoping Plan will not be binding until after they are adopted through the normal rulemaking process. The CARB rule-making process includes preparation and release of each of the draft measures, public input through workshops and a public comment period, followed by a CARB hearing and rule adoption.

[1] CARB, *Climate Change Proposed Scoping Plan: a Framework for Change,* October 2008.

AB 32 requires the CARB and the Climate Action Team (CAT)[1] to:

- Adopt a list of discrete early action measures by July 1, 2007, that can be implemented before January 1, 2010;
- Establish a statewide GHG emissions cap for 2020 based on 1990 emissions and adopt mandatory reporting rules for significant sources of GHG by January 1, 2008;
- Indicate how emission reductions will be achieved from significant GHG sources via regulations, market mechanisms and other actions by January 1, 2009; and
- Adopt regulations by January 1, 2011, to achieve the maximum technologically feasible and cost-effective reductions in GHG, including provisions for using both market mechanisms and alternative compliance mechanisms.

In June 2007, the CARB approved a list of 37 early action measures, including three discrete early action measures (Low Carbon Fuel Standard, Restrictions on High Global Warming Potential Refrigerants, and Landfill Methane Capture). Discrete early action measures are measures that were required to be adopted as regulations and made effective no later than January 1, 2010, the date established by Health and Safety Code (HSC) Section 38560.5. The CARB adopted additional early action measures in October 2007[2] that tripled the number of discrete early action measures. These measures relate to truck efficiency, port electrification, reduction of perfluorocarbons from the semiconductor industry, reduction of propellants in consumer products, proper tire inflation, and sulfur hexafluoride (SF_6) reductions from the non-electricity sector. The combination of early action measures is estimated to reduce statewide GHG emissions by nearly 16 mmt.[3]

AB 32 codifies Executive Order S-3-05's[4] year 2020 goal by requiring that statewide GHG emissions be reduced to 1990 levels by the year 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be implemented no later than January 1, 2012. To effectively implement the cap, AB 32 directs the CARB to develop appropriate regulations and establish a mandatory reporting system to track and monitor global warming emissions levels.

The AB 32 Scoping Plan identifies a cap-and-trade program as one of the strategies California will employ to reduce the GHG emissions that cause climate change. The program is a central element of AB 32 and covers major sources of GHG emissions in the State such as refineries, power plants, industrial facilities, and transportation fuels. The regulation includes an enforceable GHG cap that will decline over time. The CARB will distribute allowances, which are tradable permits, equal to the emission allowed under the cap. The program started on January 1, 2012, with the first offset credit auctions in November 2012 and an enforceable compliance obligation beginning with 2013 GHG emissions. For the first two years of the program, large industrial emitters will receive 90 percent of their allowances for free in a soft start meant to give companies time to reduce emissions through new technologies or other means. The cap, or number of allowances, will decline over time in an effort to drastically reduce greenhouse gas emissions by 2050.

The California Chamber of Commerce has just filed suit[5] challenging the validity of the state's cap-and-trade program. The suit challenges the California Air Resources Board's authority as stated

1 CAT is a consortium of representatives from State agencies who have been charged with coordinating and implementing GHG emission reduction programs that fall outside of CARB's jurisdiction.

2 CARB. 2007. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. October.

3 CARB. 2007. "ARB approves tripling of early action measures required under AB 32." News Release 07-46. http://www.arb.ca.gov/newsrel/nr102507.htm. October 25.

4 Executive Order S-3-05 establishes greenhouse gas emission reduction targets for California.

5 The Huffington Post, November 14, 2012, http://www.huffingtonpost.com/2012/11/14/californias-cap-and-trade_n_2131251.html).

under the state's 2006 climate-change law, AB 32, to sell the permits, called "allowances," for the purpose of generating revenue for the state. It is also challenging the sale of allowances as an illegal tax, arguing that taxes need a two-thirds vote by the Legislature. The chamber's challenge is the latest lawsuit filed over AB 32, which so far has survived myriad legal challenges.

Senate Bill 1368 (SB 1368). In September 2006, Governor Arnold Schwarzenegger signed Senate Bill 1368, which calls for the adoption of a GHG performance standard for in-State and imported electricity generators to mitigate climate change. On January 25, 2007, the CPUC adopted an interim GHG emissions performance standard. This standard is a facility-based emissions standard requiring all new long-term commitments for baseload generation to serve California consumers with power plants that have emissions no greater than a combined cycle gas turbine plant. The established level is 1,100 pounds of CO_2 per megawatt-hour.

Executive Order S-01-07. Executive Order S-01-07 was signed by Governor Schwarzenegger on January 18, 2007, mandating a statewide goal to reduce the carbon intensity of California's transportation fuel by at least ten percent by 2020. The order also requires that a California specific Low Carbon Fuel Standard be established for transportation fuels.

Senate Bill 97 (SB 97). Senate Bill 97 was approved on August 25, 2007, to address GHG analysis under CEQA. This legislation mandates that the OPR prepare and submit guidelines to the California Resource Agency (CRA) for the mitigation of GHG emissions and their effects by July 1, 2009, and their adoption by January 1, 2010. This legislation does not provide for any guidance for non-exempted projects in the interim period between the passage of SB 97 and the adoption of guidelines by the OPR.

As directed by SB 97, the Natural Resources Agency adopted Amendments to the *CEQA Guidelines* for greenhouse gas emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations (CCR). The Amendments became effective on March 18, 2010. Proposed changes to the guidelines included new questions in Appendix G regarding Greenhouse Gas Emissions and major changes to the Transportation/Traffic checklist questions (Appendix A-3, CEQA Guidelines changes).

Senate Bill 375. SB 375 was signed into law on October 1, 2008. SB 375 provides emissions-reduction goals around which regions can plan, integrating disjointed planning activities, and provides incentives for local governments and developers to implement "smart growth" planning and development strategies, including reducing the average VMT to reduce commuting distances and reduce criteria and greenhouse gas air pollutant emissions. SB 375 has three major components:

- Using the regional transportation planning process to achieve reductions in GHG emissions consistent with AB 32's goals;
- Offering CEQA incentives to encourage projects that are consistent with a regional plan that achieves GHG emission reductions; and
- Coordinating the regional housing needs allocation process with the regional transportation process while maintaining local authority over land use decisions.

SB 375 requires each Metropolitan Planning Organization (MPO) to include a Sustainable Communities Strategy (SCS) in the regional transportation plan that demonstrates how the region will meet the greenhouse gas emission targets and creates CEQA streamlining incentives for projects

that are consistent with the regional SCS. The focus of SB 375 is on location of new residential projects and coordinated transportation planning.

Senate Bill 1078 (SB 1078), Senate Bill 107 (SB 107), Executive Order S-14-08, and Senate Bill X1-2 (SB X1-2). Established in 2002, SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Established in 2006, SB 107 (Chapter 464, Statutes of 2006) accelerated this requirement to the year 2010. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, which expanded the State's renewable energy standard from 20 percent to 33 percent by the year 2020. In an effort to codify the 33 percent by 2020 goal, SB X1-2 was signed by Governor Edmund G. Brown Jr. in April 2011 preempting the CARB's 33 percent Renewable Electricity Standard, which applies to all electricity retailers in the State including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must adopt the new goals of 20 percent of retails sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020.

Renewable Electricity Standards. On September 12, 2002, Governor Gray Davis signed SB 1078 requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the CARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020. The CARB approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23.

SmartWay Partners. SmartWay effectively refers to aerodynamic and rolling resistance requirements geared toward reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all heavy-duty trucks will have to comply with the CARB Greenhouse Gas Regulation that is designed with the SmartWay Program in mind to reduce greenhouse gas emissions by making them more fuel efficient. For instance, all 2010 and older model year tractors that pull 53-foot or longer box type trailers must use SmartWay verified low rolling resistance tires beginning January 1, 2013.

The EPA has evaluated the fuel saving benefits of various devices through emissions and fuel economy testing, demonstration projects and technical literature review. As a result, EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications:

- **Idle Reduction Technologies** allow engine operators to refrain from long-duration idling of the main propulsion engine by using an alternative technology. An idle reduction technology is generally defined as the installation of a technology or device that:
    - Is installed on a vehicle (e.g., bus, truck, locomotive, automobile, or marine vessel, equipment) or at a location;
    - Reduces unnecessary main engine idling of the vehicle or equipment; and/or

  - Is designed to provide services (e.g., heat, air conditioning, and/or electricity) to the vehicle or equipment that would otherwise require the operation of the main drive engine while the vehicle or equipment is temporarily parked or remains stationary.

- **Aerodynamic Technologies** minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- **Low Rolling Resistance Tires:** Certain tire models can reduce NO_X emissions and fuel use by 3 percent or more, relative to the best-selling new tires for line haul class 8 tractor trailers. These improvements are achieved under the following conditions:
  - Tires are used on the axle positions stated on the list below.
  - Verified low rolling resistance tires are installed on all of the axle positions of the tractor and trailer.
  - All tires must be properly inflated according to the manufacturer's specifications.
- **Retrofit Technologies:** Diesel retrofit technologies that the EPA has approved or conditionally approved, such as:
  - Diesel Particulate Filter (DPF);
  - CMX Catalyst Muffler;
  - Selective Catalytic Reduction System (SCR) System;
  - Diesel Oxidation Catalyst (DOC); and
  - Diesel Oxidation Catalyst (DOC) plus CDTi Closed Crankcase Ventilation (CCV) System.

Within each of these categories, the EPA has verified specific products and continues to evaluate and verify new products. Although the EPA has verified the fuel saving and/or emission reducing benefits of the listed products, it does not endorse the purchase of products or services from any specific vendor.

4.7.2.4 Regional Regulations: Southern California Association of Governments (SCAG)

Sustainable Communities Strategy (SCS) within Regional Transportation Plan (RTP) demonstrates the region's ability to attain and exceed the GHG emission reduction targets set by the CARB. The SCS outlines the plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The regional vision of the SCS maximizes current voluntary local efforts that support the goals of SB 375, as evidenced by several Compass Blueprint Demonstration Projects and various county transportation improvements. The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network, which emphasizes system preservation, active transportation, and transportation demand management measures.

The RTP/SCS exceeds its greenhouse gas emission-reduction targets set by the CARB by achieving a 9 percent reduction by 2020 and 16 percent reduction by 2035 compared to the 2005 level on a per capita basis. Table 4.7.C shows the assumptions regarding Moreno Valley that SCAG used in its analysis.

Table 4.7.C: SCAG Assumptions for Moreno Valley

Year	Population	Households	Employment
2008	187,400	51,100	32,300
2020	213,700	60,000	48,000
2035	255,200	72,800	64,400

Source: Southern California Association of Governments 2012 and Table 67 in MBA 2013.

The RTP also includes an appendix on the Goods Movement, which provides an overview of the regional goods movement and initiatives to facilitate it. Strategies in the RTP that include the Local Jurisdiction as a responsible party, that could be applicable to the project, and that pertain to air quality or greenhouse gases are shown in Table 4.7.D. Many of the strategies are similar to the project's mitigation measures and project design features.

Table 4.7.D: Select Regional Transportation Plan Strategies

Strategy	Responsible Party
Encourage the use of range-limited battery electric and other alternative fueled vehicles through policies and programs, such as, but not limited to, neighborhood oriented development, complete streets, and electric (and other alternative fuel) vehicle supply equipment in public parking lots.	Local Jurisdictions, COGs, SCAG, CTCs
Support projects, programs, and policies that support active and healthy community environments that encourage safe walking, bicycling, and physical activity by children, including, but not limited to development of complete streets, school siting policies, joint use agreements, and bicycle and pedestrian safety education.	Local Jurisdictions and CTCs
Engage in a strategic planning process to determine the critical components and implementation steps for identifying and addressing open space resources, including increasing and preserving park space, specifically in park-poor communities.	Local Jurisdictions and CTCs
Develop first-mile/last-mile strategies on a local level to provide an incentive for making trips by transit, bicycling, walking, or neighborhood electric vehicle or other zero emission vehicle options.	Local Jurisdictions and CTCs
Encourage transit fare discounts and local vendor product and service discounts for residents and employees of transit oriented development/high quality transit areas or for a jurisdiction's local residents in general who have fare media	Local Jurisdictions
Encourage the implementation of a Complete Streets policy that meets the needs of all users of the streets, roads and highways—including bicyclists, children, persons with disabilities, motorists, neighborhood electric vehicle (NEVs) users, movers of commercial goods, pedestrians, users of public transportation and seniors—for safe and convenient travel in a manner that is suitable to the suburban and urban contexts within the region.	Local Jurisdictions, COGs, SCAG, CTCs
Support work-based programs that encourage emission reduction strategies and incentivize active transportation commuting or ride-share modes.	SCAG, Local Jurisdictions
Develop infrastructure plans and educational programs to promote active transportation options and other alternative fueled vehicles, such as neighborhood electric vehicles, and consider collaboration with local public health departments, walking/biking coalitions, and/or Safe Routes to School initiatives, which may already have components of such educational programs in place.	Local Jurisdictions
Encourage the development of telecommuting programs by employers through review and revision of policies that may discourage alternative work options.	Local Jurisdictions and CTCs
Emphasize active transportation and alternative fueled vehicle projects as part of complying with the Complete Streets Act (AB 1358).	State, SCAG, Local Jurisdictions

SCAG = Southern California Association of Governments
CTCs = county transportation commissions
COGs = subregional councils of governments
Source: Southern California Association of Governments 2012 and Table 68, MBA 2013.

Scoping Plan. The California State Legislature adopted AB 32 in 2006 which focuses on reducing greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) to 1990 levels by the year 2020. Pursuant to the requirements in AB 32, the CARB adopted the Climate Change Scoping Plan (Scoping Plan) in 2008, which outlines actions recommended to obtain that goal. The Scoping Plan calls for an "ambitious but achievable" reduction in California's greenhouse gas emissions, cutting approximately 30 percent from BAU emission levels projected for 2020, or about 10 percent from today's levels. On a per-capita basis, that means reducing annual emissions of 14 tons of carbon dioxide for every man, woman, and child in California down to about 10 tons per person by 2020.

The Scoping Plan[1] contains the following 18 strategies to reduce the State's emissions:

1. *California Cap-and-Trade Program Linked to Western Climate Initiative.* Implement a broad-based California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.
2. *California Light-Duty Vehicle Greenhouse Gas Standards.* Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.
3. *Energy Efficiency.* Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.
4. *Renewable Portfolio Standard.* Achieve 33 percent renewable energy mix statewide. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.
5. *Low Carbon Fuel Standard.* Develop and adopt the Low Carbon Fuel Standard.
6. *Regional Transportation-Related Greenhouse Gas Targets.* Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.
7. *Vehicle Efficiency Measures.* Implement light-duty vehicle efficiency measures.
8. *Goods Movement.* Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.
9. *Million Solar Roofs Program.* Install 3,000 MW of solar-electric capacity under California's existing solar programs.
10. *Medium/Heavy-Duty Vehicles.* Adopt medium and heavy-duty vehicle efficiency measures.
11. *Industrial Emissions.* Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.
12. *High Speed Rail.* Support implementation of a high-speed rail system.
13. *Green Building Strategy.* Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.

[1] Scoping Plan Reduction Measures from California Air Resources Board 2008 and Table 69 from MBA 2013.

14. *High Global Warming Potential Gases.* Adopt measures to reduce high global warming potential gases.
15. *Recycling and Waste.* Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.
16. *Sustainable Forests.* Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.
17. *Water.* Continue efficiency programs and use cleaner energy sources to move and treat water.
18. *Agriculture.* In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.

SB 375 took effect in 2009 and required regional municipal planning organizations to develop regional land use plans that demonstrate how the regions will achieve compliance with the GHG reduction goals of AB 32. Cities located within these regions are then required, in turn, to update their General Plans in accordance with the regional plans. Non-compliance with SB 375 will result in transportation funds being withheld from the regional and/or local agency. To date, the regional municipal planning organization for Riverside County (the Western Riverside Council of Governments, or WRCOG) has not adopted a regional plan that is in compliance with SB 375.

South Coast Air Quality Management District. In April 2008, the SCAQMD, in order to provide guidance to local lead agencies on determining the significance of GHG emissions identified in CEQA documents, convened a "GHG CEQA Significance Threshold Working Group."[1] The goal of the working group is to develop and reach consensus on an acceptable CEQA significance threshold for GHG emissions that would be utilized on an interim basis until the CARB (or some other State agency) develops statewide guidance on assessing the significance of GHG emissions under CEQA.

Initially, SCAQMD staff presented the working group with a significance threshold that could be applied to various types of projects—residential, non-residential, industrial, etc. However, the threshold is still under development. In December 2008, staff presented the SCAQMD Governing Board with a significance threshold for stationary source projects in which it is the lead agency. This threshold uses a tiered approach to determine a project's significance, with 10,000 metric tons (mt) of carbon dioxide equivalent (CO_2e) as a screening numerical threshold.

In September 2010, the Working Group released additional revisions, which recommended a project-level efficiency target of 4.8 mt CO_2e per service population (SP) as a 2020 target and 3.0 mt CO_2e, per SP as a 2035 target. The recommended plan-level target for 2020 was 6.6 mt CO_2e and the plan level target for 2035 was 4.1 mt CO_2e. The SCAQMD has not announced when staff is expecting to present a finalized version of these thresholds to the Governing Board. The SCAQMD has also adopted Rules 2700, 2701, and 2702 that address GHG reductions; however, these rules are currently applicable to boilers and process heaters, forestry, and manure management projects.

4.7.2.5 City of Moreno Valley General Plan Policies

The City adopted its General Plan in 2006. The General Plan does not contain policies directly related to greenhouse gases; however, it does have some air quality[2] policies applicable to the proposed project that are related to reducing greenhouse gases, as shown below:

[1] For more information see: http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html.

[2] Policies 6.7.4 and 6.7.5 are discussed in Section 5, Air Quality Impact Analysis, Sensitive Receptors (Impact AIR-4), which is in the MBA Air Quality Report (December 2012).

Objective 6.6 Promote land use patterns that reduce daily automotive trips and reduce trip distance for work, shopping, school, and recreation.

Objective 6.7 Reduce mobile and stationary source air pollutant emissions.

Policy 6.7.1 Cooperate with regional efforts to establish and implement regional air quality strategies and tactics.

Policy 6.7.2 Encourage the financing and construction of park-and-ride facilities.

Policy 6.7.3 Encourage express transit service from Moreno Valley to the greater metropolitan areas of Riverside, San Bernardino, Orange and Los Angeles Counties.

Policy 6.7.6 Require building construction to comply with the energy conservation requirements of Title 24 of the California Administrative Code.

4.7.2.6 City of Moreno Valley Climate Action Strategy

The City of Moreno Valley approved the Energy Efficiency and Climate Action Strategy (Strategy) in October 2012. The Strategy identifies ways that the City can reduce energy and water consumption and greenhouse gas emissions as an organization (its employees and the operation of its facilities) and outlines the actions that the City can encourage and community members can employ to reduce their own energy and water consumption and greenhouse gas emissions. The Strategy contains the following policies to reduce greenhouse gas emissions in 2010 by 15 percent by 2020:

R2-T1 *Land Use Based Trips and VMT Reduction Policies.* Encourage the development of Transit Priority Projects along High Quality Transit Corridors identified in the SCAG Sustainable Communities Plan, to allow a reduction in vehicle miles traveled.

R2-T3 *Employment-Based Trip Reductions.* Require a Transportation Demand Management (TDM) program for new development to reduce automobile travel by encouraging ride-sharing, carpooling, and alternative modes of transportation.

R2-E1 *New Construction Residential Energy Efficiency Requirements.* Require energy efficient design for all new residential buildings to be 10 percent beyond the current Title 24 standards.

R2-E2 *New Construction Residential Renewable Energy.* Facilitate the use of renewable energy (such as solar [photovoltaic] panels or small wind turbines) for new residential developments. Alternative approach would be the purchase of renewable energy resources off site.

R2-E5 *New Construction Commercial Energy Efficiency Requirements.* Require energy efficient design for all new commercial buildings to be 10 percent beyond the current Title 24 standards.

R3-E1 *Energy Efficient Development, and Renewable Energy Deployment Facilitation and Streamlining.* Updating of codes and zoning requirements and guidelines to further implement green building practices. This could include incentives for energy-efficient projects.

R3-L2 *Heat Island Plan.* Develop measures that address “heat islands.” Potential measures include using strategically placed shade trees, using paving materials with a Solar Reflective Index of at least 29, an open grid pavement system, or covered parking.

R2-W1 *Water Use Reduction Initiative.* Consider adopting a per capita water use reduction goal which mandates the reduction of water use of 20 percent per capita with requirements applicable to new development and with cooperative support of the water agencies.

R3-W1 *Water Efficiency Training and Education.* Work with EMWD and local water companies to implement a public information and education program that promotes water conservation.

R2-S1 *City Diversion Program.* For solid waste, consider a target of increasing the waste diverted from the landfill to a total of 75 percent by 2020.

4.7.3 Methodology

Bearing in mind that CEQA does not require "perfection" but instead "adequacy, completeness, and a good faith effort at full disclosure," the analysis of project GHG emissions and climate change is based on methodologies and information available at the time this EIR was prepared. Estimation of GHG emissions in the future does not account for changes in technology that may reduce such emissions; therefore, the estimates are based on past performance and represent a scenario that is worse than that which is likely to be encountered. Additionally, as explained in greater detail below, many uncertainties exist regarding the precise relationship between specific levels of GHG emissions and the ultimate impact on global climate. Significant uncertainties also exist regarding the reduction potential of mitigation strategies. Thus, while information is presented below to assist the public and the City's decision-makers in understanding the project's potential contribution to global climate change impacts, the information available to the City is not sufficiently detailed to allow a direct comparison between particular project characteristics and particular climate change impacts, nor between any particular proposed mitigation measure and any reduction in climate change impacts.

The recommended approach for GHG analysis included in the OPR's June 2008 release is to: (1) identify and quantify GHG emissions, (2) assess the significance of the impact on climate change, and (3) if significant, identify alternatives and/or mitigation measures to reduce the impact below a level of significance.[1] Neither the CEQA statute nor Guidelines prescribe quantitative thresholds of significance or a particular methodology for performing an impact analysis; as with most environmental topics, significance criteria are left to the judgment and discretion of the lead agency.

The June 2008 OPR guidance provides some additional direction regarding planning documents as follows: "CEQA can be a more effective tool for GHG emissions analysis and mitigation if it is supported and supplemented by sound development policies and practices that will reduce GHG emissions on a broad planning scale and that can provide the basis for a programmatic approach to project-specific CEQA analysis and mitigation. For local government lead agencies, adoption of General Plan policies and certification of General Plan EIRs that analyze broad jurisdiction-wide impacts of GHG emissions can be part of an effective strategy for addressing cumulative impacts and for streamlining later project-specific CEQA reviews."

Pursuant to SB 97, the OPR is in the process of developing guidelines for analysis of the effects of GHG emissions. As part of this process, the OPR has asked CARB technical staff to recommend Statewide interim thresholds of significance for GHGs. The CARB released a preliminary draft staff proposal in October 2008 that included initial suggestions for significance criteria related to industrial, commercial, and residential projects.

In March 2010, *CEQA Guidelines* amendments were adopted and include the following direction regarding determination of significant impacts from GHG emissions (Section 15064.4):

> (a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

[1] State of California, 2008. Governor's Office of Planning and Research. *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review*. June 19.

(1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; or

(2) Rely on a qualitative analysis or performance based standards.

(b) A lead agency may consider the following when assessing the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

CEQA Guidelines Section 15064(b) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further, states that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

On February 3, 2011 the SCAQMD released the California Emissions Estimator Model (CalEEMod) Emissions Inventory Model. The purpose of this new model is to calculate air quality and GHG emissions more accurately from direct and indirect sources and quantify applicable air quality and GHG reductions achieved from mitigation measures. The latest version of CalEEMod was utilized to calculate GHG emissions from the following source categories: construction, area, energy, mobile, waste, and water. For a detailed description of the assumptions used to estimate the GHG emissions, refer to the Air Quality, Greenhouse Gas, and Health Risk Assessment Report.

4.7.4 Thresholds of Significance

Based on Appendix G of the *CEQA Guidelines*, climate change/greenhouse gas emissions impacts would occur if the proposed project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (i.e., exceeds the SCAQMD's 10,000 mt CO_2e emissions screening threshold of significance); and/or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Global climate change may result in significant adverse effects to the environment that will be experienced worldwide, with some specific effects observed in California. AB 32 requires statewide

GHG emissions reductions to 1990 levels by 2020. Although these statewide reductions are now mandated by law, no generally applicable GHG emission threshold has yet been established.

State CEQA Guidelines Section 15064(b) provides that "…the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further, that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting." The *State CEQA Guidelines* further indicate that even when thresholds are established, they may include "identifiable quantitative, qualitative or performance level of a particular environmental effect" (*State CEQA Guidelines*, Section 15064.7).

Some policymakers and regulators suggest that a zero emissions threshold would be appropriate when evaluating GHGs and their potential effect on climate change. Such a rule appears inconsistent with the State's approach to mitigation of climate change impacts. AB 32 does not prohibit all new GHG emissions; rather, it requires a reduction in statewide emissions to a given level. Thus, AB 32 recognizes that GHG emissions will continue to occur; increases will result from certain activities, but reductions must occur elsewhere.

Individual projects incrementally contribute toward the potential for global climate change (GCC) on a cumulative basis in concert with all other past, present, and probable future projects. While individual projects are unlikely to measurably affect GCC, each of these projects incrementally contributes toward the potential for GCC on a cumulative basis, in concert with all other past, present, and probable future projects. This analysis examines whether the project's emissions should be considered cumulatively significant.

In order to evaluate the significance of a proposed project's environmental impacts related to GHG emissions, it is necessary to identify quantitative or qualitative thresholds which, if exceeded, would constitute a finding of significance. As previously described, while project-related GHG emissions can be estimated the direct impact of such emissions on climate change and global warming cannot be determined on the basis of available science. There is no evidence at this time that the proposed project would directly affect GCC. The SCAQMD has adopted a quantitative GHG emission significance threshold to assess direct impacts from industrial projects where the SCAQMD is the lead agency. The SCAQMD and other air quality agencies agree that GHG and GCC should be assessed as a potentially significant cumulative impact rather than a project-specific impact.

Currently, there is no adopted threshold of significance for determining the cumulative significance of a project's GHG emissions on GCC. In the most recent IPCC Assessment Report (IPCC 2007b, Synthesis Report), the IPCC acknowledges that man-made warming and sea level rise would continue for centuries due to the time scales associated with climate processes and feedback even if GHG concentration were to be stabilized. The IPCC further found that both past and future man-made CO_2 emissions will continue to contribute to warming and sea level rise for more than a millennium, due to the time scales required for the removal of CO_2 from the atmosphere. Furthermore, the IPCC assessment noted that the definition of what is a dangerous man-made interference with the climate system and, consequently, the limits to be set for policy purposes are complex tasks that can only be partially based on science, as such definitions inherently involve normative judgments (IPCC 2007b – Working Group III).

4.7.5 Less than Significant Impacts

Due to the size of the project, all potential impacts related to greenhouse gas emissions are considered to be potentially significant.

4.7.6 Significant Impacts

4.7.6.1 Greenhouse Gas Emissions

Threshold	Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Future development that could occur within the proposed project site could generate GHG emissions during both construction and operation activities. The following activities are associated with the proposed project and could directly or indirectly contribute to the generation of GHG emissions:

- **Removal of Vegetation:** The net removal of vegetation for construction results in a loss of the carbon sequestration in plants. However, planting of additional vegetation would result in additional carbon sequestration and would lower the carbon footprint of the project.
- **Construction Activities:** During construction of the project, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment.
- **Gas, Electric, and Water Use:** Natural gas use results in the emissions of CH_4 (the major component of natural gas) and CO_2 from the combustion of natural gas. Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy-intensive. Preliminary estimates indicate that the total energy used to pump and treat this water exceeds 6.5 percent of the total electricity used in the State per year.[1]
- **Solid Waste Disposal:** Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and they produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. CH_4 is 25 times more potent than CO_2. However, landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.
- **Motor Vehicle Use:** Transportation associated with the proposed project would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips.

Construction Emissions. The project would emit GHGs mainly from direct sources such as removal of vegetation and combustion of fuels from worker vehicles and construction equipment, as shown in Table 4.7.E. The GHG emissions are from all phases of construction and assume a one-time change in the carbon sequestration capacity of the land. The project may also generate construction waste, which in turn, could emit greenhouse gases. These emissions are not estimated because it is unknown how much construction waste the project would generate. The California Green Building Standards require that the project divert at least 50 percent of construction waste.

Table 4.7.E: Construction Greenhouse Gas Emissions

Year	Annual Emissions (mt CO_2e)
2013	95,692
2014	37,927
2015	31,634

[1] California Energy Commission (CEC), 2004. *Water Energy Use in California* (online information sheet) Sacramento, CA, August 24. Website: energy.ca.gov/pier/iaw/industry/water.html. Accessed July 24, 2007.

Table 4.7.E: Construction Greenhouse Gas Emissions

Year	Annual Emissions (mt CO_2e)
2016	26,947
2017	94,510
2018	41,743
2019	34,665
2020	26,818
2021	26,818
Refrigerant installation	849
Land use change (conversion from crop to urban)	16,523
Total	**434,126**
Averaged over 30 years	**14,471**

mt CO_2e = metric tons of carbon dioxide equivalents.
Source: Table 61, MBA 2013, of year by year emissions: CalEEMod unmitigated output and summary prepared by Michael Brandman Associates (MBA 2013, Appendix A)
Source of refrigerant emissions: refrigerant spreadsheet prepared by Michael Brandman Associates (MBA 2013, Appendix A).
Source of land use change: CalEEMod output for area sources.

Operational Emissions, Worst-Case Scenario. Operational or long-term emissions occur over the life of the project. However, CEQA requires an analysis of project buildout superimposed over existing (baseline) conditions. Therefore, operational emissions for this worst-case buildout condition are shown in Table 4.7.F. The vehicle emissions in the table represent travel within the South Coast Air Basin; the long-haul trucks travel an average of 50 miles per trip and the local vehicles travel between 9.6 and 15.4 miles per trip. The emissions do not take into account project design features to reduce emissions, such as the use of model year 2010 and later medium and heavy-heavy duty trucks on the project site. As shown in the table, the project emissions are well over the SCAQMD's significance threshold of 10,000 mt CO_2e per year. Therefore, emissions are potentially significant.

The analysis presented in Table 4.7.F also represents a worst-case analysis because the emission factors do not take into account full reductions from regulation or reductions from newer trucks and cars.

Table 4.7.F: Project Operational GHG Emissions, Buildout over Existing (Worst-Case Analysis)

Source	Emissions Prior to Mitigation (mt CO_2e/year)
Local vehicles	85,593
Long-haul trucks	380,401
Electricity	112,888
Natural gas	1,379
Water	2,325
Waste	153,318
Refrigerants	1,412
Construction	14,471
Total	**751,787**
Significance Threshold	**10,000**
Significant Impact?	**Yes**

Table 4.7.F: Project Operational GHG Emissions, Buildout over Existing (Worst-Case Analysis)

Source	Emissions Prior to Mitigation (mt CO_2e/year)

Mt CO_2e = metric tons of carbon dioxide equivalents.
Source of construction emissions: Table 62 in MBA 2013, data from MBA Table 61 with results averaged over 30 years.
Source of operational emissions: CalEEMod for the year 2012 (Refer Section 4.3 in the MBA 2013 report for all assumptions); refrigerant emissions are from spreadsheet prepared by Michael Brandman Associates (MBA 2013, Appendix A).

Operational Emissions, Annual. Table 4.7.G shows a summary of project emissions for each year between 2014 and 2022. The emissions do not take into account the project design features or mitigation shown in Table 4.7.H. However, the emissions do take into account trucks that are model year 2010 and later. As shown in the table, the emissions are well over the SCAQMD's significance threshold of 10,000 $MTCO_2e$ per year. Therefore, emissions are potentially significant in all years.

Specific Plan Design Features. The WLCSP incorporates site and building designs that emphasize conservation of water and energy (including allowance for rooftop solar electricity generation systems), which in turn help reduce greenhouse gas emissions. Table 4.7.H evaluates to what degree various design features of the proposed project will reduce potential GHG emissions.

Mitigation Measures. Table 4.7.H evaluates to what degree the mitigation measures recommended in Section 4.3, Air Quality, of the EIR and the following measure will reduce potential GHG emissions.

4.7.6.1A The project shall implement the following requirements to reduce solid waste:

a) Prior to issuance of a building permit, the applicant shall submit a Recyclables Collection and Loading Area Plan for review and comment to the City Building and Safety Division for construction related materials prior to issuance of a grading permit and to the City Public Works Department for operational aspects of the project prior to the issuance of the occupancy permit that shall indicate how the trash and recycling enclosures would be accessed by the hauler. The plan shall conform to the Riverside County Waste Management Department's Design Guidelines for Recyclable Collection and Loading Areas.

b) Prior to issuance of certificate of occupancy, the recyclables collection and loading area shall be constructed in compliance with the Recyclables Collection and Loading Area plan.

c) Prior to issuance of certificate of occupancy, documentation shall be provided to the City confirming that recycling is available for each building.

d) Within six months after occupancy of a building, the City shall confirm that all tenants have recycling procedures set in place to recycle all items that are recyclable, including but not limited to paper, cardboard, glass, plastics, and metals.

e) The City shall advise all tenants of the availability of community recycling and composting services.

Table 4.7.G: Project Operational GHG Emissions (Year by Year without Mitigation)

Source	Emissions ($MTCO_2e$/year)								
	2014	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Vehicles	10,967	22,457	29,158	40,858	53,767	59,625	63,122	67,763	68,381
Trucks	51,111	107,099	141,204	199,737	269,134	304,600	328,592	358,109	366,971
Electricity	14,513	30,387	40,428	58,208	79,917	91,993	101,491	110,174	112,888
Natural gas	177	371	494	711	976	1,124	1,240	1,346	1,379
Water	299	626	833	1,199	1,646	1,895	2,090	2,269	2,325
Waste	19,710	41,271	54,907	79,055	108,539	124,939	137,839	149,632	153,318
Refrigerants	182	380	506	728	1,000	1,151	1,269	1,378	1,412
Construction	37,927	31,634	26,947	94,510	41,743	34,665	26,818	26,818	14,471
Sequestration	-14	-30	-40	-57	-79	-90	-100	-108	-111
Total	**134,872**	**234,195**	**294,437**	**474,949**	**556,643**	**619,902**	**662,361**	**717,381**	**721,034**
Threshold	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Significant impact?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

This table displays the main sources of emissions; emissions from landscaping, emergency generator maintenance/testing, and other potentially minor sources are omitted.
Source: Michael Brandman Associates, 2013.

Table 4.7.H: Operational Greenhouse Gas Emissions Reduction Analysis

Category	Mitigation Measure or Project Design Feature[1]	Calculation Method and Reductions
Vehicles: Local	*Project Design Feature:* Local bus service to the area is provided by the Riverside Transit Agency. Local bus routes would typically be extended into the project area when adequate demand is generated from this employment center. Future bus routes could circulate on available looped routes with adequate right-of-way along the major arterial roadways of Redlands Boulevard, Theodore Street, and Alessandro Boulevard. Likewise, the industrial collector roadways provide access to locations nearest building front entrances. Due to building scale, bus stops may be spread out by grouped entrances or centralized gateway drive areas as compared to individual business entries.	The CAPCOA report's reduction measure TRT-1 indicates a 5.2 percent reduction in commute vehicle miles traveled for low-density suburbs for inclusion of a commute trip reduction program. The trip generation rates for which the unmitigated emissions were based are not necessarily based on development with pedestrian connections. Therefore, CalEEMod includes pedestrian connections as part of its mitigation module. The following CalEEMod mitigation was estimated for the year 2022: "Implement Trip Reduction Program, 100 percent employees eligible, voluntary." "Improve Pedestrian Network, Project Site and Connecting Off-Site for a Suburban Center." For the year 2022, the percent reduction between the unmitigated and mitigated emissions estimates for local vehicles is 3.5 to 5.5 percent as estimated by CalEEMod, depending on the pollutant assessed. Therefore, for worst-case purposes, a **3 percent** reduction is taken for the project design features and mitigation from local vehicles.
	Mitigation Measure 4.3.6.4A: Class II bike lanes.	
	Mitigation Measure 4.3.6.4A: Commute trip reduction program.	
	Mitigation Measure 4.3.6.4A: Lockers for employees.	
	Mitigation Measure 4.3.6.4A: Bicycle storage and changing rooms	
	Project Design Features: The project would have pedestrian circulation (Specific Plan guideline 4.15), sidewalks, and a multiuse trail (Specific Plan guideline 3.3.1).	
	Mitigation Measure 4.3.6.4A: Safe pedestrian connections	
	Mitigation Measure 4.3.6.4A: Parking for fuel-efficient vehicles	
Long haul trucks	*Project Design Feature:* Require model year 2010 medium-heavy duty and heavy-heavy duty trucks or later.	This feature was implemented by changing the emission factors for medium-heavy duty and heavy-heavy duty trucks from the CalEEMod default to the EMFAC2011 for year 2010 and after. Note: This reduction was also applied to the emissions in Table 4.7.G.
Electricity: Title 24	*Project Design Feature:* Comply with current Title 24 energy efficiency standards or apply subsequent version.	The baseline electricity estimates were based on electricity profiles for other commercial properties in the area, including a retail distribution center. These properties are currently operational; therefore, it can be assumed that they used 2008 Title 24 standards or earlier versions. Since the buildings in the project would be as efficient as required under current standards, compliance with Title 24 electricity uses was calculated by CalEEMod.
Natural Gas: Title 24	*Project Design Feature:* Comply with current Title 24 energy efficiency standards or apply subsequent version.	This measure was applied in CalEEMod.

Table 4.7.H: Operational Greenhouse Gas Emissions Reduction Analysis

Category	Mitigation Measure or Project Design Feature[1]	Calculation Method and Reductions
Waste	*Mitigation Measure 4.7.6.1A:* Recycling and composting availability.	According to a study (CalRecycle 2006) that assessed waste diversion for non-durable wholesale distributors, of the diverted waste, 35.1 percent of paper and plastic was diverted from the waste stream. Those that recycle participated in a recycling/diversion program because they thought it was a good thing to do. The reasons for not participating in a diversion program were: no city sponsored program, recycling too expensive, the property management handles recycling and does not have a program, and the majority of waste was plastic packaging/film, for which there is no convenient program to recycle. A 35 percent reduction is taken for project design features and this mitigation measure and is estimated in CalEEMod.
	Project Design Feature: Specific Plan guideline 4.7 requires that all development within the project provide enclosures or compactors for trash and recyclable materials.	

[1] Project design features are from the Project Description, mitigation measures are shown in Section 1.0, Table 1.B.
Source: Michael Brandman Associates 2013.

Table 4.7.I: Project Operational GHG Emissions (Year by Year with Mitigation)

Source	Emissions with Mitigation and Project Design Features ($MTCO_2e$/year)								
	2014	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Vehicles	10,638	21,784	28,283	39,632	52,154	57,836	61,228	65,730	66,329
Trucks	51,111	107,099	141,204	199,737	269,134	304,600	328,592	358,109	366,971
Electricity	14,513	30,387	40,428	58,208	79,917	91,993	101,491	110,174	112,888
Natural gas	177	371	494	711	976	1,124	1,240	1,346	1,379
Water	299	626	833	1,199	1,646	1,895	2,090	2,269	2,325
Waste	12,812	26,826	35,690	51,385	70,550	81,211	89,595	97,261	99,657
Refrigerants	182	380	506	728	1,000	1,151	1,269	1,378	1,412
Construction	37,927	31,634	26,947	94,510	41,743	34,665	26,818	26,818	14,471
Sequestration	-14	-30	-40	-57	-79	-90	-100	-108	-111
Total	**127,645**	**219,077**	**274,345**	**446,053**	**517,041**	**574,385**	**612,223**	**662,977**	**665,321**
Threshold	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Significant?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Reduction summary: local vehicles = 3 percent; waste = 35 percent
Source: Michael Brandman Associates 2013.

f) Existing on-site street material shall be recycled for new project streets to the extent feasible.

Level of Impact After Mitigation. Table 4.7.I shows the GHG emissions after implementation of the air quality mitigation (primarily **Mitigation Measures 4.3.6.4A** and **4.7.6.1A**). The table indicates that, even with implementation of all feasible mitigation, project-related GHG emissions will still exceed SCAQMD thresholds by a wide margin. Therefore, impacts related to greenhouse gas emissions and climate change will be significant and unavoidable.

4.7.6.2 Greenhouse Gas Plan, Policy, Regulation Consistency

Threshold	Would the proposed project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Table 4.7.J evaluates the consistency of the proposed project with the various Federal and State energy conservation and other regulations related to GHG emissions.

Table4.7.J : Project Compliance with Federal/State Greenhouse Gas Reduction Strategies

Strategy	Project Compliance
Mandatory Codes	
California Green Building Code. The Cal Green Code prescribes a wide array of measures that would directly and indirectly result in reduction of GHG emissions from the Business as Usual Scenario (California Building Code). The mandatory measures that are applicable to nonresidential projects include site selection, energy efficiency, water efficiency, materials conservation and resource efficiency, and environmental quality measures.	**Compliant.** The project will be required to adhere to the non-residential mandatory measures as required by the Cal Green Code.
Energy Efficiency Measures	
Energy Efficiency. Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities).	**Compliant with Mitigation Incorporated.** The proposed project will comply with current California Building Code (CBC) requirements for building construction, including the 2010 Title 24 energy conservation standards, which will help reduce GHG emissions. In addition, the project will include various energy-efficient building design features to help further reduce GHG emissions.
Renewables Portfolio Standard. Achieve a 33 percent renewable energy mix statewide.	**Not applicable.** The project is not part of the State's power generation grid, but will encourage installation of solar photovoltaic panels on project roofs (i.e., WLCSP will provide "solar ready" buildings).
Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	**Compliant.** The proposed project will comply with current CBC requirements for building construction, including the 2010 Title 24 energy conservation standards.

Table4.7.J : Project Compliance with Federal/State Greenhouse Gas Reduction Strategies

Strategy	Project Compliance
Water Conservation and Efficiency Measures	
Water Use Efficiency. Continue efficiency programs and use cleaner energy sources to move and treat water. Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions.	**Compliant with Mitigation Incorporated.** The Specific Plan outlines a number of water conservation measures, and Mitigation Measures 4.16.6.1A through 4.16.6.1C will help reduce potential water use even further.
Solid Waste Reduction Measures	
Increase Waste Diversion, Composting, and Commercial Recycling, and Move Toward Zero-Waste. Increase waste diversion from landfills beyond the 50 percent mandate to provide for additional recovery of recyclable materials. Composting and commercial recycling could have substantial GHG reduction benefits. In the long term, zero-waste policies that would require manufacturers to design products to be fully recyclable may be necessary.	**Compliant with Mitigation Incorporated.** Data available from the California Integrated Waste Management Board (CIWMB) indicate that the City of Moreno Valley has not achieved the 50 percent diversion rate. The project will comply with Mitigation Measure 4.7.6.1A to help increase solid waste diversion, composting, and recycling.
Transportation and Motor Vehicle Measures	
Vehicle Climate Change Standards. AB 1493 (Pavley) required the State to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles and light-duty trucks. Regulations were adopted by the CARB in September 2004.	**Compliant.** The project does not involve the manufacture of vehicles. However, vehicles that are purchased and used within the project site would comply with any vehicle and fuel standards that the CARB adopts.
Light-Duty Vehicle Efficiency Measures. Implement additional measures that could reduce light-duty vehicle GHG emissions. For example, measures to ensure that tires are properly inflated can both reduce GHG emissions and improve fuel efficiency.	
Adopt Heavy- and Medium-Duty Fuel and Engine Efficiency Measures. Regulations to require retrofits to improve the fuel efficiency of heavy-duty trucks that could include devices that reduce aerodynamic drag and rolling resistance. This measure could also include hybridization of and increased engine efficiency of vehicles.	
Low Carbon Fuel Standard. The CARB identified this measure as a Discrete Early Action Measure. This measure would reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.	
Regional Transportation-Related Greenhouse Gas Targets. Develop regional GHG emissions reduction targets for passenger vehicles. Local governments will play a significant role in the regional planning process to reach passenger vehicle GHG emissions reduction targets. Local governments have the ability to directly influence both the siting and design of new residential and commercial developments in a way that reduces GHGs associated with vehicle travel.	**Compliant.** Specific regional emission targets for transportation emissions do not directly apply to this project; regional GHG reduction target development is outside the scope of this project. The project will comply with any plans developed by the City.

Table4.7.J : Project Compliance with Federal/State Greenhouse Gas Reduction Strategies

Strategy	Project Compliance
Measures to Reduce High Global Warming Potential (GWP) Gases. The CARB has identified Discrete Early Action measures to reduce GHG emissions from the refrigerants used in car air conditioners, semiconductor manufacturing, and consumer products. The CARB has also identified potential reduction opportunities for future commercial and industrial refrigeration, changing the refrigerants used in auto air conditioning systems, and ensuring that existing car air conditioning systems do not leak.	**Compliant.** New products used or serviced on the project site (after implementation of the reduction of GHG gases) would comply with future CARB rules and regulations.

AB = Assembly Bill CARB = California Air Resources Board GHG = greenhouse gas
Source: based on analysis in MBA 2013.

With implementation of these strategies/measures, the project's contribution to cumulative GHG emissions would be reduced. In order to ensure that the proposed project complies with and would not conflict with or impede the implementation of reduction goals identified in AB 32, the Governor's EO S-3-05, and other strategies to help reduce GHGs to the level proposed by the Governor, **Mitigation Measures 4.3.6.4A** and **4.7.6.1A** shall be implemented. Many of the individual elements of this measure are already included as part of the proposed project within the Specific Plan or are required as part of project-specific mitigation measures.

CARB Scoping Plan. The CARB Scoping Plan contains a variety of strategies to reduce the State's emissions. The project will comply with existing State and Federal regulations regarding the energy efficiency of buildings, appliances, and lighting. The warehouse buildings will be built in compliance with the 2010 CBC to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices. In addition, the Specific Plan states the project will exceed the energy conservation standards of the 2010 CBC by 10 percent. As shown in Table 4.7.K, the strategies are either consistent with or not applicable to the project; therefore, the project does not conflict with the Scoping Plan.

Table 4.7.K: Analysis of Scoping Plan Reduction Measures

Scoping Plan Reduction Measure	Consistency Analysis
1. *California Cap-and-Trade Program Linked to Western Climate Initiative.* Implement a broad-based California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.	**Not Applicable.** This cap-and-trade system covers products or services (such as electricity) and the cost of the cap-and-trade system would be transferred to the consumers. Large industrial uses are the most likely source of participants for this program, and it is not likely individual logistics warehousing will be an active participant in this program.
2. *California Light-Duty Vehicle Greenhouse Gas Standards.* Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	**Not Applicable.** This is a statewide measure that cannot be implemented by an individual project applicant or lead agency. When this measure is initiated, the standards would be applicable to the light-duty vehicles that would access the project site.

Table 4.7.K: Analysis of Scoping Plan Reduction Measures

Scoping Plan Reduction Measure	Consistency Analysis
3. *Energy Efficiency.* Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	**Applicable.** This is a measure for the state to increase its energy efficiency standards. However, the project will increase its energy efficiency through existing regulation and project design by implementing current Title 24 energy standards and green building characteristics.
4. *Renewable Portfolio Standard.* Achieve 33 percent renewable energy mix statewide. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.	**Partially Applicable.** This is a measure applicable to the utility provider for the project. However, the project would provide on-site solar as a project design feature.
5. *Low Carbon Fuel Standard.* Develop and adopt the Low Carbon Fuel Standard.	**Applicable.** This is a statewide measure that cannot be implemented by an individual project applicant or lead agency. However, when this measure is initiated, the standard would be applicable to the fuel used by vehicles that would access the project site.
6. *Regional Transportation-Related Greenhouse Gas Targets.* Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.	**Applicable.** The project is not directly related to developing greenhouse gas emission reduction targets. However, this project will improve the jobs/ housing ratio for the City and thereby help reduce commuter-related emissions. For a discussion of the Regional Transportation Plan and the Sustainable Communities Strategy, refer to the Air Quality, Greenhouse Gas, and Health Risk Assessment Report in the appendix.
7. *Vehicle Efficiency Measures.* Implement light-duty vehicle efficiency measures.	**Applicable.** When this measure is initiated, the standards would be applicable to the light-duty vehicles that would access the project site.
8. *Goods Movement.* Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	**Not Applicable.** The project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation. However, the project is related to goods movement and provides logistics warehousing away from port areas.
9. Million Solar Roofs Program. Install 3,000 MW of solar-electric capacity under California's existing solar programs.	**Applicable.** This measure is to increase solar throughout California, which is being done by various electricity providers and existing solar programs. Although this project will not participate in this particular program, it will allow for future implement of on-site solar. The buildings in the development will be constructed to be solar ready. Therefore, solar can be installed at a later date if found to be feasible at that time.
10. Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	**Applicable.** This is a statewide measure that cannot be implemented by an individual project applicant or lead agency. However, when this measure is initiated, the standards would be applicable to the vehicles that access the project site.

Table 4.7.K: Analysis of Scoping Plan Reduction Measures

Scoping Plan Reduction Measure	Consistency Analysis
11. *Industrial Emissions.* Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	**Not Applicable.** This measure would apply to the direct greenhouse gas emissions at major industrial facilities emitting more than 0.5 mmt CO_2e (500,000 mt CO_2e) per year. Although the project could emit more than 500,000 mt CO_2e per year, the project is not considered a single facility but would consist of multiple warehouse buildings. The project is a "project" under CEQA but not one facility, which is why a programmatic EIR is being prepared. This measure would be applicable to power plants, refineries, cement plants, and other related sources. In addition, most emissions from the project are indirect since the majority of the emissions are from trucks and motor vehicles.
12. High Speed Rail. Support implementation of a high-speed rail system.	**Not Applicable.** This is a statewide measure that cannot be implemented by a project applicant or lead agency.
13. Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	**Applicable.** The State now requires development to use various green building practices. The project will implement green building strategies through existing regulation and mitigation measures.
14. High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	**Applicable.** When this measure is initiated, it would be applicable to the high global warming potential gases that would be used by the project (such as in air conditioning).
15. Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	**Not Applicable.** The project would not contain a landfill. The State wishes to help increase waste diversion, and the project would reduce waste with implementation of mitigation.
16. *Sustainable Forests.* Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	**Not Applicable.** No forested lands exist on site.
17. *Water.* Continue efficiency programs and use cleaner energy sources to move and treat water.	**Not Applicable.** This is a measure for State and local agencies. However, the project would reduce water through project design (i.e., implementation of the Specific Plan) and Mitigation Measures 4.16.6.1A through 4.16.6.1C.
18. *Agriculture.* In the near term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.	**Not Applicable.** No grazing, feedlot, or other agricultural activities that generate manure occur on site or are proposed to be implemented by the project.

Sources: California Air Resources Board 2008, Table 69 from Michael Brandman Associates 2013.

City General Plan Policies. The project must also be evaluated against the City's General Plan policies that relate to greenhouse gas emissions, as shown in Table 4.7.L. This analysis shows that the project is consistent with the applicable General Plan objectives and policies, or the particular objective or policy is not applicable to the proposed WLC project, with the exception of Objective 6.7.

Table 4.7.L: Consistency with City General Plan Air Quality Policies

Objective or Policy	Project Consistency
Objective 6.6. Promote land use patterns that reduce daily automotive trips and reduce trip distance for work, shopping, school, and recreation.	**Consistent.** The project is providing employment opportunities to Moreno Valley and the surrounding area.
Policy 6.6.1. Provide sites for new neighborhood commercial facilities within close proximity to the residential areas they serve.	**Not Applicable.** The project does not propose the development of neighborhood commercial facilities or residential dwellings.
Policy 6.6.2. Provide multifamily residential development sites in close proximity to neighborhood commercial centers in order to encourage pedestrian instead of vehicular travel.	**Not Applicable.** The project is industrial and does not propose the development of residential uses.
Policy 6.6.3. Locate neighborhood parks in close proximity to the appropriate concentration of residents in order to encourage pedestrian and bicycle travel to local recreation areas.	**Not Applicable.** The project is industrial and does not propose the development of residential uses.
Objective 6.7. Reduce mobile and stationary source air pollutant emissions.	**Not Consistent.** As shown in the air quality and greenhouse gas analyses, the project would result in significant air pollutant and greenhouse gas emissions.
Policy 6.7.1. Cooperate with regional efforts to establish and implement regional air quality strategies and tactics.	**Not Applicable.** This measure is beyond the scope of the project; the City will continue to work with the SCAQMD in regional planning efforts.
Policy 6.7.2. Encourage the financing and construction of park-and-ride facilities.	**Not Applicable.** The project consists of industrial uses; a park and ride on the project would not be feasible.
Policy 6.7.3. Encourage express transit service from Moreno Valley to the greater metropolitan areas of Riverside, San Bernardino, Orange and Los Angeles Counties.	**Not Applicable.** No express mass transit facilities are designated on the project site or planned on the project site; therefore, this measure is beyond the scope of the project.
Policy 6.7.6. Require building construction to comply with the energy conservation requirements of Title 24 of the California Administrative Code.	**Consistent.** The project will comply with Title 24 requirements.

Policies 6.7.4 and 6.7.5 are discussed in Section 5, Air Quality Impact Analysis, Sensitive Receptors (Impact AIR-4).
Source of objective and policy: Moreno Valley General Plan (2006).
Source of project consistency: Michael Brandman Associates 2013.

City Climate Action Strategy. Finally, Table 4.7.M evaluates the consistency of the proposed project with the policies of the City's Climate Action Strategy approved in October 2012. As shown below and in Appendix D of the Air Quality, Greenhouse Gas, and Health Risk Assessment, the project is consistent with the requirements of the Strategy for non-residential development with implementation of project design features and Mitigation Measures 4.3.6.4A and 4.7.6.1A (with the exception of Strategy R2-E5, which requires a 10 percent reduction in energy use over Title 24 requirements for commercial buildings).

Table 4.7.M: Consistency with City Climate Action Strategy

Strategy Items	Project Consistency
R2-T1: Land Use Based Trips and VMT Reduction Policies. Encourage the development of Transit Priority Projects along High Quality Transit Corridors identified in the SCAG Sustainable Communities Plan, to allow a reduction in vehicle miles traveled.	**Consistent** with implementation of Mitigation Measure 4.3.6.4A (MBA Measure AQ-7).

Table 4.7.M: Consistency with City Climate Action Strategy

Strategy Items	Project Consistency
R2-T3: Employment-Based Trip Reductions. Require a Transportation Demand Management (TDM) program for new development to reduce automobile travel by encouraging ride-sharing, carpooling, and alternative modes of transportation.	**Consistent** with implementation of Mitigation Measure 4.3.6.4A (MBA Measure AQ-7).
R2-E1: New Construction Residential Energy Efficiency Requirements. Require energy efficient design for all new residential buildings to be 10 percent beyond the current Title 24 standards.	**Not Applicable.** This measure applies to residential projects.
R2-E2: New Construction Residential Renewable Energy. Facilitate the use of renewable energy (such as solar (photovoltaic) panels or small wind turbines) for new residential developments. Alternative approach would be the purchase of renewable energy resources offsite.	**Not Applicable.** This measure applies to residential projects.
R2-E5: New Construction Commercial Energy Efficiency Requirements. Require energy efficient design for all new commercial buildings to be 10% beyond the current Title 24 standards.	**Not Consistent** Although this measure applies to commercial buildings, the project will comply with current applicable Title 24 energy standards but will not comply with the indicated 10 percent reduction beyond Title 24..
R3-E1: Energy Efficient Development, and Renewable Energy Deployment Facilitation and Streamlining. Updating of codes and zoning requirements and guidelines to further implement green building practices. This could include incentives for energy efficient projects.	**Not Applicable.** This refers to updating building and zoning codes and does not apply to this warehousing development plan.
R3-L2: Heat Island Plan. Develop measures that address "heat islands." Potential measures include using strategically placed shade trees, using paving materials with a Solar Reflective Index of at least 29, an open grid pavement system, or covered parking.	**Consistent.** The Specific Plan indicates that vehicle parking areas are to be landscaped to provide a shade canopy (50 percent coverage at maturity).
R2-W1: Water Use Reduction Initiative. Consider adopting a per capita water use reduction goal which mandates the reduction of water use of 20 percent per capita with requirements applicable to new development and with cooperative support of the water agencies.	**Consistent.** California Green Building Standards Code, Chapter 5, Division 5.3, Section 5.303.2 requires that indoor water use be reduced by 20 percent. Section 5.304.3 requires irrigation controllers and sensors. The Specific Plan also contains a variety of water conservation features.
R3-W1: Water Efficiency Training and Education. Work with EMWD and local water companies to implement a public information and education program that promotes water conservation.	**Consistent.** Tenants and owners within the WLCSP will provide water conservation information from EMWD and other sources to workers on a regular basis.
R2-S1: City Diversion Program. For Solid Waste, consider a target of increasing the waste diverted from the landfill to a total of 75 percent by 2020.	**Not Applicable.** However, the project would incorporate standard City waste reduction features and Mitigation Measure 4.7.6.1A (MBA Measure AQ-8).
C11: Require that developer recycle existing street material for use as base for new streets.	**Consistent.** Project will implement Mitigation Measure 4.7.6.1A where feasible.

Specific Plan Design Features. The WLCSP contains a sustainability section that emphasizes water and energy conservation throughout the project design, which in turn will help reduce GHG emissions.

Mitigation Measures. Implementation of previously referenced **Mitigation Measures 4.3.6.3B, 4.3.6.4A,** and **4.3.6.4B** will help reduce project-related GHG emissions and therefore make it more consistent with GHG reduction plans, policies or regulations.

Level of Significance After Mitigation. As previously identified, implementation of the proposed project could result in the development an approximately 41.6 million square foot high cube-logistics warehouse distribution warehousing. The proposed project includes a variety of physical attributes and operational programs that would help reduce operational-source pollutant emissions from worker commuting, including GHG emissions. As identified in Section 4.7.6.1, future development that would occur under the proposed project would be consistent with greenhouse gas emission reduction strategies and policies, including the City's Climate Change Strategy. The project would implement **Mitigation Measures 4.3.6.4A** and **4.3.6.4B** to ensure it does not conflict with or impede implementation of reduction goals identified in AB 32, Governor's Executive Order S-3-05, and other strategies to help reduce GHGs to the level proposed by the Governor. In addition, the project would also be subject to all applicable regulatory requirements, which would also reduce the GHG emissions of the project. Therefore, the proposed project would not conflict with any applicable plan, program, policy, or regulation related to the reduction of GHG emissions. Impacts are considered less than significant.

Similar to the discussion of cumulative air quality impacts, the project may employ workers locally from the City. This has the benefit of improving the local jobs/housing balance leading to air quality benefits in terms of shorter trip lengths, which lead to lower emissions than if the workforce was derived from distant locations.

This analysis has concluded that the project's contributions to climate change are significant and unavoidable. Given (i) the global nature of climate change; (ii) uncertainty still remains regarding the extent to which anthropogenic sources are the true causes of any increase in the earth's temperatures; and (iii) the lack of emissions controls being imposed by the world's most rapidly developing nations, even if there is a causal relationship between anthropogenic emissions and an increase in the world's temperature, it is possible to argue that an individual project's cumulative contribution to climate change is not foreseeable and is not cumulatively considerable.

For example, according to a forecast by the California Air Resources Board, if no actions are taken to reduce greenhouse gas emissions, California emissions would be approximately 506 mmt CO_2e by the year 2020, up from approximately 427 mmt CO_2e in 1990. Consequently, if the state is successful in reducing emissions to 1990 level by 2020 (as required by AB 32), emissions will be reduced by approximately 79 mmt CO_2e, compared to what they would be under a "business as usual" scenario.

The project would be bringing cargo containers from the Port of Los Angeles or the Port of Long Beach. The cargo containers likely originate in another country. The transportation of those goods from another country (such as China) to the ports is not included in this analysis because the emissions are speculative at this time. The emissions that occur in other countries and in international waters are not under the jurisdiction of this project or the United States. It is speculative to determine if the project has any influence over the quantity of cargo containers brought to the United States; that is more likely a result of consumer choice or other factors.

4.7.7 Cumulative Impacts

Given the findings of AB 32, of SB 97, and the requirements of CEQA, the Lead Agency must determine whether a project will or will not have a cumulatively considerable contribution to greenhouse gas emissions and global climate change. Due to the lack of guidance for determining the significance of cumulative impacts to climate change from projects, and out of an overabundance

of caution, the project has been evaluated to determine whether emissions of greenhouse gases have been minimized to the extent feasible with current technology and measures.

While it is not possible for any one development project to have a significant impact on global warming or climate change, the proposed project will contribute to cumulative GHG emissions in California. Cumulatively, the buildout of the proposed project would contribute approximately from 115,257 metric tons of CO_2e per year in 2014 up to 568,944 mt CO_2e per year in 2022 (with mitigation), which is 0.02 percent of California's total emissions of 547 mmt of CO_2e in 2009 for the entire State. The minimization measure discussed above will likely reduce the project's emissions of GHGs; however, due to the size of the project, it is likely that its GHG emissions will be cumulatively considerable within the meaning of *CEQA Guidelines* Sections 15065(a)(3) and 15130. The CARB is currently in the process of designing regulations to monitor, limit, and ultimately reduce California GHG emissions, but there are as yet no adopted numerical or quantifiable standards for assessing the significance of cumulative impacts from projects.

Cumulatively, the emissions from electricity production would comprise approximately 3.4 percent of the project's total CO_2e emissions. Water usage and solid waste disposal emissions comprise approximately 18 percent of the project's total CO_2e emissions while the emissions from vehicle exhaust would comprise approximately 77 percent of the project's total CO_2e emissions. The emissions from vehicle exhaust are controlled by the State and Federal governments and are outside the control of the City. The remaining CO_2e emissions are primarily associated with building systems. The proposed project is required to comply with existing State and Federal regulations regarding the energy efficiency of buildings, appliances, and lighting, which would reduce the project's electricity demand. The new buildings constructed in accordance with current energy efficiency standards would be more energy-efficient than older buildings.

With implementation of the strategies and programs described previously, the project is consistent with the strategies to reduce California's emissions to the levels proposed in Executive Order S-3-05. However, given the uncertainty of data and appropriate methodology to analyze accurately, and the inability to quantify the reduction achieved through implementation of strategies and programs previously identified, the proposed project's GHG emissions would result in a cumulative impact regarding global climate change, and the cumulative impacts of the proposed project on global climate change are considered to be significant and unavoidable.

4.8 HAZARDS AND HAZARDOUS MATERIALS

This section describes and analyzes the potential impact to human health and the environment due to the exposure to hazardous materials or conditions that could be encountered as a result of the construction activities within the WLC project area and also the operational activities of the project. Potential effects include those associated with the routine transport, use, or disposal of hazardous materials; reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; safety hazards associated with the project's existing agricultural use, impairment/interference with adopted emergency response plans or emergency evacuation plans, and exposure of people or structures to risks involving wildland fires.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements, which affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

The evaluation was based on review of available information included with the application, review of previous Phase I Environmental Site Assessments for the WLC project area, and review of other published materials. This section is based in part on the following reports, which are included as Appendix I of this EIR:

- *Phase I Environmental Site Assessment Reports,* World Logistic Center Specific Plan WLC project area - approximately 3,820 acres in the WLC planning area, south of State Route 60 (SR-60) between Redlands Boulevard and Gilman Springs Road, extending to the southerly City Limit, LOR Geotechnical Group, Inc., 18 reports for various locations within the WLC project area prepared between June 10, 2003–May 28, 2008, plus one comprehensive Phase 1 as recent as January 2013.

4.8.1 Existing Setting

4.8.1.1 Project Site History

The project area is approximately 3,814 acres and is located in Rancho Belago, the eastern portion of the City of Moreno Valley, in northwestern Riverside County. The area is bounded by State Route 60 (SR-60) to the north, Gilman Springs Road to the east, Redlands Boulevard to the west, and the City boundary to the south.

Within the project area, 2,710 acres will be covered by the World Logistics Center Specific Plan, which is planned to be developed with up to 41.6 million square feet of modern logistics facilities. The remainder of the project area, approximately 1,104 acres is owned by the State and by existing utility facilities. This area will be designated as permanent open space and will allow the continued operation of the utility facilities.

The majority of the project area is vacant undeveloped land. There are seven existing single-family homes with associated ranch/farm buildings located throughout the project area. The project area has been historically used for dry-farming and livestock grazing, and portions of it are currently being dry farmed. There are currently no flood control facilities that are owned, operated, or maintained by the Riverside County Flood Control and Water Conservation District (RCFCWCD). Over the years, 18 separate Phase I Environmental Site Assessments (ESAs) have been conducted covering a large majority of the property (Table 4.8.A).

Table 4.8.A: Project-Related Phase 1 Hazmat Reports

Location	Date	Conclusion and Follow Up Action
Group A Properties consisting of 352 acres located between Redlands Boulevard and Gilman Hot Springs Road to the east and west and Eucalyptus and Davis Roads to the north and south.	6/10/03	*No Further Action:* No recognized environmental conditions associated with the site.
Colville Property, 17.8 acres (2 parcels, APNs 478-240-006 and 007) located on the southwest corner of Alessandro Boulevard and Theodore Street.	2/23/04	*No Further Action:* No recognized environmental conditions associated with the site.
13241 Theodore Street.	2/11/05	Clean up of one empty 55-gallon metal drum and trash and debris for disposal in a Class III municipal landfill; no further remedial action necessary.
Kerr Stock Farm Properties: 12600 and 12560 Sinclair Street; 4 parcels, 120± acres, located southeast of Redlands Boulevard and SR-60; *Triana Property*, 12540 Sinclair Street (APN: 477-090-001), southeast of Redlands Boulevard and SR-60; *Smith Property*, 0.88-acre property at 12550 Sinclair Street (APN 477-090-013).	5/5/03	Several 55-gallon and smaller containers of paint, both latex and oil base containers, and waste oil found; containers and stained soil are to be removed and properly disposed of. Dumped green waste and household trash and debris to be removed; two aboveground fuel tanks to be removed. Based on the age of structures, an asbestos and lead-based paint survey should be conducted prior to demolition. No further remedial action necessary upon removal of above-noted items.
Sanindon Property, 19± acres (APNs 477-090-004 and 006) located southeast of Sinclair Street and SR-60.	9/10/03	*No Further Action:* No recognized environmental conditions associated with the site.
APNs 478-240-011, 017, 026, 027, and 030, 46.5+-acre vacant property, located on the southeast corner of Brodiaea Avenue and Sinclair Street.	4/30/04	*No Further Action:* No recognized environmental conditions associated with the site.

Table 4.8.A: Project-Related Phase 1 Hazmat Reports

Location	Date	Conclusion and Follow Up Action
Chehade Property, 2 parcels (APNs 478-240-24 and 29) 18.75 acres, southwest of Alessandro Boulevard and Theodore Street.	12/29/04	Removal of one 55-gallon waste oil drum. Surface-stained surrounding soil to be removed and properly disposed of. No further remediation necessary.
APNs 478-240-019, 025, and 028.	4/11/05	Significant illegal dumping of trash and debris, but all appears suitable for disposal in a Class Ill municipal landfill; ten tires present, additional disposal fees may be incurred; metal 5-gallon bucket about half full with racing fuel, located in the southeast portion of Parcel 028 west of the east boundary and southeast of the old borrow pit quarry area; bucket should be lawfully transported off site and properly disposed of or recycled. No further remedial action required.
Mabon Property (APN 477-080-042) 8.8+ acres.	2/28/05	*No Further Action:* No recognized environmental conditions associated with the site.
APNs 477-090-008 through 012 and 477-100-011 through 014, 69.5± acres.	11/30/04	Trash and debris present appeared suitable for disposal in a Class III municipal landfill, but forty tires, including some large-sized tires, may require special disposal fees. A black 5-gallon bucket, approximately one-third full of waste oil, observed at north end of the drainage channel. Very minor oil-stained soil and organic debris was noted. The oil stained soil is insignificant in extent and is of no environmental concern, the 5-gallon bucket of waste oil should be properly disposed of or recycled. No further remedial action required.
APN 477-090-007, northeast corner of Sinclair Street and Fir Avenue.	4/25/07	*No Further Action:* No recognized environmental conditions associated with the site.
APNs 477-080-027, 028, 029, and 030, 36.7+ acres of vacant land, southeast corner of Ironwood Avenue and Sinclair Street.	3/24/05	*No Further Action:* No recognized environmental conditions associated with the site.
APNs 478-240-005 and 008.	3/1/06	Illegal dumping of trash and debris, especially on the south end near the boundary. All of the trash and debris observed appear to be suitable for disposal in a Class Ill municipal landfill. No further remedial action required.
Himada Property, 30050 Dracaea Avenue, (APN 422-070-033)	7/9/07	Significant amounts of trash and debris are present and appear suitable for disposal in a Class Ill municipal landfill. No drums, barrels, or other containers were observed; one partially crushed vehicle battery and minor oil-stained soils were observed, battery should be properly transported off site for recycling or disposal. The minor oil stained soils is a *de minimis* condition and should be mitigated as a result of normal grading activities. No further remedial action required.

Table 4.8.A: Project-Related Phase 1 Hazmat Reports

Location	Date	Conclusion and Follow Up Action
Sunnymead Poultry Group "C" Properties consisting of 421 acres east of Theodore Street and north of Alessandro Boulevard.	5/5/03	A former chicken ranch made up 75 acres and the remainder was dry-farmed. Former underground storage tanks (USTs) converted to aboveground storage tanks (ASTs) were present at the chicken ranch, which was undergoing demolition. Soil samples collected during and after demolition activities confirmed the removal of hydrocarbon-affected soil. Soil samples collected from beneath the location of the two former USTs at 6, 8, and 10 feet deep had no reported concentrations of petroleum hydrocarbons. Pesticide sampling (42 samples) indicated all results below residential limits. No further action.

Source: Phase 1 Environmental Site Assessment Reports (various), LOR Geotechnical.

Historic land uses noted for the WLC project area included tree farms (olives/citrus), rural residential uses, a horse ranch, minor auto repair related to residential users, two dairies, and a chicken ranch. However, the tree orchards were not sustained and the horse, dairy, and chicken ranches ceased operating several years ago as well. Present land use is limited to dry farming, undeveloped vacant land, and seven residential structures. In 1992, the City approved a master-planned, mixed-use community called "Moreno Highlands" on most of the project site but no uses within this community were ever built.

Dry-land farming does not typically apply pesticides or other agricultural chemicals. The ESAs did not find significant residual pesticides within the project area. Soil sampling conducted within limited site characterizations revealed trace concentrations of pesticides present in the near-surface soils at some of the sampling locations. However, the sample results showed concentrations of pesticides to be below the Environmental Protection Agency's (EPA's) Preliminary Remediation Goals for residential properties, which indicated that no further sampling was necessary and unrestricted use of the property was allowed.

The Phase I ESAs noted some illegal dumping of trash and debris, including paints, tires and trash, which has occurred on and around the project area. Most of the trash and debris observed appeared to be suitable for disposal in a Class Ill municipal landfill. Prior to development, all containers of hazardous materials and waste will need to be lawfully transported off site for disposal or recycling by a licensed hazardous waste transporter.

Former aboveground and belowground fuel storage tanks associated with the former chicken ranch were removed. Hydrocarbon-affected soil associated with the aboveground storage tanks (ASTs) and other chicken ranch operations were removed during demolition activities at the site. During the demolition activities, hazardous waste in 55-gallon drums and smaller, and hydrocarbon-affected soil were removed and transported off site by a licensed hazardous waste hauler for proper disposal.

Given that some of the residential and rural farming-related structures date back to the 1930s and 1940s, it is likely that some of them contain asbestos and lead-based paint. Therefore, it is recommended that the demolition of the structures at the site be performed in accordance with all applicable regulations for the handling of such materials.

The Phase I ESAs revealed no evidence of recognized environmental conditions indicative of releases or threatened releases of hazardous substances on, at, in, or to the WLC project area. A recognized environmental condition is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a

past release, or a material threat of a release of any hazardous substance or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

Several natural gas pipelines (16-inch to 36-inch diameter) cross the site (see also Section 4.16, *Utilities and Service Systems*). At present, the San Diego Gas and Electric Company (SDG&E) company and the Southern California Gas Company (SCGC) maintain these natural gas pipelines under medium and high pressure across the central and southern portions of the site. None of the rural residences on site is located adjacent to any of these existing regional gas lines.

4.8.1.2 Surrounding Area

Major access to the project area is from State Route 60, Redlands Boulevard, Alessandro Boulevard, Gilman Springs Road, and Theodore Street. Redlands Boulevard, Theodore Street, and Gilman Springs Road are north-south roadways that intersect with SR-60.

There is little development adjacent to the eastern and southern boundaries of the project area. The area to the east of the project area is commonly referred to as the Badlands, a rugged area that separates the City of Moreno Valley from San Timoteo Canyon and the City of Beaumont. Due to its steep slopes and canyons, the Badlands area has experienced little development; however, there are approximately ten single-family homes in the area east of Gillman Springs Road adjacent to the project site. The Badlands Sanitary Landfill, operated by the County of Riverside Waste Management Department, is located approximately 1.5 miles northeast of the WLC project area. The area south of the project area is known as the San Jacinto Wildlife Area (SJWA), which includes an "Upland Game Hunting Area". The SJWA is owned and operated by the California Department of Fish and Wildlife (CDFW) and contains approximately 20,000 acres of restored wetlands and ponds. Hunting is allowed, with the proper state hunting license. Depending on the time of year, hunting in this area includes jackrabbits, rabbits, waterfowl as well as pheasants, chukar, and quail. The SJWA is accessed from Davis Road, off of Ramona Expressway. In addition to the hunting allowed at the SJWA, there are private hunting clubs that abut the SJWA, including the Mystic Lake Duck Club and the Four Winds Pheasant Club.

The Lake Perris State Recreation Area is immediately southwest of the project site and is owned and operated by the California State Parks Department. It contains approximately 6,000 acres of open space land, which is used both for recreation and preservation of the natural southern California landscape.

A large logistics facility (1.8 million-square foot Skechers facility) is located northwest of the project area. Other developed properties include residential neighborhoods along Redlands Boulevard along the western boundary of the project area. An area of the City known as Old Moreno is adjacent to the southwest portion of the project site (at the intersection of Redlands Boulevard and Alessandro Boulevard). The homes along Merwin Street and Bay Street and east of Redlands Boulevard are the closest sensitive receptors to the project site.

There are two future commercial sites located immediately north of the project area. One is located at the northwest corner of Theodore Street and Eucalyptus Avenue (approved for 80,000 square feet), and the other is at the northeast corner of Redlands Boulevard and Eucalyptus Avenue (approved for 120,000 square feet). The nearest large-scale commercial development is located on the south side of SR-60 at Moreno Beach Drive, approximately 1.25 miles to the west of the proposed project. This shopping complex includes Walmart and Target along with restaurants and ancillary commercial and service uses, as well as the Moreno Valley Auto Center. The central core of Moreno Valley, which includes other residential neighborhoods and commercial activity, is located approximately three miles west of the project area.

There are no airports in the vicinity of the project area. The nearest airport is March Air Reserve Base (MARB) located approximately seven miles southwesterly of the project area. The MARB is under the authority of the March Joint Powers Authority (MJPA), which acts as the land use authority, in addition to the Redevelopment Agency as well as the March Inland Port Airport Authority are involved in the reuse of the former March Air Force Base. The March Air Field is a joint-use airport, used both for military and civilian purposes. March Inland Port (MIP)[1] is the civilian portion of the airport. The proposed project area is not located within the Airport Influence Area.

There are no existing school facilities within one-quarter of a mile of the project area. Calvary Chapel Christian School is the closest existing school, located approximately 1.17 miles northwest of the project area, north of SR-60. There is a site for a proposed public elementary school, Wilmot Elementary School, located approximately one-quarter of a mile from the project area located on Bay Avenue at Wilmot Street. A Preliminary Environmental Assessment Report (PEA) was prepared for the proposed elementary school site in July 2007.

4.8.1.3 NOP/Scoping Comments

Several residents commented during the NOP period that there are major natural gas facilities located on the WLCSP project site, and were concerned about safety during construction, relocation, and operation of the pipelines. During the scoping meeting, a conservation group representative encouraged the City to look at freeway accident data involving trucks and expressed concern that accidents on the freeway would cause truck drivers to divert off the freeway and onto local streets in Moreno Valley. The WLC project biology report also warned of risks to new project buildings and employees from errant gunfire from the Mystic Lake area (i.e., hunting clubs)(MBA 2012). Several residents also commented that there are major natural gas facilities and pipelines located on the WLCSP project site. These comments are addressed in the following analysis of potential hazards.

4.8.2 Existing Policies and Regulations

4.8.2.1 Federal Regulations

Comprehensive Environmental Response, Compensation, and Liability Act. Discovery of environmental health damage from disposal sites prompted the U.S. Congress to pass the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund). The purpose of the CERCLA is to identify and clean up chemically contaminated sites that pose a significant environmental health threat. The Hazard Ranking System is used to determine whether a site should be placed on the National Priorities List for cleanup activities.

Superfund Amendments and Reauthorization Act. The Superfund Amendments and Reauthorization Act (SARA) pertain primarily to emergency management of accidental releases. It requires formation of State and local emergency planning committees, which are responsible for collecting, material handling, and transportation data for use as a basis for planning. Chemical inventory data are made available to the community at large under the “right-to-know” provision of the law. In addition, SARA also requires annual reporting of continuous emissions and accidental releases of specified compounds. These annual submissions are compiled into a nationwide Toxics Release Inventory (TRI).

Resource Conservation and Recovery Act. The Resource Conservation and Recovery Act (RCRA) Subtitle C addresses hazardous waste generation, handling, transportation, storage, treatment, and disposal. It includes requirements for a system that uses hazardous waste manifests to track the

[1] March Inland Port was previously called March Air Reserve Base.

movement of waste from its site of generation to its ultimate disposition. The 1984 amendments to the RCRA created a national priority for waste minimization. Subtitle D establishes national minimum requirements for solid waste disposal sites and practices. It requires states to develop plans for the management of wastes within their jurisdictions. Subtitle I requires monitoring and containment systems for underground storage tanks that hold hazardous materials. Owners of tanks must demonstrate financial assurance for the cleanup of a potential leaking tank.

Hazardous Materials Transportation Act. The Hazardous Materials Transportation Act is the statutory basis for the extensive body of regulations aimed at ensuring the safe transport of hazardous materials on water, rail, highways, in the sky, or in pipelines. It includes provisions for materials classification, packaging, marking, labeling, placarding, and shipping documentation.

4.8.2.2 State Regulations

California Code of Regulations. Most State and Federal regulations and requirements that apply to generators of hazardous waste are spelled out in the California Code of Regulations (CCR), Title 22, Division 4.5. Title 22 contains the detailed compliance requirements for hazardous waste generators, transporters, treatment, storage, and disposal facilities. Because California is a fully authorized State according to RCRA, most RCRA regulations (those contained in 40 Code of Federal Regulations [CFR] 260, et seq.) have been duplicated and integrated into Title 22. However, because the Department of Toxic Substance Control (DTSC) regulates hazardous waste more stringently than the U.S. EPA, the integration of California and Federal hazardous waste regulations that make up Title 22 do not contain as many exemptions or exclusions as does 40 CFR 260. As with the California Health and Safety Code, Title 22 also regulates a wider range of waste types and waste management activities than do the RCRA regulations in 40 CFR 260. To aid the regulated community, California compiled the hazardous materials, waste and toxics-related regulations contained in CCR, Titles 3, 8, 13, 17, 19, 22, 23, 24, and 27 into one consolidated CCR, Title 26 “Toxics.” However, the California hazardous waste regulations are still commonly referred to as Title 22. For the purposes of clarity, because of the extensive reach of Title 22 and Title 26, many common household products sold in grocery stores and home improvement warehouses qualify as hazardous materials. These items include household cleaners, detergents, paint, motor oil, lubricants, glues, pesticides, etc. The term “hazardous materials” is also defined to include many on site materials as well, such as lubricants, fuel, etc. Thus, when this section of the EIR discusses the transport and storage of “hazardous materials,” it is referring to the potential transport of bulk products to the project locations and to the temporary storage of such materials at the project sites prior to re-package and transport to subsequent destinations.

Cortese List: Section 65962.5(a). Government Code Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop at least annually an updated Hazardous Waste and Substances Sites list (Cortese List). The Cortese List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Release sites include or hazardous materials release sites may include the following:

- All hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.
- All land designated as hazardous waste property or border zone property pursuant to Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the Health and Safety Code.
- All information received by the Department of Toxic Substances Control pursuant to Section 25242 of the Health and Safety Code on hazardous waste disposals on public land.

- All sites listed pursuant to Section 25356 of the Health and Safety Code.
- All sites included in the Abandoned Site Assessment Program.

The California DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

The California Hazardous Material Management Act. The Hazardous Materials Management Act (HMMA) requires that businesses handling or storing certain amounts of hazardous materials prepare a Hazardous Materials Business Emergency Plan (HMBEP), which includes an inventory of hazardous materials stored on site (above specified quantities), an emergency response plan, and an employee training program. An HMBEP is a written set of procedures and information created to help minimize the effects and extent of a release or threatened release of a hazardous material. The intent of the HMBEP is to satisfy Federal and State Community Right-to-Know laws and to provide detailed information for use by emergency responders.

Per the California Health and Safety Code (HSC), Chapter 6.95, Section 25500–25532, an HMBEP must be submitted by any business that handles a hazardous material or a mixture containing a hazardous material in quantities equal to, or greater than:

- A total weight of 500 pounds or a total volume of 55 gallons;
- 200 cubic feet of a compressed gas at standard temperature and pressure; and/or
- A radioactive material handled in quantities for which an emergency plan is required pursuant to Parts 30, 40, or 70 of Chapter 10, Title 10, CFR, or equal to or greater than the amounts specified above, whichever amount is less.

An HMBEP must be prepared prior to facility operation. Any business subject to HMBEP requirements shall submit an amendment of its HMBEP to the local implementing agency when there is:

- A 100 percent or more increase in the quantity of a previously disclosed hazardous material;
- Any handling of a previously undisclosed hazardous material subject to the inventory requirements;
- Change of business address;
- Change of ownership;
- Change of business name; and/or
- Change of contact information.

In addition, any business subject to HMBEP requirements is also required to certify the inventory of hazardous materials handled at the business every year. Businesses are also required to review their HMBEP at least once every three years to determine if a revision is necessary. Once the review has been conducted, the business must certify in writing to the local implementing agency that a review has been completed and necessary changes were made. For businesses within the City of Moreno Valley, HMBEPs are submitted to and approved by the County of Riverside Community Health Agency, Department of Environmental Health.

The California Hazardous Waste Control Law. The Hazardous Waste Control Law (HWCL) is the primary hazardous waste statute in the State of California. The HWCL requires a hazardous waste

generator, which stores or accumulates hazardous waste for periods greater than 90 days at an on-site facility or for periods greater than 144 hours at an off-site or transfer facility, which treats, or transports hazardous waste, to obtain a permit to conduct such activities. The HWCL implements RCRA as a "cradle-to-grave" waste management system in the State of California. HWCL specifies that generators have the primary duty to determine whether their wastes are hazardous and to ensure their proper management. The HWCL also establishes criteria for the reuse and recycling of hazardous wastes used or reused as raw materials. The HWCL exceeds Federal requirements by mandating source reduction planning and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates the number of types of wastes and waste management activities that are not covered by federal law with RCRA.

State Aeronautics Act (Public Utilities Code Section 21670, et seq.). The Public Utilities Code (PUC) establishes the requirement for the creation of airport land use commissions for every county in which there is located an airport that is served by a scheduled airline. Additionally, these sections of the Code mandate the preparation of Comprehensive Land Use Plans (CLUP) to provide for the orderly growth of each public airport and the area surrounding the airport. The purpose of CLUPs includes the protection of the general welfare of inhabitants within the vicinity of the airport and the general public.

California Emergency Services Act. Government Code 8550–8692 provides for the assignment of functions to be performed by various agencies during an emergency so that the most effective use may be made of all manpower, resources, and facilities for dealing with any emergency that may occur. The coordination of all emergency services is recognized by the State to mitigate the effects of natural, man-made, or war-caused emergencies which result in conditions of disaster or extreme peril to life, property, and the resources of the State, and generally, to protect the health and safety and preserve the lives and property of the people of the State.

State Fire Plan. The State Board of Forestry and the California Department of Forestry and Fire Protection have drafted a comprehensive update of the State Fire Plan for wildland fire protection in California. The planning process defines a level of service measurement, considers assets at risk, incorporates the cooperative interdependent relationships of wildland fire protection providers, provides for public stakeholder involvement, and creates a fiscal framework for policy analysis.

4.8.2.3 County of Riverside Regulations

Riverside County Department of Community Health. The Department of Environmental Health (DEH) of the Riverside County Community Health Agency is responsible for regulation the operations of businesses and institutions that handle hazardous materials or generate hazardous wastes in the City of Moreno Valley.[1] As part of the State-mandated Certified Unified Programs administered by the CalEPA, the DEH coordinates regulatory and enforcement of the following programs: Household Hazardous Waste, Hazardous Waste Minimization, Underground Storage Tanks (USTs), Hazardous Waste Generator Permits, and Hazardous Materials Handlers Program.

Riverside County Airport Land Use Plan. The Riverside County Airport Land Use Commission (ALUC) assists local agencies by ensuring the development of compatible land uses in the vicinity of existing airports. The ALUC adopted the Airport Land Use Plan (ALUP) for MIP on April 26, 1984. A

[1] *Section 5.5 Hazards,* Moreno Valley General Plan, Final Program EIR, July 2006.

new ALUC is currently in the process of updating the 1984 ALUP for MIP;[1] however, the portion of this document that pertains to MARB is not available for public review at this time. The ALUP specifies land use restrictions for areas falling within an airport's Influence Area boundaries.

2005 Air Installation Compatible Use Zone (AICUZ) Study. March Air Field is a joint-use airport, used for both military and civilian (MIP) purposes. The airport is owned and regulated by the military. Military installations prepare AICUZ studies to protect vicinity land uses from hazard and noise impacts associated with military airports. The Air Force Reserve (AFRES) completed a new AICUZ for March Air Field in 2005. The AICUZ delineates the clear zones and accident potential zones for the joint use airfield, as well as the noise contours based upon the project flight operations and use of the aviation field. The noise contours include both military and civilian use, as projected in the Federal Aviation Administration (FAA) conformity determination.

4.8.2.4 City of Moreno Valley

General Plan Policies. The Safety Element and the Land Use Element of the General Plan define the following issues and opportunities related to hazards that are relevant to the proposed project:

- **Safety Element**
  - **Issues and Opportunities Section 6.2.8:** Acknowledge natural topography, terrain, volatile fuel types, and local climatic conditions that have resulted in large and damaging wildfires, particularly when the Santa Ana winds blow, increasing the potential for wildland fires. Consider these factors during the planning phases of devolvement and include mitigation measures to reduce potential life safety and other consequences of these types of fires.
  - **Issues and Opportunities Section 6.2.10:** Require the use of automatic sprinkler systems in new and existing structures to control future demand for fire protection services, and to reduce fire losses. Continue annual fire inspections of all occupancies by the Fire Prevention Bureau to reduce the potential for fire code violations and to inspect sprinkler systems.
  - **Issues and Opportunities Section 6.2.13:** Emphasize planning, training, disaster drills and public education and awareness programs to prepare for emergency and disaster response.
  - **Issues and Opportunities Section 6.9.2:** The City has the ability to establish land use patterns that minimize the hazards associated with the use, storage and transport of hazardous materials. The Household Hazardous Waste Element and the Hazardous Waste Management Plan for the City of Moreno Valley contains programs on the reduction of hazardous waste and criteria for the siting of hazardous waste facilities. These plans should be updated from time to time to reflect changing conditions.
- **Land Use Element**
  - **Issues and Opportunities Section 2.8.2:** Fees will need to be collected in conjunction with new development to ensure that new development pays its fair share toward the future expansion of City facilities.

Local Hazard Mitigation Plan. The City of Moreno Valley prepared a Local Hazard Mitigation Plan (LHMP) to develop an understanding of the natural and man-made hazards to the City and to determine ways to reduce those risks, prioritize and implement mitigation strategies.

[1] Riverside County Airport Land Use Commission New Compatibility Plans, http://www.rcaluc.org/plan_new.asp, website accessed April 23, 2012.

4.8.3 Methodology

Evaluation of hazards and hazardous material impacts associated with the proposed project included a focus on the use, generation, management, transport, and disposal of hazardous or potentially hazardous materials on the project site. Phase I ESAs were prepared to document existing site conditions involving the presence or absence of hazardous materials that may have been deposited through previous land uses. In addition, the City of Moreno Valley's LHMP was consulted to identify existing known hazards that may affect the project area. For airport hazards, the County of Riverside ALUC was consulted to determine if the proposed WLC project would increase air hazards. In determining the level of significance, the analysis assumes that construction and operation of the proposed project would be in compliance with relevant local, State, and Federal laws and regulations pertaining to the use, storage, and disposal of hazardous materials.

4.8.4 Thresholds of Significance

Based on Appendix G of the *CEQA Guidelines*, the proposed WLC project would result in a significant adverse impact with regard to hazards if it were to:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area;
- For a project located within the vicinity of a private airstrip, result in a safety hazard for people working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation; and/or
- Result in the exposure of people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.8.5 Less that Significant Impacts

In each of the following issues, either no impact would occur (therefore, no mitigation would be required) or adherence to established regulations, standards, and policies would reduce potential impacts to a less than significant level.

4.8.5.1 Within Two Miles of a Private Airport or Within an Airport Land Use Plan or Within Two Miles of a Public Airport

Threshold	For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the proposed project area? Would the project be located within an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, resulting in a safety hazard for people residing or working in the project area?

The nearest airport to the project area is MARB, approximately 7 miles to the southwest. The airfield is operated by two entities, March Air Reserve Base (military) and March Inland Port Airport Authority (quasi-governmental/private). In addition, Perris Valley Airport is located approximate 15 miles southwest of the project area. Perris Valley Airport is a private airport that is open to the public, and is utilized for skydiving and ballooning activities. The WLC project area is not located within the Airport Influence Area for either airport. Given the distance of the WLC project area to both airports in the vicinity, the development of the WLC project area as proposed would not result in private airport safety hazards for people working in the WLC project area. No impacts associated with this issue would occur and no mitigation is required.

4.8.5.2 Existing or Proposed School

Threshold	Would the proposed project emit hazardous emissions or handle acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no existing school facilities within one-quarter of a mile of the project area. The nearest existing school is Calvary Chapel Christian School which is located approximately 1.17 miles northwest of the project. There is one proposed elementary school site that is located within one-quarter mile of the WLC project area. The site for proposed Wilmot Elementary School is located on Bay Avenue at Wilmot Street, approximately 0.25 mile west of the project area. A PEA was prepared for the proposed elementary school in 2007; however, there has been no further discussion by the Moreno Valley Unified School District (MVUSD) since then.[1] The City does not have jurisdiction with respect to the location, design, or construction of school facilities. The City works with each school district concerning the design of roads and other public improvements in and around school sites. The City also notifies any school district of development proposals that might affect school facilities.[2]

The amount and type of materials that would be used during project construction (building and infrastructure) or stored in the high-cube logistics distribution center after construction is unknown at this time. The emission of air pollutants is discussed in the Air Quality Section of the EIR. While the warehouse facilities themselves are not expected to utilize acutely hazardous materials, the possibility exists that such materials could be stored or transported to and from the project site. For the purposes of this analysis, it is assumed that the project will handle substances that may be acutely hazardous. The handling of hazardous materials or emission of hazardous substances in accordance with the Hazardous Materials Business Emergency Plan (HMBEP) as required by applicable local, State, and Federal standards, ordinances, and regulations will ensure that impacts associated with environmental and health hazards related to an accidental release of hazardous materials or emissions of hazardous substance near existing or proposed schools are less than significant and no mitigation is required.

[1] Moreno Valley Unified School District, Minutes for Regular Meeting of the Board of Education, July 17, 2007.
[2] City of Moreno Valley General Plan, Land Use Element, Section 2.5.0.

4.8.5.3 Routine Transport, Use, or Disposal of Hazardous Materials and Reasonable Foreseeable Upset and Accident Conditions

Threshold	Would the proposed project create a significant hazard to the public through the routine transport, use, or disposal of hazardous materials? Would the proposed project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident?

The proposed project area includes the development of 41.6 million square feet of high-cube logistics warehouse space. These warehouses would be used primarily for the storage and/or consolidation of manufactured goods, with minimal assembly and no manufacturing activities, prior to their distribution to secondary retail outlets.

Truck-Related Risks. Truck activities would frequently occur during off-peak hours. Deliveries to the project area would come from the Ports of Long Beach and Los Angeles as well as from other locations. Goods sorted for re-distribution would then be delivered via truck to both in and out of state locations. The exact tenants of the warehouse buildings are unknown at this time and will likely change over time so there is the potential that hazardous materials such as petroleum products, pesticides, fertilizer, and other household hazardous products such as paint products, solvents, and cleaning products may be stored and transported in conjunction with the proposed warehouse uses. These hazardous materials would only be stored and transported to and from the site. Manufacturing and other chemical processing will not be permitted under the provisions of the Specific Plan. Exposure to hazardous materials during the operation of the proposed on-site uses may result from (1) the improper handling or use of hazardous substances; (2) transportation accidents; or (3) an unforeseen event (e.g., fire, flood, or earthquake). The severity of any such exposure is dependent upon the type and amount of the hazardous material involved; the timing, location, and nature of the event; and the sensitivity of the individual or environment affected.

The City of Moreno Valley has no direct authority to regulate the transport of hazardous materials on State highways.[1] This activity is governed by the United States Department of Transportation (USDOT), as described in Title 49 of the Code of Federal Regulations[2] and by Title 13 of the California Code of Regulations. The State Office of Hazardous Materials Safety enforces regulations for the safe transportation of hazardous materials. It is possible that vendors may bring hazardous materials to and from the project site. Appropriate documentation for all hazardous waste that is transported in connection with project site activities would be provided as required by hazardous materials regulations. Hazardous waste produced on site is subject to requirements associated with accumulation time limits, proper storage locations and containers, and proper labeling. Additionally, for removal of hazardous waste from the site, hazardous waste generators are required to use a certified hazardous waste transportation company, which must ship hazardous waste to a permitted facility for treatment, storage, recycling, or disposal. Compliance with applicable regulations would reduce impacts associated with the use, transport, storage, and sale of hazardous materials. For example, the California Hazardous Materials Management Act requires that businesses handling or storing certain amounts of hazardous materials prepare a Hazardous Materials Business Emergency Plan, which includes an inventory of hazardous materials stored on site (above specified quantities), an emergency response plan, and an employee training program.

The enforcement of applicable local, State, and Federal standards, ordinances, and regulations will ensure that potential impacts associated with environmental and health hazards related to an accidental release of hazardous materials are less than significant and no mitigation is required.

[1] Moreno Valley General Plan, Safety Element, 6.9.1

[2] Code of Federal Regulations, Title 49—Transportation, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, http://ecfr.gpoaccess.gov/cgi/t/text/text idx?c=ecfr&tpl=/ecfrbrowse/Title49/49tab_02.tpl, site accessed April 23, 2012.

Freeway Accident Risks. The following information is provided in response to NOP/Scoping comments regarding freeway accidents. According to the California Department of Transportation's Traffic Accident Surveillance and Analysis System (TASAS) report, there are approximately 105 accidents per year along a 3.75-mile stretch of SR-60 between Nason Street and Gilman Springs Road in the general vicinity of the project area. The data were derived for the three-year span of January 1, 2008, to December 31, 2010[1]. During this period, there were 316 accidents (average of 105 per year) along SR-60 (both westbound and eastbound). Of the 316 accidents, approximately 15.8 percent involved trucks (tractor/trailer). There were 127 eastbound accidents (19 or 15% involving trucks) and 189 westbound accidents (31 or 16.4% involving trucks). It is possible that congestion on the freeway might result in some WLCSP-related trucks exiting the freeway at off-ramps other than Theodore Street, or attempting to enter the freeway at on-ramps if the drivers see or hear on their radios that the freeway is congested. In most instances, drivers will use the shortest route indicated on GPS system maps or the route(s) they have used previously, regardless of traffic conditions at the time. In addition, due to the type of uses planned within the WLCSP, much of the project-related traffic will be accessing the WLC site during off-peak times, so the changes of congestion or accidents occurring during the time they are accessing the site would be reduced. The accident database contains no information on whether the truck was the cause of a particular accident or the time of day, the vehicles involved, if hazmat spills occurred, if trucks or other vehicles detoured off the freeway, etc. Without these data, it is overly speculative to extrapolate any particular conclusions. Despite the lack of specific evidence regarding freeway accidents, it is reasonable to conclude that potential environmental impacts in this regard will be less than significant given the regulation of truck traffic on freeways according to State and Federal laws, and truck restrictions on local streets according to City municipal code (i.e., truck route enforcement) and no mitigation is necessary.

Land Use-Related Hazmat Risks. Both the Federal Government and the State of California require all businesses that handle more than a specified amount of hazardous materials or extremely hazardous materials, to submit an HMBEP to the local Certified Unified Program Agency (CUPA). The CUPA with responsibility for the City of Moreno Valley is the County of Riverside Community Health Agency, Department of Environmental Health.[2] The HMBEP must include an inventory of the hazardous materials used in the facility, and emergency response plans and procedures to be used in the event of a significant or threatened significant release of a hazardous material. The HMBEP must also include the Material Safety Data Sheet for each hazardous and potentially hazardous substance used. The Material Safety Data Sheets summarize the physical and chemical properties of the substances and their health impacts. The plan also requires immediate notification to all appropriate agencies and personnel of a release, identification of local emergency medical assistance appropriate for potential accident scenarios, contact information of all company emergency coordinators of the business, a listing and location of emergency equipment at the business, an evacuation plan, and a training program for business personnel.

HMBEPs are designed to be used by responding agencies, such as the Moreno Valley Fire Department, to allow for a quick and accurate evaluation of each situation for an appropriate response. HMBEPs are also used during a fire to quickly assess the types of chemical hazards that firefighting personnel may have to deal with, and to make decisions as to whether or not the surrounding areas need to be evacuated. Compliance with existing law will ensure that no significant impacts pertaining to the creation of hazards affecting the public will occur. The handling of hazardous materials in accordance with the HMBEP as required by applicable local, State, and Federal standards, ordinances, and regulations will ensure that impacts associated with

[1] California Department of Transportation, TSAR – Accident Summary 1/1/08-12/31/10
[2] *CUPA Directory Search,* http://www.calepa.ca.gov/CUPA/Directory/default.aspx, website accessed April 24, 2012.

environmental and health hazards related to an accidental release of hazardous materials are less than significant and no mitigation is required.

The Moreno Valley Fire Department will likely be first responders in the event of the release of hazard materials. The City of Moreno Valley contracts with the Riverside County Fire Department for fire services. The Riverside County Fire Department is administered and operated by the California Department of Forestry and Fire Protection (CalFire) per an agreement with the County of Riverside. The Fire Department has indicated it will need one or more fire stations in the area, and the project will mitigate impacts in this regard to less than significant levels (see Section 4.14, *Public Services and Facilities*).

Though the uses in the project area are not expected to utilize acutely hazardous materials in their daily operation, a potential for an accidental release of hazardous materials into the environment is present at the project site as it is at any commercial, retail, or industrial site. Compliance with the identified State and Federal transportation safety standards will govern the handling of hazardous materials during truck and freight transfer operations. These standards include procedures to contain, report, and remediate any accidental spill or release of hazardous materials. The handling of hazardous materials in accordance with all applicable local, State, and Federal standards, ordinances, and regulations will ensure that impacts associated with environmental and health hazards related to an accidental release of hazardous materials at the project site will be less than significant and no mitigation is required.

Hazardous On-site Facilities. The project site contains a regional natural gas compressor station operated by SDG&E. The Moreno Compressor Plant has been in operation for many years in the southeastern portion of the project area (see Section 4.16, *Utilities and Service Systems* and Section 4.5, *Biological Resources*). At present, the plant occupies a 19-acre site, surrounded by 174 acres of SDG&E-owned open space. There is additional open space around the plant, consisting of land owned by the CDFW as part of the SJWA. There are no plans to expand or otherwise modify the plant and/or its open space zone, which is considered adequate at this time to protect public health and safety, including users of the SJWA and new employees and users of the new warehouses associated with the WLCSP. The WLCSP Land Use Plan (previously referenced Figure 3.8) and the proposed Circulation Plan/Road Cross-sections (Figure 3.11) show that construction of Street G will provide a minimum 104 feet of additional separation from the plant and future warehouses within the WLCSP north of Street G.

New warehouse uses east and west of the plant will not have this additional setback, but there will be sufficient setback from the plant to future warehouse uses (e.g., 1,000 feet to east and 1,500 feet to the west). No development or change in operation has been announced for the property within the SJWA. Existing safety conditions will continue relative to the gas facility as it relates to the SJWA. Compliance with established safety laws and regulations regarding the natural gas facilities will reduce the potential impact to a less than significant level and no mitigation is required.

SCGC operates a natural gas metering station on a one-acre site located one-quarter mile north of the Moreno Compressor Plant. This station is south of the proposed Street G, which will provide a minimum 104 feet setback from the SCGC facility for new warehouse uses north of Street G. In addition, the distance between the north SDG&E plant property and the new Street G is insufficient to place new warehouse buildings, so the land plan will provide 1,000 feet east and 1,500 feet west of the SCGC station as an additional setback between these uses. These setbacks appear sufficient to protect future uses/users within the WLCSP if upset conditions were to occur at this station. Compliance with established safety laws and regulations regarding natural gas plants is expected to reduce this potential impact to a less than significant level and no mitigation is required.

The site also contains two natural gas lines that cross the central and southern portions of the site in an east-west direction (Figure 3.17). They range in size from 16 to 36 inches in diameter and carry natural gas under medium and high pressure. The high pressure lines are managed by SDG&E while the moderate pressure lines are managed by SCGC. The utility companies that own and/or maintain these pipelines are responsible for the physical conditions of the pipelines. As development occurs in areas with buried natural gas lines, the project proponent will be required to negotiate with the involved utility provider as to whether these pipelines can be relocated or need to be protected in place. Future development is required to maintain clearance for pipelines depending on their contents and size, in consultation with the serving utility provider. As long as these design restrictions are implemented during the site design and construction process, no significant impacts are expected. However, if a catastrophic accident were to occur involving one or more natural gas lines on site, there could be property damage and loss of life. While the chance of occurrence is low, there are potential safety risks, mainly to project employees, if such an accident were to occur. Compliance with established safety laws and regulations regarding pipelines is expected to reduce this potential impact to a less than significant level and no mitigation is required.

Off-site Improvements. A number of off-site improvements will be needed to serve the project, including three reservoirs, various water, sewer, and drainage improvements within existing rights-of-way, and the SR-60/Theodore Street interchange. None of these facilities is expected to create significant hazards or risks to public health or safety. These facilities will require standard improvement plan approvals through the City of Moreno Valley and/or County of Riverside. Based on these plan reviews, no significant hazard-related impacts are expected and no mitigation is required.

Hunting Accidents. Based on comments received during the NOP/Scoping period, this section explores the possible hazards or risks that could result from stray gunfire from hunters on the adjacent SJWA property as a result of the proposed change in land use from dry-land farming to high-cube logistics warehouses. Immediately south of the project area is the SJWA, where limited hunting is permitted. Hunting in the area is generally pheasant hunting, but also includes waterfowl (such as ducks) as well as jackrabbits, rabbits and quail. Hunting in these areas requires a hunting license issued by the State. The Fish and Game Code provides strict regulations on hunting, including limits on hours, time of year, quantity, and firearms. Hunting on State lands, such as the SJWA, can only be done with shotguns that are smaller in size (higher in gauge) than 10-gauge shotguns. In addition, Federal law allows no more than three shells in the chamber of the shotgun at any given time during hunting. The SJWA is patrolled by CDFW wardens to ensure that all hunting rules and regulations are followed. The private hunt clubs are also governed by similar rules and regulations to ensure the safety of their members and the general public.

Given the proximity of the project area to the nearby hunting areas, it is appropriate to consider the possibility of stray gunfire as a possible risk to future employees, visitors, and facilities on the project site. Accident conditions that could arise from the nearby hunting activities are expected to be less than significant for the following reasons: the most intensive operations at the proposed high-cube logistics center would be during off-peak hours when there is no hunting; the hunting on the adjacent areas to the south of the WLC project area is in accordance with all applicable local, State, and Federal standards and regulations; and the range for the allowed firearms (shotguns smaller than 10-gauge) would be 60 yards or less providing a safe distance for development to occur in the WLC project area, which would be a safe distance from the actual hunting areas. It should also be noted that the Specific Plan provides for a minimum 250-foot setback along the southern boundary of the Specific Plan property, which is greater than the minimum safe distance described above.

Valley Fever. During processing of the Highland Fairview Corporate Park EIR, a local resident expressed concern regarding Valley Fever (*Coccidiomycosis*), a disease caused by fungus spores

(*Coccidioides immitis*). Since the project site is adjacent to the Highland Fairview Corporate Park site, this issue will be addressed in this EIR as well. These fungal spores most typically lie dormant in relatively undisturbed soil with native vegetation cover in the Central Valley of California.

The likelihood of these spores to occur at this site is remote. The soil at the project site is not undisturbed and has little, if any, native vegetation cover. The site consists primarily of disturbed agricultural soils (i.e., regularly tilled and occasionally irrigated) and had virtually no native vegetative cover. The local soils will be extensively disturbed during grading and would be regularly watered to control dust. Erosion control measures will be implemented immediately following grading. Under these conditions, it is unlikely that *Coccidioides immitis* spores would survive in the soil. This potential impact appears minimal and no mitigation is required.

4.8.5.4 Located on a List of Hazardous Materials Sites

Threshold	Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?

As detailed in the *Phase I Environmental Site Assessment Reports*, the project area is not listed in any of the searched regulatory databases provided by Environmental Data Resources (EDR). This included a review of Federal, State, and local environmental databases for information pertaining to documented and/or suspected contaminated sites, known handlers or generators of hazardous waste, waste disposal facilities, releases of regulated hazardous substances and/or petroleum products within specified search distances. Analysis of soil samples obtained during the limited site characterizations conducted as part of the Phase I ESAs, indicated there were trace concentrations of pesticides present in near surface soils at some of the sample locations. However, the pesticide concentrations were below the EPA's Preliminary Remediation Goals, for residential properties. No further sampling was deemed necessary and unrestricted use of the property is warranted. Since neither the project site nor areas in the vicinity of the project site are listed on any of the hazardous materials sites as defined by Government Code Section 65962.5, there would be a less than significant impact and no mitigation is required.

4.8.5.5 Conflict with Emergency Response Plans

Threshold	Would the project impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation?

The City of Moreno Valley adopted its Local Hazard Mitigation Plan (LHMP) on October 4, 2011. This document identifies known hazards throughout the community and identifies strategies for which to prepare for and respond to these hazards if and when it is necessary. Figure 12-2 of the LHMP maps primary and alternative evacuations routes out of Moreno Valley. There are three (3) routes that either run through or along the project area that are identified as primary evacuation routes: Redlands Boulevard, Theodore Street, and Alessandro Boulevard. The proposed project will be designed, constructed, and maintained in accordance with applicable standards associated with vehicular access, ensuring that adequate emergency access and evacuation will be provided. Construction activities that may temporarily restrict vehicular traffic would be required to implement appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Compliance with existing regulations for emergency access and evacuation will ensure that impacts related to this issue are less than significant and no mitigation is required.

4.8.5.6 Wildland Fire Risks

Threshold	Expose people or structures to a significant risk or loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The City of Moreno Valley is subject to both wildland and urban fires. Wildfires in particular pose a threat to the northern and eastern portions of the City, near the WLC project area. Moreno Valley's LHMP documents that three wildland fires have occurred within the WLC project area since 2003. Although the project area is not within a mapped fire hazard area, the Badlands directly east of the project area are considered a High Fire Hazard Area.[1] Development of the eastern portion of the project could expose persons or property to wildland fire risks given the proximity of the project area adjacent to a High Fire Hazard Area. Regardless of this proximity, all new structures in the project area must be constructed in compliance with Title 24 of the California Code of Regulations to safeguard life and property from fire hazards, including the installation of automated fire suppression systems. Compliance with these standards would be enforced during building permit review and the construction inspection period. In addition, no development will be allowed within the San Jacinto Fault Zone, which runs parallel and just west of Gilman Springs Road; this area of limited development will provide a fuel or fire break to help protect future occupied uses within the WLCSP.

Six fire stations presently serve the City of Moreno Valley. Station No. 58, the Moreno Beach station, is the closest station to the project area (approximately a quarter of a mile directly west). Given the proximity of Station No. 58 and with all new structures constructed in compliance with Fire and Building Code regulations, the susceptibility and exposure of the project to wildland fires would be limited. **Mitigation Measures 4.14.2.6A** and **4.14.2.6B** in the Public Services and Facilities section will address potential impacts related to future fire protection services for this area. Implementation of these measures will help reduce potential wildland fire risks to a less than significant level, and no additional mitigation is required.

4.8.6 Significant Impacts

4.8.6.1 On-site Conditions Involving Hazardous Materials

Impact 4.8.6.1A: *Demolition of the existing on-site rural residential structures may involve hazardous materials (ACM and LBP).*

Impact 4.8.6.1B: *Demolition of the existing on-site rural residential structures may involve hazardous materials (LNG/CNG).*

Threshold	Would the proposed project create a significant hazard to the public through the routine transport, use, or disposal of hazardous materials?

Due to the suspected age of the rural residential structures on the site, it is possible that demolition of these structures may involve asbestos-containing materials (ACMs) and/or lead-based paint (LBP). Demolition of these structures may need to be supervised or conducted by contractors certified to remove and dispose of ACMs and/or LBP.

In addition, the Specific Plan proposes a liquefied natural gas/compressed natural gas (LNG/CNG) fueling station to be constructed on approximately 20,000 square feet somewhere in the eastern portion of the Logistics Development (LD) land use area of the Specific Plan. This LNG/CNG facility is referred to as Logistics Support (LS) in the Specific Plan land uses. It would provide natural gas to fuel heavy and light-duty trucks serving the project.

[1] City of Moreno Valley General Plan, Final Program EIR, Section 5.5 Hazards, Figure 5.5-2.

Since this facility would store natural gas under liquefied and compressed conditions, there is a potential for fire and/or explosion involving natural gas. Therefore, this is a potentially significant hazards impact requiring mitigation.

Project or Specific Design Features. It is anticipated that the LNG/CNG fueling facility proposed under Logistics Support will be constructed in the eastern portion of the project area. Section 2.1 of the Specific Plan states:

> *The LS designation is a "floating zone" which provides for the establishment of a single site that will include fueling facilities and limited service commercial uses oriented to trucking serving the World Logistics Center. The exact location and size of this facility will be determined along with the design of the eastern portion of the project in order to optimize its functionality within the project and to ensure that it will be compatible with the design and aesthetic elements of the Specific Plan. Development standards for the Logistics Support site are included in Section 2.4 of this Specific Plan.*

The Specific Plan does not provide any design specifications for this facility.

Mitigation Measures. Implementation of the following measure will ensure there will be no significant impacts from demolition of on-site buildings as a result of hazardous materials:

4.8.6.1A Prior to demolition of any existing rural residences or associated structures, a qualified contractor shall be retained to survey structures proposed for demolition to determine if asbestos-containing materials (ACMs) and/or lead-based paint (LBP) are present. If ACMs and/or LBP are present, prior to commencement of general demolition, these materials shall be removed and transported to an appropriate landfill by a licensed contractor. This measure shall be implemented to the satisfaction of the City Building Division including written documentation of the disposal of any ACMs or LBP in conformance with all applicable regulations.

The following measure is proposed to help ensure that the LNG/CNG natural gas fueling facility proposed in the LS zone of the Specific Plan is constructed in a safe location to protect public health and safety:

4.8.6.1B Prior to the issuance of any discretionary permits associated with the natural gas fueling facility (LS zone), the applicant shall provide a risk assessment or safety study that identifies the potential public health and safety risks from accidents at the facility (e.g., fire, tank rupture, boiling liquid, or expanding vapor explosion). This study shall be prepared to industry standards and demonstrate that the facility will not create any significant public health or safety impacts or risks, to the satisfaction of the City Community Development Director and the City Building Official.

Level of Impact After Mitigation. With implementation of **Mitigation Measures 4.8.6.1A** and **4.8.6.1B**, impacts associated with potential hazardous materials in existing rural residential structures or from the proposed natural gas fueling facility will be reduced to less than significant levels.

4.8.7 Cumulative Impacts

The cumulative impact analysis considers development of the proposed project in conjunction with other development in the City and this portion of Riverside County. Significant cumulative impacts

associated with the routine transport, use, and disposal of hazardous materials would occur as the proposed project would increase the amount of truck traffic in the area as well as the number of trucks potentially transporting hazardous materials. The proposed project, in combination with other projects of a similar nature, has the potential to create a significant cumulative impact related to this issue. Some of these risks are site-specific and localized, such as businesses that handle hazardous materials within their facilities (i.e., on site); these types of hazmat impacts are generally limited to the project site. It is also possible there will be incrementally increased impacts by the transport and disposal of hazardous materials related to warehouse operations on the project site. However, the number of trucks containing hazardous materials on the road in a given area at any given time would be difficult if not impossible to calculate, and it would be likewise difficult to estimate the number and/or location of accidental spills and leaks, which, by their nature, are accidental or unplanned occurrences, it would be impossible to predict the specific occurrence of such events on the project site. Despite these uncertainties, it is reasonable to assume that with an increase in vehicles transporting hazardous materials would incrementally increase the potential for accidents on a regional basis.

As anticipated in the City's General Plan, demographic increases, and the availability of vacant property in the City would lead to the new industrial development in the City and surrounding area. While the project-specific hazardous material impacts of individual development projects will be addressed separately in future CEQA documents, anticipated future development will contribute, through increases in population and the number of outlets that transport, or dispose of hazardous materials, to a cumulative increase in risk for hazardous material incidents. Although each project has unique hazardous materials considerations, it is anticipated that future cumulative projects would comply with the local, State, and Federal regulations and requirements as these are required for all development projects. As a result, cumulative impacts associated with hazardous materials would be less than significant.

Cumulative impacts involving wildfires consists of future development adjacent to a High Fire Hazard Area. The risk to each future project is based on the location and interface between urbanized area and wildland areas. The risks associated with development in these area can only be reduced through conformance with Fire and Building Code regulations, it is anticipated that cumulative development within the project area would not create a significant and cumulative impact associated with wildland fire hazards.

4.9 HYDROLOGY AND WATER QUALITY

This section describes the hydrologic conditions on and adjacent to the project site and evaluates potential impacts to surface and groundwater resources associated with the proposed project.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements, which affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

The analysis contained in this section is based on the following technical studies prepared for the proposed WLC project:

- *Draft Drainage Report for World Logistics Center Specific Plan and Environmental Impact Import,* CH2MHILL, November 2, 2012 (Appendix J-1 of this EIR).
- *Preliminary Project Specific Water Quality Management Plan for World Logistics Center Specific Plan,* CH2MHILL, November 20, 2012 (Appendix J-2 of this EIR).
- *Water Supply Assessment Report for the World Logistics Center Specific Plan in Moreno Valley,* Eastern Municipal Water District, March 21, 2012 (Appendix M-1 of this EIR).

In addition to these project-specific technical studies, the analysis contained in this section is also based on the following reference documents:

- 2012 Water Quality Management Plan – A Guidance Document for the Santa Ana Region of Riverside County.
- 2011 Design Handbook for Low Impact Development Best Management Practices.

- 2009 California Stormwater Quality Association [CASQA] Construction Best Management Practices (BMP) Handbook, effective July 1, 2010.

A detailed discussion of jurisdictional waters and riparian/wetland impacts as it relates to the proposed WLC project is included in Section 4.4 (Biological Resources).

4.9.1 Existing Setting

The proposed project site is located in Rancho Belago in the eastern portion of the City of Moreno Valley in Riverside County. Geologically, the project area is located in the Peninsular Ranges Geomorphic Province of southern California, which extends southeastward from the San Bernardino and San Gabriel Mountains to the tip of the Baja California peninsula and is composed of alluvial deposits resulting from the erosion of nearby granitic mountain ranges.

The project site is located in the Santa Ana River Basin, which includes the upper and lower Santa Ana River watersheds, the San Jacinto watershed, and several other small drainage areas. The Santa Ana region covers parts of southwestern San Bernardino County, western Riverside County, and northeastern Orange County. Of the approximately 3,814 acres within the project area, is over 90 percent consisting of dry-farmed agricultural fields.

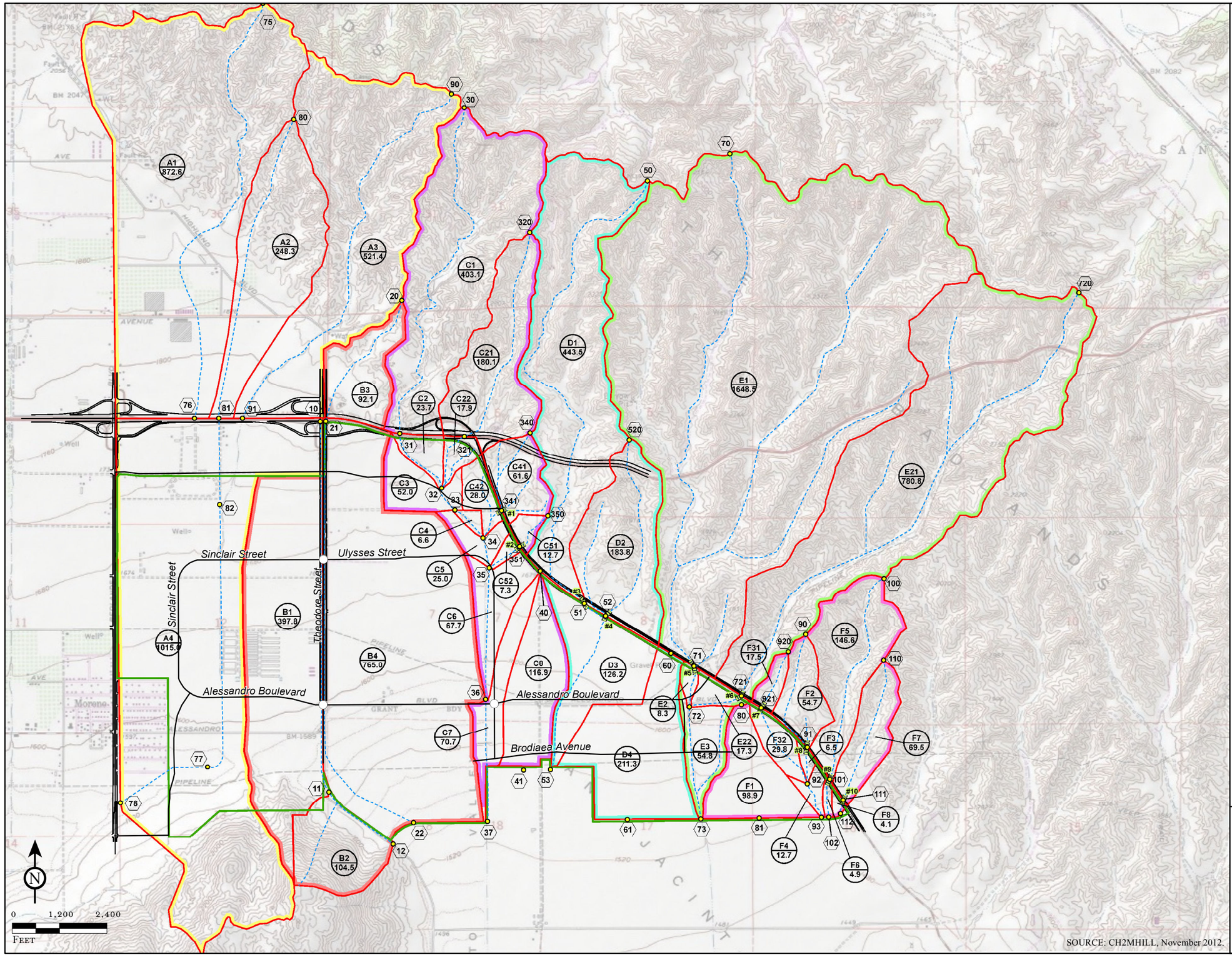
4.9.1.1 Drainage

The area is generally undeveloped with storm water runoff from the project area generally flowing in a southerly direction to the San Jacinto River. As illustrated in Figure 4.9.1, a topographic divide generally located west of Theodore Street separates storm water flows to the San Jacinto River in two directions. Runoff east of the divide flows through the San Jacinto Valley at a gradient ranging from 1 to 2 percent to the San Jacinto Wildlife Area (SJWA). Ultimately these flows drain to the Gilman Hot Springs Hydrologic Subarea (HSA). Runoff west of the divide flows to the Perris Valley Storm Drain at a gradient ranging from 1 to 2 percent. This runoff ultimately drains toward the Perris Valley HSA. Both the Gilman Hot Springs and Perris Valley HSAs eventually flow to the San Jacinto River, approximately 10 miles south of the project site. Flows are then conveyed through the San Jacinto River, Canyon Lake, again to the San Jacinto River (Reach 1), and ultimately to Lake Elsinore. In the event Lake Elsinore is at or beyond capacity, flows would continue through Temescal Creek, the Santa Ana River (Reaches 1–3), and then to the Pacific Ocean.

As illustrated in Figure 4.9.1, off-site flows tributary to the project area originate from the upstream foothill area known as the Badlands as well as a small portion of moderately developed area and open space. Flows from the upstream watershed collect in natural drainage courses and flow southerly across SR-60 and Gilman Springs Road through existing drainage culverts and onto the project site. As identified in the hydrology and drainage report prepared for the project, the tributary drainage area includes the drainage area north of SR-60. The project site receives flow from SR-60 and culverts crossing the freeway. The project drainage plan takes into account this flow entering the project site and appropriate mitigation to downstream drainage facilities is provided. The existing capacity of the SR-60 culverts and drainage systems will not be affected by the project since the project is located downstream of these facilities.

4.9.1.2 Water Quality

The project area is within Region 8 (Santa Ana Region) of the Regional Water Quality Control Board (RWQCB), which encompasses the watersheds of the Santa Ana and San Jacinto Rivers. The 24-mile long San Jacinto River flows into southern Moreno Valley from the San Jacinto Mountains, across the San Jacinto Valley, through a portion of the City of Moreno Valley, to Railroad Canyon



A1 872.64 Subarea Designation / Subarea Area (acres)

70 Hydrology Node

Existing Natural Drainage Course

Existing Culvert

Roads

Project Boundary

Watershed Boundary

- A
- B
- C
- D
- E
- F

Watershed Subarea

LSA

FIGURE 4.9.1

World Logistics Center Project
Environmental Impact Report
Existing Drainage Subareas

I:\HFV1201\Reports\EIR\fig4-9-1_Exist_DrainSubareas.mxd (1/29/2013)

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Reservoir, and finally to its terminus in Lake Elsinore, southwest of Moreno Valley. Table 4.9.A identifies receiving waters that receive urban storm water runoff from the project area.

Table 4.9.A: Receiving Waters from the Project Site

Receiving Water	303(d) List Impairments	Designated Beneficial Use	Proximity to RARE Use* Designation
San Jacinto River Reach 3 (Hydrologic Units 802.11, 802.14 and 802.21)	None	Intermittent: MUN, AGR, GWR, REC1, REC2, WARM, WILD	Approximately 2 miles to RARE designated San Jacinto Wildlife Area
Canyon Lake (Railroad Canyon Reservoir), San Jacinto River Reach 2 (Hydrologic Unit 802.11)	Nutrients, Pathogens	MUN, AGR, GWR, REC1, REC2, WARM, WILD	Not Rare
San Jacinto River Reach 1 (Hydrologic Units 802.32 and 802.31)	None	Intermittent: MUN, AGR, GWR, REC1, REC2, WARM, WILD	Not Rare
Lake Elsinore (Hydrologic Unit 802.31)	Nutrients, Organic Enrichment/ Low Dissolved Oxygen, PCBs (polychlorinated biphenyls), Unknown Toxicity	MUN, REC1, REC2, WARM, WILD	Not Rare

* Rare, Threatened or Endangered Species (RARE) waters support habitats necessary for the survival and successful maintenance of plant or animal species designated under State or Federal law as rare, threatened, or endangered.

Source: *Preliminary Project Specific Water Quality Management Plan for World Logistics Center Specific Plan*, CH2MHILL, November 2012.

According to the Santa Ana Region Basin Plan, water quality in the project area is affected by a number of factors including but not limited to consumptive use, importation of water high in dissolved solids, runoff from urban and agricultural areas, and the recycling of water within the basin. In general, water quality in the Santa Ana Region becomes progressively poorer as water moves along hydraulic flow-paths. The highest quality water is typically associated with tributaries flowing from surrounding mountains and groundwater recharged by these streams. As indicated in the Preliminary Water Quality Management Plans (WQMP)[1] prepared for the proposed project, two receiving waters downstream of the project site are included in the most recent Federal Clean Water Act (CWA) Section 303(d) list of impaired water bodies. Canyon Lake is listed for pathogens and nutrients while Lake Elsinore is listed for nutrients, organic enrichment/low dissolved oxygen, polychlorinated biphenyls (PCBs), and unknown toxicity.

As indicated in Table 4.9.A, each of the receiving waters has multiple designated beneficial uses. These designations provide a description of how the water is used and what beneficial purposes it serves. Table 4.9.B provides a description of each of these beneficial water uses.

[1] *Preliminary Project Specific Water Quality Management Plan for World Logistics Center Specific Plan*, CH2MHILL, November 2012.

Table 4.9.B: Beneficial Uses of Receiving Waters

Designated Beneficial Use	Description of Beneficial Use
Agricultural Supply (AGR)	Waters used for farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, and support of vegetation.
Groundwater Recharge (GWR)	Waters used for natural or artificial recharge of groundwater proposed for future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.
Municipal and Domestic Supply (MUN)	Waters used for community, military, or individual water supply systems including, but not limited to, drinking water supply.
(RARE)	Waters support habitats necessary for the survival and successful maintenance of plant or animal species designated under State or Federal law as rare, threatened, or endangered.
Water Contact Recreation (REC1)	Waters used for recreational activities involving body contact with water where ingestion of water is reasonably possible. Uses include, but are not limited to, swimming, water-skiing, whitewater activities, fishing, and use of natural hot springs.
Non-contact Water Recreation (REC2)	Waters used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water is reasonably possible. Uses include, but are not limited to, picnicking, sunbathing, hiking, camping, boating, hunting, sightseeing, and aesthetic enjoyment.
Warm Freshwater Habitat (WARM)	Waters that support warm water ecosystems including, but not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.
Wildlife Habitat (WILD)	Water that support wildlife habitats including, but not limited to, the preservation and enhancement of vegetation and prey species used by wildlife, such as waterfowl.

Source: Water Quality Control Plan for the Santa Ana River Basin, 1995.

4.9.1.3 Water Sources

Water resources in the City and throughout Riverside County are sustained by substantial groundwater basins, which are used as reservoirs to store water during wet years. These underground reservoirs are tapped throughout the year according to the demand for water. Groundwater conditions in these basins are influenced by natural hydrologic conditions such as percolation of precipitation, groundwater seepage, and ephemeral stream flow within the watershed areas. The project site lies within the Perris North and San Jacinto Lower Pressure Management Zones of the West San Jacinto Groundwater Management Plan (Plan) area, which covers approximately 164,200 acres.[1] This Plan area is bounded by the San Jacinto Mountains on the east, the San Timoteo Badlands on the northeast, the Box Mountains on the north, the Santa Rosa Hills and Bell Mountain on the south, and unnamed hills on the west. Groundwater conditions in these basins are influenced by natural hydrologic conditions such as percolation of precipitation, groundwater seepage, and ephemeral stream flow within the watershed areas. Currently, the City does not identify any major groundwater recharge areas within the project site.[2]

[1] The West San Jacinto Groundwater Management Plan identifies groundwater areas as "management zones" which may not match the area or configuration of subbasins.

[2] *Section 5.7 Hydrology/Water Quality*, City of Moreno Valley General Plan Final Program EIR, City of Moreno Valley, July 2006.

4.9.1.4 Water Supply

The project area is located within the service boundary of the Eastern Municipal Water District (EMWD), which serves the eastern portion of the watershed in Riverside County. The EMWD has a 555-square mile service area that provides water for a population of about 630,000. Without easy access to an ocean outfall for effluent, the EMWD has developed into one of the State's largest reclaimed water providers, having a combined capacity from its five sewage treatment plants of more than 43 million gallons per day (mgd). Reclaimed water has become extremely important in managing local water resources, and helps extend potable supplies by substituting reclaimed water for potable water typically used by certain facilities (e.g., golf courses and landscape irrigation). The EMWD utilizes an aggressive program of developing local groundwater resources, including desalination, water harvesting, and additional storage of surplus imported and reclaimed water.

The EMWD adopted the West San Jacinto Groundwater Basin Management Plan (Plan) in June 1995. The Plan serves to protect the interests of existing groundwater producers and to provide a framework for new water supply projects within the 256-square mile Management Plan area. This plan encompasses more than 164,200 acres and includes the groundwater management zones, as well as essentially non-water bearing areas such as the Lakeview Mountains, the Bernasconi Hills around Lake Perris, the Double Butte area near Winchester, and areas in the extreme northern, western, and southern portions of the EMWD.[1]

A Water Supply Assessment (WSA) was prepared for this project and approved by the EMWD on February 21, 2012, which indicated that water service to the project site will be provided by the EMWD and that the EMWD has the supplies available to provide water to the proposed project.

The water supply available to the EMWD in 2010 totals approximately 154,700 acre-feet (AF).[2] Water sources for the EMWD include imported water purchased from the Metropolitan Water District of Southern California (Metropolitan), groundwater sources, desalted groundwater, and recycled water from the EMWD's five regional water reclamation facilities. Imported water from Metropolitan is delivered in three ways: as potable water, as raw water and treated at two local EMWD filtration plants, or as raw water for non-potable use.

Approximately 80 percent of the EMWD's water is imported from Metropolitan and the remaining 20 percent is supplied by groundwater wells. Approximately 33 percent of the water produced by the EMWD is recycled water. Groundwater supplies are drawn from EMWD wells located in the Hemet, San Jacinto, Moreno Valley, Perris Valley, and Murrieta areas.

In June 2011, the EMWD adopted its *2010 Urban Water Management Plan* (UWMP), which details the reliability of its current and future water supply. The document found that with all of its existing and planned supplies, the EMWD can meet 100 percent of projected supplemental demand through 2035, even with a repeat of a severe drought. In addition, the UWMP addresses conservation, local supplies and reliability of imported supplies. Table 4.16.A (q.v.) identifies EWMD's past, present, and projected water supplies and demand.

The water supply demands of the proposed project have been assessed in the WSA and a determination was made that there is adequate water to serve the proposed WLC project. More information on this topic is provided in Section 4.16, *Utilities and Service Systems*, of the DEIR.

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1 *West San Jacinto Groundwater Basin Management Plan 2010 Annual Report*, Eastern Municipal Water District, June 2011.

2 An acre-foot covers one acre to a depth of one foot. An acre foot is approximately 326,000 gallons, which is enough to meet the needs of two average southern California households a year.

4.9.1.5 Storm Drain Infrastructure

A portion of the project site is located within the Moreno Master Drainage Plan (MMDP) of the Riverside County Flood Control and Water Conservation District (RCFCWCD). The MMDP provides guidance for the construction of the master plan drainage system, and regional retention/detention basins. RCFCWCD is currently preparing a revised MMDP. The existing 12-foot wide by 8-foot high reinforced concrete box (RCB) east of Redlands Boulevard is owned by RCFCWCD and is designated as Line "F" in the MMDP. This facility conveys runoff from the existing culverts under SR-60 and through developed property to its current terminus immediately south of Eucalyptus Avenue. (Note: This RCB is located farther west than depicted on the MMDP to accommodate the existing logistics building south of SR-60.) The existing MMDP provides for storm flows north of SR-60 to be routed to the proposed Sinclair Detention Basin. Flows released from the proposed basin would pass under SR-60 through the existing culverts and be conveyed to the drainage systems identified as Line "F" in the MMDP. An additional Basin, identified as the Redlands Basin, north of SR-60 is proposed in the revised MMDP.

4.9.1.6 NOP/Scoping Comments

A number of residents and representatives of local conservation groups expressed concerns regarding impacts the project might have on local drainage, especially historic localized flooding, groundwater quantity and quality, and water quality, especially related to the San Jacinto Wildlife Area immediately south of the project site to serve as a transition area or buffer. Sections 4.9.5 and 4.9.6 of the DEIR thoroughly analyze these issues.

4.9.2 Existing Policies and Regulations

In the past, the effort to control the discharge of storm water has focused on managing the quantity of storm water (e.g., flood control) and only to a limited extent on managing the quality of storm water. In recent years, awareness of the need to improve water quality has increased. With this awareness, an extensive body of Federal, State, and local laws and regulatory programs has been established to pursue the goal of reducing pollutants contained in storm water discharges to waterways. The emphasis of these programs is to promote the concept and the practice of preventing pollution at the source, before it can cause environmental harm.

4.9.2.1 Federal Regulations

Clean Water Act. The CWA was amended in 1972 to prevent discharge of pollutants to waters of the United States from any point source unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added Section 402(p), which establishes the NPDES, a permitting system for the regulation of discharges of any pollutant into waters of the United States. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. In November 1990, the EPA published final regulations that establish application requirements for storm water permits. The regulations require NPDES permits for discharges of storm water from industrial/construction and Municipal Separate Storm Sewer Systems (MS4s). To comply with the permits, storm water pollution controls must be implemented for construction and industrial activity that discharges either directly to surface waters or indirectly through separate municipal storm drains. Pollution control is achieved by establishing engineering measures that have been designed, tested and successfully implemented throughout the past decades, such as detention basins and sediment traps, during both the construction period and the operational phases of a project.

Pursuant to the requirements of the State Water Resources Control Board (SWRCB), the NPDES General Permit No. CAS000002 applies to all construction activities that result in the disturbance of at

least one acre of total land area, or activity which is part of a larger common plan of development of one acre or greater. General Permit No. CAS000002 is issued by the SWRCB as part of the Federal delegation responsibilities under this section of the CWA. The RWQCB regulates hydromodification[1] as well as surface and groundwater quality through adoption of water quality plans and standards, and issuance of water quality permits and waivers. The NPDES permit deals with both the construction phase and operational phase of development projects. For the construction phase of a project, the NPDES permit identifies the preparation of an SWPPP.

The implementation of NPDES permits ensures that the state's mandatory standards for the maintenance of clean water and the Federal minimum standards are met. Coverage under an NPDES permit regulates sedimentation and soil erosion through implementation of an SWPPP and periodic inspections by RWQCB staff. An SWPPP is a written document that describes the construction operator's activities to comply with the requirements in the NPDES permit. The SWPPP establishes a process whereby the operator evaluates potential pollutant sources at the site and implements Best Management Practices (BMPs) designed to prevent or control the discharge of pollutants in storm water runoff.

Storm water control measures during construction and grading will be outlined in the construction NPDES permit and SWPPP prepared for each proposed phase of the project. Examples of such BMP control measures include but are not limited to the following:

- Temporary detention basins for runoff and silt containment;
- Regular street-sweeping and truck washing prior to exiting construction areas;
- Covering of soil hauling trucks to minimize dust generation (and silt buildup on project roads;
- Dirt rockers at project exits to reduce soil transported out of construction areas;
- Monitoring of runoff and protection devices during storm events;
- Use of silt fencing, gravel bags, and/or straw bales to channel runoff to temporary basins; and
- Identification of emergency procedures in case of hazardous materials spills.

The project proponent will be required to obtain a construction NPDES permit prior to any site grading. In addition, the NPDES permit will require the identification of post-construction BMPs to be incorporated into the project WQMP and any subsequent site-specific WQMP. The WQMP identifies measures to control the post-construction entry of contaminants into storm flows.

In addition, pursuant to Section 404 of the CWA, the U.S. Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into waters of the United States. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in the USACE regulations). The USACE typically regulates as non-wetland waters of the U.S. any body of water displaying an ordinary high water mark (OHWM). In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied in order for that particular wetland

[1] Hydromodification is the alteration of the hydrologic characteristics of coastal and non-coastal waters, which, in turn, could cause degradation of water resources.

characteristic to be met. A project-specific discussion regarding Section 404 issues is provided in Section 4.4, *Biological Resources*, of this EIR.

National Flood Insurance Program. The National Flood Insurance Program (NFIP) is a relatively recent Federal program. The Federal government has been actively involved in flood control since 1927 following major floods on the Mississippi River. Beginning with the Flood Control Act of 1936, Congress assigned the USACE the responsibility for flood control engineering works and later for floodplain information services. Flood control was provided through the construction of dams and reservoirs. Despite these programs and rapidly rising Federal expenditures for flood control, flood losses continued to rise. In 1968, Congress passed the National Flood Insurance Act, which created the NFIP. The Flood Disaster Protection Act of 1973, which amended the 1968 Act, required the purchase of flood insurance by property owners who were located in special flood hazard areas and were being assisted by Federal programs, or by federally supervised, regulated, or insured agencies or institutions.

National Flood Insurance Program Reform Act of 1994. In 1994, the National Flood Insurance Program Reform Act went through its first major revision since its inception. Included in this revision were provisions that if a lender were to escrow an account and if the structure were in the floodplain, then the lender *must* escrow for flood insurance. The revised legislation also included increased flood insurance limits and the elimination of the 1962 buy-out program. However, the legislation did initiate the Hazard Mitigation Fund as part of the flood insurance policy. Also included in this legislation was the increase from a 5-day to a 30-day waiting period for a new policy to become effective. It also prohibits the waiver of flood insurance purchase requirements as a condition of receiving Federal disaster assistance. If the flood insurance policy were not maintained, in the event of another disaster, no disaster assistance would be made available for that structure.

Executive Order 11988, Floodplain Management. Executive Order 11988 requires the USACE to provide leadership and to take action to:

- Reduce the hazards and risk associated with floods;
- Minimize the impact of floods on human health, safety, and welfare; and
- Restore and preserve the natural and beneficial values of the current floodplain.

To comply with Executive Order 11988, the policy of the USACE is to develop projects that, to the extent possible, avoid or minimize adverse effects associated with use of the floodplain and that avoid development (or the inducement of development) in an existing floodplain unless there is no practicable alternative.

4.9.2.2 State Regulations

Porter-Cologne Water Quality Control Act. The California Water Code (CWC) is the principal state law regulating water quality in California. The CWC contains provisions regulating water and its use. This portion of the CWC, Division 7 (Porter-Cologne Act), establishes a program to protect water quality and beneficial uses of the State water resources and includes groundwater and surface water. The SWRCB is the principal State agency responsible for control of water quality. It establishes waste discharge requirements, water quality control planning and monitoring, enforcement of discharge permits, and ground and surface water quality objectives. It also prevents waste and unreasonable use of water, and adjudicates water rights.

Pursuant to requirements of the SWRCB, the NPDES Construction General Permit (CGP) No. CAS000002 applies to all construction activities that result in the disturbance of at least one acre of total land area, or activity which is part of a larger common plan of development of one acre or greater. The CGP is issued by the SWRCB as part of the Federal delegation responsibilities under Section 402 of the CWA. For all projects subject to the CGP, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the CGP. The CGP separates projects into Risk Levels 1, 2, or 3. Risk Levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined.

The BMPs for this project contained in the Preliminary Water Quality Management Plan (PWQMP, see DEIR Appendix J) have been developed by the project engineers to address project-specific water quality impacts. See Section 4.9.2.3 for more information on the MS4 Permit System as it applies to the project. For additional information on the major BMPs recommended in the PWQMP prepared by CH2MHill for the project that are consistent with these regulations, see Section 4.9.6.1, *Construction-Related Water Quality Impacts*, and Section 4.9.6.2, *Operational Water Quality Impacts*. The BMPs for the project are described in Section 4.9.3.2 and 4.9.6.2 for treatment control BMPs, and in Section 4.9.6.1 for construction site BMPs.

California Fish and Game Code. The California Fish and Game Code has provisions to prevent unauthorized diversions of any surface water and discharge of any substance that may be deleterious to fish, plant, animal, or bird life. The California Department of Fish and Wildlife (CDFW), through provisions of the California Fish and Game Code (§1601 through §1603), is empowered to regulate any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. The presence of a channel bed and banks, and at least an intermittent flow of water define streams (and rivers), is one of the most important factor in establishing CDFW jurisdiction. The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW. Discussion of jurisdictional waters and riparian/wetland resources is provided in Section 4.4, *Biological Resources*, of this EIR.

California Code of Regulations. The California Code of Regulations (CCR) contains administrative procedures for the State and the nine Regional Water Quality Control Boards (RWQCBs) in Title 23, and for water quality for domestic uses, wastewater reclamation, and hazardous waste management in Title 22.

Health and Safety Code. The Health and Safety Code provides for protection of ground and surface waters from hazardous waste and other toxic substances.

Groundwater Management Act (AB 3030) [Sections 10750–10756 of the California Water Code]. The availability of groundwater and issues involving the adequacy of recharge capability are regional in nature. The Groundwater Management Act[1] (AB 3030) provides a systematic procedure for an existing local agency to develop a groundwater management plan. AB 3030 allows a local agency whose service includes a groundwater basin that is not already subject to groundwater management pursuant to law or court order to adopt and implement a groundwater management plan and includes plans to mitigate overdraft conditions, control brackish water, and to monitor and replenish groundwater.

[1] Sections 10750–10756 of the California Water Code.

There are currently few domestic uses for groundwater in the project area as the City of Moreno Valley primarily relies upon imported water from the EMWD for domestic use. Water sources for the EMWD include imported water purchased from Metropolitan, groundwater sources, and recycled water from the EMWD's five regional water reclamation facilities. Approximately 75 percent of the EMWD's water is imported from Metropolitan, with the remaining 25 percent supplied by groundwater wells.[1] Groundwater supplies are drawn from the EMWD wells located in the Hemet, San Jacinto, Moreno Valley, Perris Valley, and Murrieta areas.

Cobey-Alquist Flood Plain Management Act (California Water Code Section). This Act states that a large portion of land resources of the State of California is subject to recurrent flooding. The public interest necessitates sound development of land use, as land is a limited, valuable, and irreplaceable resource, and the floodplains of the State are a land resource to be developed in a manner that, in conjunction with economically justified structural measures for flood control, would result in prevention of loss of life and of economic loss caused by excessive flooding. The primary responsibility for planning, adoption, and enforcement of land use regulations to accomplish floodplain management rests with local levels of government. It is policy of the State of California to encourage local government to plan land use regulations to accomplish floodplain management and to provide state assistance and guidance. As part of its discretionary review process, the City must determine how the project will comply with this Act and not create flooding impacts on new occupied land uses.

California Toxics Rule. On May 18, 2000, the State Environmental Protection Agency (CalEPA) promulgated numeric water quality criteria for priority toxic pollutants and other provisions for water quality standards to be applied to waters in the State of California. The CalEPA promulgated this rule based on the Administrator's determination that the numeric criteria are necessary in California to protect human health and the environment. The rule fills a gap in California water quality standards that was created in 1994 when a State court overturned the State's water quality control plans containing water quality criteria for priority toxic pollutants. Thus, the State of California has been without numeric water quality criteria for many priority toxic pollutants as required by the CWA, necessitating this action by CalEPA. These Federal criteria are legally applicable in the State of California for inland surface waters, enclosed bays, and estuaries for all purposes and programs under the CWA.

4.9.2.3 Local Regulations

Municipal Separate Storm Sewer System (**MS4**) **Permit System.** The City of Moreno Valley is a co-permittee under the NPDES MS4 Permit No. CAS 618033, adopted on January 29, 2010. The NPDES MS4 permit is intended to regulate the discharge of urban runoff from the MS4 within Riverside County. Under the NPDES MS4 permit, the City is responsible for the management of storm drain systems within its jurisdiction. Cities are required to implement management programs, monitoring programs, implementation plans, and all BMPs outlined in the Riverside County Water Drainage Area Management Plan (DAMP) and Riverside County Water Quality Management Plan for Urban Runoff (WQMP). The current approved WQMP, dated October 22, 2012, addresses the 2010 MS4 NPDES permit.

Projects identified as a 'Priority Development Project' will be required to prepare a Project-Specific WQMP. The 2010 MS4 Permit mandates a Low Impact Development (LID) approach to storm water

[1] EMWD History and Mission, http://www.emwd.org, Eastern Municipal Water District, website accessed April 20, 2012.

treatment and management of runoff discharges. The project site should be designed to minimize imperviousness, detain runoff, and infiltrate, reuse or evapotranspirate runoff where feasible. LID BMPs should be used to infiltrate, evapotranspirate, harvest and use, or treat runoff from impervious surfaces, in accordance with the Design Handbook for Low Impact Development Practices. The project must ensure that runoff does not create a hydrologic condition of concern. The RWQCB continuously updates impairments as studies are completed. The most current version of impairment data will be reviewed and implemented prior to the preparation of Preliminary and Final Project-Specific WQMPs for future phases of the project. As part of its discretionary review process, the City must ensure that each phase of the project complies with the MS4 requirements.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP is an element of the Riverside County Integrated Project (RCIP), which is an integration of land use, transportation, and conservation planning and implementation to develop a consensus for the future development of Riverside County. The MSHCP is designed to protect over 150 species and conserve over 500,000 acres of land in western Riverside County. The MSHCP was adopted in 2003 and is being implemented specifically to address the direct, indirect, cumulative, and growth-related effects on covered species resulting from build out of planned land use and infrastructure, including the proposed project. The MSHCP involves efforts by the county, State, and Federal governments, the fourteen cities in western Riverside County, and private and public entities engaged in construction activities that potentially affect the species covered under the MSHCP. The plan specifies an obligation of local projects, both public and private, to mitigate their impacts on species. The MSHCP includes incentives for conservation or the purchase of properties from willing sellers and will eventually result in a Conservation Area in excess of 500,000 acres, focusing on conservation of 150 species. The MSHCP Conservation Area includes approximately 347,000 acres of existing Public/ Quasi-Public Lands and approximately 153,000 acres of Additional Reserve Land. The MSHCP requires a proposed development project to evaluate any impacts to riparian or riverine resources on the project site, as well as what is referred to as the “urban/wildlands interface” when present. This analysis includes design features and measures related to drainage features, toxics, lighting, noise, invasive plants, barriers, and grading/land development.

The MSHCP requires new development to determine if a project site contains riparian or riverine resources/processes prior to development. If they are present, the MSHCP requires projects to protect these resources to the extent possible with creative project design, setbacks, etc. If such resources, or any other important resources identified in the MSHCP will be affected by development, the developer is required to submit a Determination of Biologically Equivalent or Superior Preservation (DBESP) report indicating how impacts to these resources will be mitigated or compensated for by the developer. For more information on the MSHCP and DBESP processes, see Section 4.4, *Biological Resources*.

4.9.2.4 City of Moreno Valley General Plan Policies

The following General Plan objectives, policies, and programs are applicable to the proposed project:

Objectives, Policies, and Programs

Objective 6.2 Minimize the potential for loss of life and protect residents, workers, and visitors to the City from physical injury and property damage, and to minimize nuisances due to flooding.

Policy 5.5.11 Implement National Pollutant Discharge Elimination System Best Management Practices relating to construction of roadways to control runoff contamination from affecting water resources.

Objective 7.2 Maintain surface water quality and the supply and quality of groundwater.

Program 7-2 Advocate for natural drainage channels to the Riverside County Flood Control District, in order to assure the maximum recovery of local water, and to protect riparian habitats and wildlife.

Policy 7.4.3 Preserve natural drainage courses in their natural state and the natural hydrology, unless the protection of life and property necessitate improvement as concrete channels.

4.9.3 Methodology

Evaluation of hydrology and water quality impacts associated with the proposed project includes the following:

- Determine the construction phase water quality impacts based on NPDES standards;
- Determine the construction impacts on drainage patterns and drainage capacity;
- Determine the operational water quality impacts based on NPDES standards;
- Determine the operational impacts on drainage patterns and drainage capacity; and
- Determine the impacts on local groundwater table levels.

A PWQMP (included as Appendix J-2 of this EIR) has been prepared for the proposed project and evaluates impacts associated with operational activities. Drainage pattern and capacity impacts were evaluated by calculating existing and proposed flow condition rates using the rational method in accordance with the methods described in the Riverside County Flood Control and Water Conservation District Hydrology Manual. The peak 100-year storm runoff was utilized to preliminarily size storm drain pipes as indicated in the Draft Drainage Report conducted for this project (Appendix J-1 of this EIR).

Due to the land use change associated with the land development, a number of drainage systems are proposed to mitigate the changes of hydrologic characteristics of the watershed. The design guidelines for this project are in accordance with RCFCWCD requirements and City of Moreno Valley guidelines. The design guidelines and local flood protection requirements are summarized as the following:

- Drainage facilities shall be designed in accordance with the Riverside County Hydrology Manual and Design Manual Standard Drawings. The drainage systems shall be designed to provide 100-year level of flood protection through a combined hydraulic conveyance of the underground storm drains and detention basins;
- Proposed drainage systems, which are connecting to the existing downstream facilities, shall be designed properly so the proposed discharge does not exceed the existing discharge to the downstream facilities; and
- Provisions for maintenance and/or easement shall be incorporated in the proposed drainage systems.

4.9.3.1 Pollutants of Concern and Assessment Methodology

The pollutants of concern for the water quality analysis have been identified based on the previously described regulations and the pollutants identified by regulatory agencies that potentially could be generated by the proposed project. The potential pollutants associated with the project are reflected in Table 4.9.C. Table 4.9.D describes these pollutants (bacterial indicators, metals, nutrients, pesticides, toxic organic compounds, sediments, trash & debris, and oil & grease) and their general impact on water quality and aquatic habitat.

Table 4.9.C: Anticipated and Potential Pollutants Generated by Land Use Type

Priority Project Categories	General Pollutant Categories							
	Bacterial Indicators	Metals	Nutrients	Pesticides	Toxic Organic Compounds	Sediments	Trash & Debris	Oil & Grease
Commercial/Industrial Development	P[3]	P	P[1]	P[1]	P[5]	P[1]	P	P
Parking Lots (>5,000 ft^2)	P[6]	P	P[1]	P[1]	P[4]	P[1]	P	P
Retail Gasoline Outlets	N	P	N	N	P	N	P	P

P = Potential N= Not Potential

[1] A potential pollutant if non-native landscaping exists or is proposed onsite; otherwise not expected.

[2] A potential pollutant if the project includes uncovered parking areas; otherwise not expected.

[3] A potential pollutant if land use involves animal waste.

[4] Specifically petroleum hydrocarbons.

[5] Specifically solvents.

[6] Bacterial indicators are routinely detected in pavement runoff

Source: *Preliminary Project Specific Water Quality Management Plan for World Logistics Center Specific Plan (2012)*

Table 4.9.D: Pollutants and General Water Quality Impacts

Pollutant	Water Quality Impact
Bacterial Indicators	May result in water body impairments, can exceed public health standards for water contact recreation, creating a harmful environment. Can alter the aquatic habitat and create a harmful environment for aquatic life.
Metals	Bio-available forms of trace metals are toxic to aquatic life, potential of groundwater contamination, bio-accumulation in aquatic life, affect beneficial uses of a water body.
Nutrients	Elevated nutrient levels in surface waters cause algal blooms, excessive vegetative growth, and dissolved oxygen levels, which is detrimental to aquatic life.
Pesticides	Elevated levels can indirectly or directly constitute a hazard to life or health. During cleaning activities, these compounds can be washed off into storm drains creating runoff containing toxic levels of the pesticides active component. Dirt, grease, and grime may adsorb concentrations that are harmful or hazardous to aquatic life.
Toxic Organic Compounds	May contain levels that are harmful or hazardous to aquatic life.
Sediments	Excessive sediment can be detrimental to aquatic life by interfering with photosynthesis, respiration, growth, and reproduction.
Trash and Debris	Detrimental effect on recreational value of a water body and aquatic habitat; interferes with aquatic life respiration and can be harmful or hazardous to aquatic animals that mistakenly ingest floating debris.
Oil and Grease	Can accumulate in aquatic life from contaminated water, sediments, and food and are toxic at low concentrations. Can persist in sediments for long periods of time and result in adverse impacts on the diversity and abundance of existing bio-communities and can affect the aesthetic value of a water body.

The project's priority pollutants of concern are defined as the pollutants associated with the project that are also present in impaired receiving waters. Based on the WQMP prepared for the proposed project, impaired receiving waters downstream from the project include Canyon Lake and Lake Elsinore. Canyon Lake is impaired for nutrients and pathogens, and Lake Elsinore is impaired for nutrients, organic enrichment/low dissolved oxygen, PCBs, and unknown toxicity. Therefore, the priority pollutants of concern for this project include pathogenic indicators, nutrients, pesticides, and toxic organic compounds.

4.9.3.2 Treatment Control BMPs and Assessment Methodology

The treatment control BMP strategy is to select Low Impact Development (LID) BMPs that promote infiltration and evapotranspiration, including infiltration basins, bioretention facilities, and extended detention basins. Generally infiltration BMPs have advantages over other types of BMPs, including reduction of the volume and rate of runoff, as well as full treatment of all potential pollutants potentially contained in the storm water runoff. It is recognized however that infiltration may not be feasible on sites with low infiltration rates, or located on compacted engineered fill. If the BMP is considered in a fill condition, and the infiltration surface of the BMP cannot extend down into native soils, or if the BMP is considered in a cut condition, and there is no practicable way to verify infiltration rates at the final BMP elevation, infiltration BMPs will not be used. Prior to final design of each phase of the project, infiltration tests shall be performed within the boundaries of the proposed infiltration BMP and at the bottom elevation (infiltration surface) of the proposed infiltration BMP to confirm the suitability of infiltration. In situations where infiltration BMPs are not appropriate, bioretention and/or biotreatment BMPs (including extended detention basins, bioswales, and constructed wetlands) that provide opportunity for evapotranspiration and incidental infiltration will be considered. Harvest and use BMPs will also be considered as a treatment control BMP to store runoff for later non-potable uses.

Proprietary BMPs combined with traditionally accepted BMPs may assist with the treatment of project pollutants. Proprietary BMPs combined with traditionally accepted BMPs may be employed on a site-specific basis as approved by the City of Moreno Valley. The appropriate BMP(s) for each phase of the project will be determined based on the size of the project area, the types of pollutants that would be found in the development runoff, and pollutants of concern. Table 4.9.E describes these BMPs (infiltration basins, biofilters, detention basins, water quality inlets, and hydrodynamic separators) and their general characteristics.

Table 4.9.E: BMP Characteristics

BMP	General Characteristics
Biofilters	Includes grass swales, grass strips, wetland vegetation swales, and bioretention. Pollutants are removed by bioretention or biofiltration, and provide opportunity for evapotranspiration and incidental infiltration.
Water Quality Inlet	Pollutants are removed through sedimentation and separation as the design flow passes through one or more chambers. Generally used for pretreatment before discharging into another type of BMP.
Extended Detention Basin	Basin sized to detain and slowly release the design volume of urban runoff, allowing particles and associated pollutants to settle out. Maintenance efforts would need to be directed toward vegetation management, vector control, and removal of debris accumulations.
Infiltration Basins	Basin sized to detain and infiltrate runoff, allowing particles and associated pollutants to settle out. Maintenance efforts would be directed toward vegetation management, vector control, and removal of debris accumulations. This BMP may require groundwater monitoring.
Hydrodynamic Separator System	Device treats storm water by creating a whirlpool of water within a concrete chamber in which solids fall to the bottom of the chamber while buoyant debris, oil, and grease rise to the surface, allowing water to pass through a flow control opening.

4.9.4 Thresholds of Significance

The following thresholds of significance regarding potential impacts to hydrology and water quality are based on *CEQA Guidelines* (2012). A project would have a significant impact on surface hydrology, water quality, and/or groundwater if it would:

- Result in violations of any water quality standards or waste discharge requirements of the City of Moreno Valley or the Regional Water Quality Control Board;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion, siltation on site or off site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff which would result in on-site or off-site flooding;
- Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss injury or death involving flooding, including flooding as a result of the failure of a levee or dam; and/or
- Expose people or structures to inundation by seiche, tsunami, or mudflow.

4.9.5 No Impacts/Less Than Significant Impacts

The following potential impacts were determined to be less than significant. In each of the following issues, either no impact would occur (therefore, no mitigation would be required) or adherence to established regulations, standards, and policies would reduce potential impacts to a less than significant level.

4.9.5.1 Seismic Flooding-Related Impacts

Threshold	Would the project expose people or structure to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

The project site the off-site improvement areas are not identified as being located within the City's mapped inundation area;[1] therefore, the proposed project would not result in the exposure of people or structures to risk of loss, injury, or death involving flooding as a result of failure of either the Poorman Reservoir (Pigeon Pass Dam) or Lake Perris Dam. Impacts related to this issue would be less than significant, and no mitigation is required.

[1] *Figure 5.5-2 Floodplains and Fire Hazard Areas*, City of Moreno Valley General Plan Final Program EIR. July 2006.

4.9.5.2 Seismic-Related Impacts

Threshold	Would the project expose people or structure to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow?

A tsunami is a series of waves generated in a body of water by a pulsating or abrupt disturbance that vertically displaces water. Seiches are oscillations in enclosed bodies of water that are caused by a number of factors, most often wind or seismic activity. Lakes in seismically active areas such as Lake Perris are at risk from seiches. A mudslide (also known as a mudflow) occurs when there is fast-moving water and a great volume of sediment and debris that surges down a slope, stream, canyon, arroyo, or gulch. Mudslides are similar to flash floods and can occur suddenly without time for adequate warning. Mudflows can ruin substantial improvements with the force of the flow itself and the burying or erosion of improvements by mud and debris.

The project area is not at risk of inundation by a tsunami as it is located approximately 56 miles from the Pacific Ocean. The project area is located approximately 2.5 miles northeast of Lake Perris. Lake Perris is an enclosed body of water and could be subject to a seiche during a seismic event. However, a seiche event would not affect the project area because water levels in the lake are not high enough to overtop the Perris Dam in the event of a seiche.[1] The Perris Dam has been designed to prevent seiche phenomena due to the region's high seismicity. In addition, the topography between the Specific Plan area and Lake Perris has multiple hills and valleys. Given these factors, impacts associated with seiche events are less than significant for the proposed WLC project.

Except for the far southwest corner, the project site is located in a gently sloping area where landslides and mudslides would not occur. No development is proposed on the steep slopes of Mount Russell in the southwesterly portion of the property, which is included in the 75 acres of open space designated within the WLCSP. Therefore, a less than significant impact associated with landslides, rockfalls, or mudslides would occur, and no mitigation is required.

4.9.5.3 Groundwater

Threshold	Would the proposed WLC project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level?

Based on the WSA prepared for the proposed project by the EMWD, water demand for the proposed on-site uses would total approximately 1,991.25 acre-feet per year (AFY).[2] The EMWD considers this a worst-case estimate based on the total acres and amount of square footage of high cube logistics uses proposed by the project. This estimate does not take into account the proposed project landscaping design with xeriscape drought-tolerant landscaping and on-site collection of runoff and channeling it to landscaped areas to minimize irrigation on the interior of the project site. Thus, the water demand analysis conducted by the EMWD and in this EIR is somewhat conservative in its estimate of the actual water usage of the proposed project as it builds out. For the purposes of analysis in this EIR, the EMWD's estimate of 1,991 AFY figure will be used relative to water consumption.

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1 The existing earthen wall is approximately 128 feet high with the highest elevation at 1,628 feet. Normal operating water levels for Lake Perris are at 1,588 feet (leaving 40 feet of excess height between the water level and the top of the dam). Restricted operating water levels for Lake Perris are at 1,563 feet (leaving 65 feet of excess height between the water level and the top of the dam).

2 *Water Supply Assessment Report for the World Logistics Center Specific Plan in Moreno Valley,* Eastern Municipal Water District, March 21, 2012.

As identified in Section 4.16, *Utilities and Service Systems*, of this EIR, the proposed project will obtain water service from the EMWD. It is anticipated that the proposed project would primarily utilize imported water purchased from Metropolitan. In the event that the supply of imported water is reduced, it would be supplemented with new local supply projects during multiple dry years, if needed.

The WSA prepared for the proposed project indicates that development of the project will not include groundwater for water supply. Rather, this project, as well as other new developments in the EMWD's service area, will be supplied exclusively with imported water provided by MWD. The imported water may be treated by MWD, provided by Metropolitan as untreated water and subsequently treated by the EMWD, or recharged into the basin for later withdrawal.

As identified in the City's General Plan, the proposed project will not substantially interfere with groundwater recharge as any decreased groundwater recharge due to increased impervious surface area will be offset by infiltration due to irrigation.[1] The only use of groundwater may be to support continued agriculture on portions of the WLCSP property that have not yet been developed. The EMWD developed the West San Jacinto Groundwater Basin Management Plan to help ensure that local groundwater resources are conserved and groundwater overdraft does not occur, based on projections of future growth and expected water supply conditions. The Plan projects the water consumption demands of existing and future development based on rates of growth assumed by regional planning organizations (i.e., SCAG and WRCOG) and estimates water demand versus available supply under different water supply scenarios (e.g., multiple dry years).

The Specific Plan requires future development to minimize water use by installing drought-tolerant landscaping (Specific Plan Section 4.2, Offsite Design Standards – Landscaping, and Section 5.3, Onsite Design Standards - Landscaping), by designing buildings and hardscape areas to capture and reuse water on-site for landscape irrigation (Specific Plan Section 5.4, *On-Site Landscaping*), and installing water-conserving building fixtures such as sinks, toilets, etc. (Specific Plan Section 6.0, *Sustainability*).

State Water Supply Reliability. Based on the Water Allocation analysis released by the California Department of Water Resources (DWR) on March 22, 2010, export restriction could reduce Metropolitan deliveries by 150 to 200 thousand acre-feet (TAF) under mean hydrologic conditions, and operations could remain restricted until a long-term solution is found to improve the stability of the Bay-Delta region.

The State Water Project (SWP) and Central Valley Project (CVP) are the responsible partners for operation of the DWR and Bureau of Reclamation (Reclamation), respectively. In November 1986, DWR and Reclamation signed the Coordinated Operations Agreement (COA). The COA was subsequently authorized and approved by the California State Legislature and Congress. Under COA, DWR and Reclamation agree to operate the SWP and CVP in a balanced manner to coordinate releases from upstream reservoirs and unregulated flows to meet Sacramento Valley in-basin and in-Delta uses, including water quality standards established by the SWRCB.

Reclamation, as a Federal agency is required to consult with National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Federal Endangered Species Act (FESA) to determine if a Federal action that they authorize, fund, or implement could jeopardize the continued existence of a listed species in the wild, or destroy or modify the species'

[1] *Section 5.7 Hydrology/Water Quality*, City of Moreno Valley General Plan Final Program EIR, City of Moreno Valley, July 2006.

critical habitat. Because the SWP and CVP are operated in a balanced manner, the findings under Section 7 of the FESA affect operations of both the SWP and CVP.

The initial biological opinions related to long-term operations of the SWP and CVP were issued 1993 by NMFS for protection of the winter-run Chinook salmon and by USFWS for protection of delta smelt. Operations of the SWP and CVP were modified to reduce potential adverse impacts to these species primarily through:

1) Increased storage volumes of water in upstream reservoirs to provide adequate flows with appropriate temperatures for the winter-run Chinook salmon and adequate flows in the Delta for both species;
2) Flows released from upstream reservoirs to provide adequate in-Delta flows and Delta outflows for these species; and
3) Modification of periods of time when water can be diverted at the SWP and CVP south Delta intakes to reduce the potential for reverse flows, reduce the potential for high salinity in the south Delta, and reduce the potential for entrainment and entrapment of fish in the SWP and CVP south Delta intake facilities.

The biological opinions were modified as DWR and Reclamation modified operations of the SWP and CVP and new information related to aquatic resources became available. During this period, NMFS redesignated the Sacramento River winter-run Chinook salmon as “endangered” and designated two species as “threatened” (i.e., Central Valley spring-run Chinook salmon and Central Valley steelhead). Therefore, the consultations under Section 7 of the FESA were modified and new biological opinions were issued between 2000 and 2004. In 2005, the Department of the Interior was sued with respect to the 2004 biological opinion issued by USFWS. Subsequently, USFWS re-issued the biological opinion in 2005; however, the Department of the Interior was sued in 2005 with respect to the reissued biological opinion. The 2005 USFWS biological opinion was invalidated and the United States District Court for the Eastern District of California (the Court) ordered a new biological opinion and issued interim operations orders to protect delta smelt until a new biological opinion could be issued in 2008. The interim operations criteria included limitations for operation of the SWP and CVP south Delta intakes to protect delta smelt.

In response to these actions, Reclamation requested consultation with USFWS and NMFS in August 2008 with respect to the coordinated long-term operation of the SWP and CVP. In December 2008, the USFWS issued a new biological opinion on the coordinated long-term operation of the SWP and CVP on the effects to delta smelt. In June 2009, the NMFS issued a new biological opinion on the coordinated long-term operation of the SWP and CVP on the effects to currently listed species (e.g., Central Valley spring-run Chinook salmon, Central Valley steelhead, Southern District Population Segment of North American green sturgeon, and Southern Resident killer whale). Reclamation provisionally accepted and then implemented the Reasonable and Prudent Alternatives included in these biological opinions. The operational criteria included in the Reasonable and Prudent Alternatives resulted in changes to operations of upstream reservoirs, stream flows, Delta outflow, and SWP and CVP south Delta intakes.

Several lawsuits were filed in the Court related to various aspects of the USFWS and NMFS biological opinions, and to the acceptance and implementation of the associated Reasonable and Prudent Alternatives by Reclamation. Between 2009 and 2010, the Court ruled that Reclamation failed to conduct an environmental analysis under the National Environmental Policy Act (NEPA) of potential impacts to the human environment before provisionally accepting and implementing the Biological Opinion Reasonable and Prudent Alternatives. In 2010, the Court found certain portions of the USFWS biological opinion to be arbitrary and capricious, and remanded those portions of the biological opinion to the USFWS. The Court ordered Reclamation to review the biological opinion and

Reasonable and Prudent Alternative in accordance with NEPA. In 2011, the Court remanded the biological opinion to the NMFS.

Reclamation has continued the consultation with USFWS and NMFS for modification of the biological opinions, and has initiated the NEPA process through publication of the Notice of Intent on March 28, 2012. The Court order required completion by Reclamation of the Environmental Impact Statement (EIS) and the USFWS biological opinion related to delta smelt by December 1, 2013. The Court order also required completion by Reclamation of the EIS and the NMFS biological opinion related to Central Valley spring-run Chinook salmon, Central Valley steelhead, Southern District Population Segment of North American green sturgeon, and Southern Resident killer whale by February 1, 2016. The Court did not vacate the biological opinions, and therefore, SWP and CVP operations are analyzed each year with respect to the Reasonable and Prudent Alternatives.

The most recent Metropolitan Regional Urban Water Management Plan (RUWMP) (Metropolitan November 2010, page 1-18) indicates that operational constraints similar to the most recent biological opinions and associated Reasonable and Prudent Alternatives would likely be continued until future long-term plans, such as the Bay Delta Conservation Plan (BDCP), would be implemented. A similar discussion was included in the EMWD Urban Water Management Plan (UWMP) (2010, page 38).

To address potential constraints on the SWP, Metropolitan has developed near and long-term action plans to increase water supply reliability. Metropolitan is also working with stakeholders throughout the state to develop and implement long term solution to the problem in the Bay Delta. The BDCP developed by State and Federal resource agencies, aimed at addressing ecosystem needs and securing long-term operating permits for the SWP. A working draft of the BDCP was released in November of 2010 and reflects significant progress toward consensus on a plan to restoring the Bay-Delta ecosystem and associated sensitive species and provides for improved water supply and reliability.

Conclusion. Based on this analysis, the proposed WLC project is not expected to interfere with groundwater recharge activities or groundwater supplies. Impacts associated with this issue are less than significant, and no mitigation is required.

4.9.5.4 100-Year Flooding-Related Impacts

Threshold	Would the proposed project place within a 100-year flood hazard area structures that would impede or redirect flood flows? Would the proposed WLC project place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) identify areas subject to flooding during the 100-year storm.[1] Based on these FIRM maps, the project site does not fall within a 100-year flood zone.[2] Because the project site does not lie within a 100-year floodplain impacts related to this issue are less than significant. No further discussion or mitigation is required.

[1] The term "100-year" is a measure of the size of the flood, not how often it occurs. The "100-year flood" is a flooding event that has a one percent chance of occurring in any given year.

[2] FEMA DFIRM Data, 2008.

4.9.6 Significant Impacts

4.9.6.1 Drainage Pattern and Capacity-Related Impacts

Impact 4.9.6.1: *The project may significantly increase off-site runoff.*

Threshold	Would the proposed WLC project substantially alter the existing local drainage patterns of the site and substantially increase the rate or amount of surface runoff in a manner which would result in substantial erosion, siltation, or flooding on site or off site? Would the proposed WLC project create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

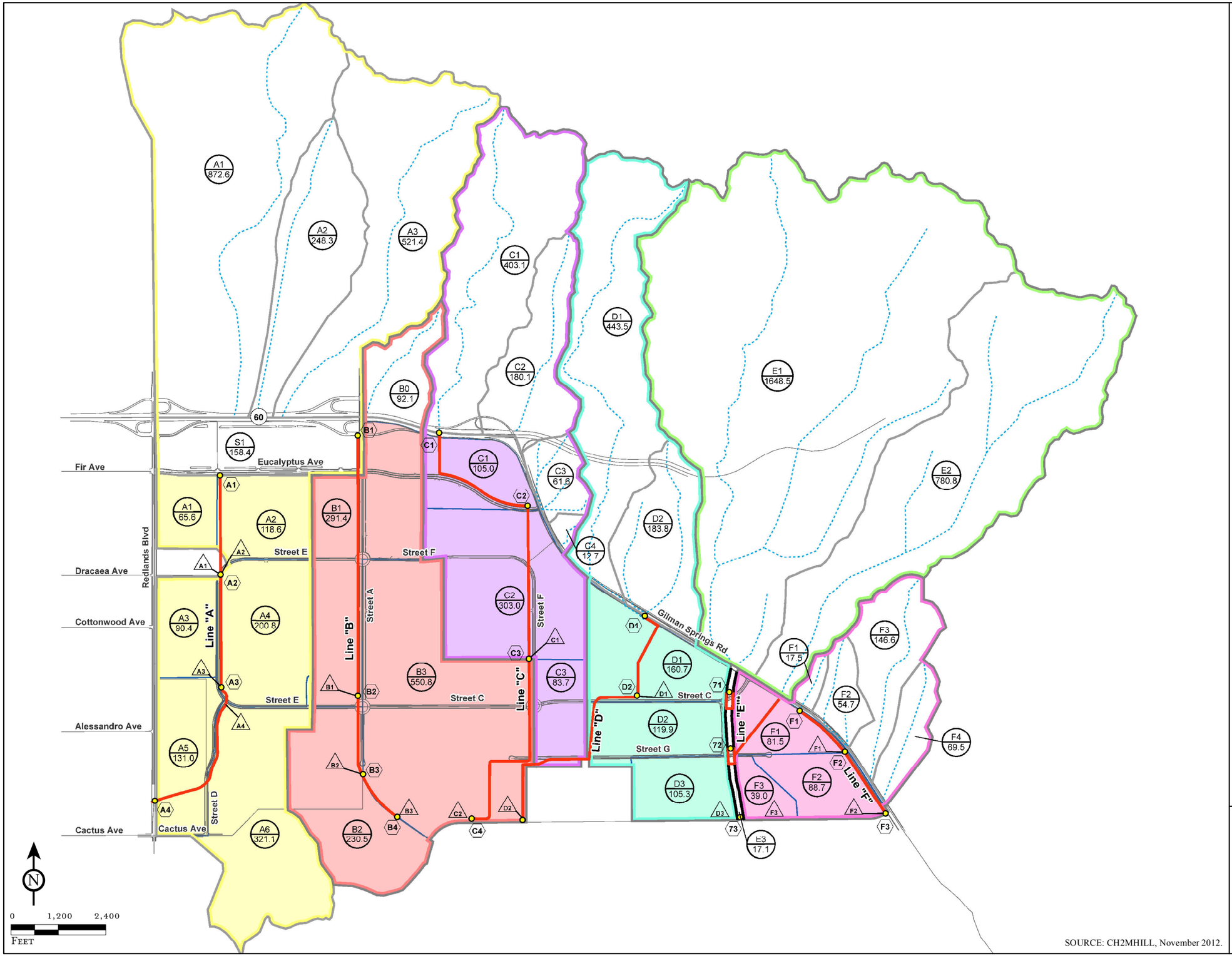
In general, runoff from the western portion of the site flows west toward the Perris Valley Storm Drain, while runoff from the eastern portion of the WLC site flows south into Mystic Lake, and (during times of high storm flow), reaches the San Jacinto River south of the San Jacinto Wildlife Area. As previously illustrated in Figure 4.9.1, the Specific Plan area is divided into six off-site and on-site HSAs. In general, existing storm water flows coming onto the Specific Plan area from the Badlands (Drainage Subarea A) are conveyed through a 12 foot by 8 foot reinforced concrete box (RCB). The RCB drains to the south through the existing Highland Fairview Corporate Park site (a 36-inch and 42-inch storm drain underlying Eucalyptus Avenue outlets to the RCB). Flows from the RCB sheet flow into a spreading area south of Eucalyptus Avenue and is dispersed onto the downstream agricultural land in its historical pattern. Further south, flows coming from the adjacent agricultural land are routed to an existing RCFCWCD earthen channel, identified as Line "F" in the MMDP, located along Redlands Boulevard and ultimately routed to the Perris Valley Storm Drain.

For the eastern portion of the Specific Plan Area (Drainage Subareas B, C, D, E, and F), there currently is no master plan of drainage. Open ditches and drainage culverts along Theodore Street and Gilman Springs Road convey off-site runoff from adjacent areas to the north and east. The drainage culverts along Gilman Springs Road drain into the San Jacinto Wildlife Area. The land uses and roadway facilities proposed under the Specific Plan would require modifications to the existing hydrologic patterns within the project vicinity to accommodate and manage these flows.

As part of the Specific Plan, a Master Plan of Drainage for the project area was developed (see Drainage Report). Figure 4.9.2 outlines the drainage areas identified in this Master Plan of Drainage and indicates that, with implementation of the proposed project, the Specific Plan area would be divided into six drainage subareas. Table 4.9.F provides a summary of each of the proposed drainage subareas.

As identified in Table 4.9.F, the majority of the existing Line "E" will remain as is; with three exceptions:

1) Where Line "E" crosses the proposed Alessandro Boulevard, a culvert will be provided at the crossing;
2) Where Line "E" crosses the proposed Brodiaea Avenue, a culvert will be provided at the crossing; and
3) A lateral connected with Line "E" will be realigned and improved.



SOURCE: CH2MHILL, November 2012.

Legend

- A1 / 872.64 — Subarea Designation / Subarea Area (acres)
- Hydrology Node
- Proposed Basin
- Roads
- Offsite Existing Natural Drainage Course
- Proposed Drainage
- Flood Control Easement
- Project Boundary

Watershed Boundary

- A
- B
- C
- D
- E
- F

*Note:
1. Line "E" (Exist Natural Drainage Course) will be protected in place.

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FIGURE 4.9.2

World Logistics Center Project
Environmental Impact Report

Proposed Drainage Subareas

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Table 4.9.F: Summary of Drainage Areas

Watershed	Area (acres)		HSA	Description
	Without Project	With Project		
A	2,657	2,728	Perris Valley	Storm water runoff coming from north of SR-60 would be routed to the proposed Sinclair Detention Basin. Since the proposed Sinclair Detention Basin is not expected to be constructed prior to the proposed WLC project, the existing 12-foot by 8-foot RCB will need to be extended southerly as proposed Line "F" (referred as Line "F" in MMDP) to convey the off-site flow. The project also proposes four (4) on-site detention basins to mitigate on-site flows and then outlet to Line "F." Ultimately, Line "F" would flow to the discharge point Node 4 at Redlands Boulevard and eventually drain to the RCFCWCD regional facility.
B	1,361	1,165	Gilman Hot Springs	Storm water runoff coming from north of SR-60 would be conveyed to the proposed Line "B" along Theodore Street. The WLCSP proposes three (3) detention basins to mitigate the on-site flows. The outflow from the basins will be conveyed to Line "B."
C	1,061	1,149	Gilman Hot Springs	Storm water runoff coming from north of SR-60 and north of Gilman Springs Road would be conveyed to the proposed Line "C" and routed to the proposed spreading area. The project proposes two (2) detention basins to mitigate the on-site flows. The outflow from the detention basin along with the off-site flow will sheet flow through the spreading area and then exit the project boundary.
D	965	1,013	Gilman Hot Springs	Off-site storm water runoff from north of Gilman Springs Road would be conveyed to the proposed Line "D." The WLCSP proposes three (3) detention basins to mitigate the on-site flows. The outflow from the basins will be conveyed to Line "D" and the spreading area.
E	2,510	2,446	Gilman Hot Springs	Off-site runoff from north of SR-60 would be routed to the existing earthen channel Line "E." The majority of Line "E" will be protected in place. Easement on either side of the channel is provided for the floodplain. Where Line "E" crosses the proposed Alessandro Boulevard and Brodiaea Avenue, RCBs will be provided and the lateral connected to Line "E" will be realigned and improved. The runoff exits the project southerly boundary at discharge point Node 73.
F	445	498	Gilman Hot Springs	Off-site runoff from north of Gilman Springs Road would be conveyed to the proposed Line "F." The WLCSP proposes two (2) detention basins to mitigate the on-site flows. The outflow from the basins will be conveyed to Line "F" and exit the project southerly boundary at discharge point Node 3.
Total	**8,999 acres**	**8,999 acres**		

Source: Table 4.1, Draft Drainage Report, CH2M HILL, November 2012

Storm water flows from the westerly portion of the project will be routed to Line "F" of the RCFCWCD MMDP similar to existing drainage patterns in the project area. Line "F" flows in a southwesterly direction and joins the Kitching Street Channel near Iris Avenue and Lasselle Street. Kitching Street Channel flows in a southerly direction and joins the Perris Valley Storm Drain south of Kramena Avenue. Once the storm water flows reach the Perris Valley Storm Drain, they will travel

approximately 5.4 miles until joining Reach 3 of the San Jacinto River. This river travels 5.6 miles to Canyon Lake (Reach 2) and another 7.1 miles through Canyon Lake to Lake Elsinore (Reach 1). Lake Elsinore is essentially the terminus for the San Jacinto River and the San Jacinto Watershed. Although Temescal Creek and the Santa Ana River were included in the ultimate flow path from the project site, flows that reach Lake Elsinore rarely spill into Temescal Creek or into the Santa Ana River due to local topography.

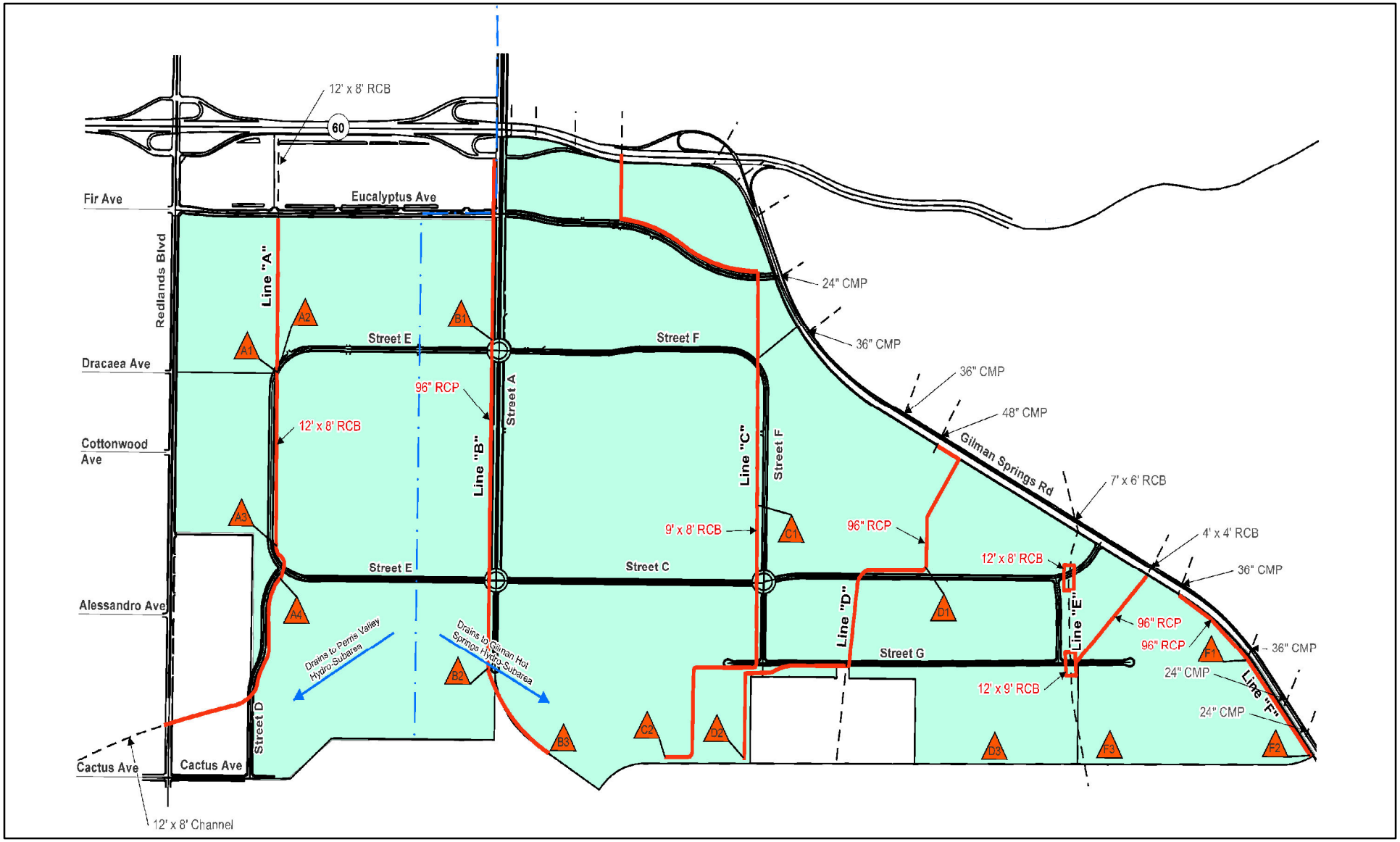
The Perris Valley Storm Drain Master Plan identifies future improvement needs of the channel based on future growth, including development of the WLCSP area. The backbone of the regional storm drainage system south of the City is the 250-foot wide earthen Perris Valley Storm Channel (PVSC). The PVSC is the primary collector of storm water in the northern part of Perris and the southern end of Moreno Valley. The PVSC was built and is currently owned and maintained by the RCFCWCD. The PVSC collects runoff from this area and transports the flows through Perris Valley and to the San Jacinto River. The 24-mile long San Jacinto River enters southern Perris from the east, at approximately the intersection of I-215 and Ellis Avenue, and runs approximately six miles to the extreme southwesterly boundary of the City. The PVSC is a major part of the Master Drainage Plan adopted as part of the Perris Valley Commerce Center Specific Plan (PVCCSP).

The PVSC is part of the regional flood control system intended to convey regional flood flows from the upper watershed in Moreno Valley to the confluence with the San Jacinto River in the southern portion of the City. The PVCCSP Master Drainage Plan reduces the 100-year floodplain and accommodates 100-year flood events in the area. The PVSC regional system consists of several miles of open channel, several bridge crossings, and a number of retention basins to help capture storm water during seasonal and peak storm events. Historically, flooding in this part of the Perris Valley has been a longstanding issue. To manage seasonal, peak, and 100-year flooding events, in the late 1980s and early 1990s, Riverside County and the RCFCWCD adopted several Master Drainage Plans that were periodically refined. However, these Master Drainage Plans were adopted during the time period in which the land areas covered by the Master Drainage Plans were utilized primarily for agricultural uses. In the late 1990s, increasing urban development occurred in these areas and it became evident that variations to the precise Master Drainage Plans adopted by the County and RCFCWCD would be required to facilitate the construction of needed infrastructure. The adoption of the PVCCSP in 2012 by the City of Perris included refinements to the facilities necessary to control flooding in the PVCCSP planning area.

Engineering of these ultimate PVSC improvements has been designed to handle storm water flows from 100-year storm events. Within the City of Perris, the majority of the PVSC flood control system is not constructed to the ultimate condition envisioned by the PVCCSP. As a result, the reduced capacity within the existing channel causes regional flood flows to exceed the banks of the channel and flood the surrounding area. With the construction of the ultimate system, the 100-year storm floodplain will be reduced by several hundred acres, and the surrounding properties and roadways will be protected from flooding.

Although the PVSC has not yet been widened to its ultimate width, expected runoff from the proposed WLC project will not exceed current levels because on site detention and infiltration basins will be provided to mitigate and control runoff and drainage patterns to pre-project levels in accordance with Mitigation Measure 4.9.6.1A. Flow characteristics and locations of the detention and infiltration basins are outlined in the project hydrology study prepared by CH2MHill (see Appendix J). See Table 4.9.F and Figure 4.9.3. These proposed basins will be located and designed such that the existing sub-watersheds and the existing drainage pattern and flows leaving the project boundary mimic existing conditions. Therefore, development of the WLC project will not have significant impacts on regional flood control, even prior to ultimate buildout of the PVSC.

The development of this project will include the construction of buildings, parking areas, sidewalks, roads and other infrastructure such as storm water, water, and sewer facilities. Because the



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Legend

- Proposed Basin
- Proposed Drainage System
- Proposed Cross Culvert
- Hydro-Subarea Boundary
- Existing Flow Path
- Roads
- Logistic Development

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2(

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FIGURE 4.9.3

World Logistics Center Project
Environmental Impact Report

Master Drainage System

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development of the proposed project will substantially increase the amount of impervious surfaces, the post-development flow volumes that will be generated on site are anticipated to be substantially higher than the pre-development flows.

Conditions resulting from this change will include increased runoff volumes and velocity; reduced infiltration; increased flow frequency, duration, and peak; shorter time to reach peak flow; and degradation in water quality. The project site currently has a low runoff coefficient, meaning that runoff during storms represents a relatively small portion of the total rainfall. The majority of the precipitation, particularly in smaller storms, infiltrates into the subsurface. The development of the Specific Plan area with impervious surfaces (such as roadways, parking lots, and buildings) would result in a condition in which nearly all rainfall becomes runoff.

A significant impact would be deemed to have occurred in the event that post-development storm water flows are greater than pre-development storm water flows leaving the site. However, flows will not increase because volume is stored in the basins and released at a controlled rate after the storms (CH2MHill 2012).

The project hydrology study used local hydrographs and flood routing models to simulate the proposed condition. Based on the modeling results, the 100-year, 3-hour storm provides the highest peak flows, and the 100-year, 24-hour storm provides the highest flow volumes. The 100-year, 3-hour peak flows are used to preliminarily size the proposed drainage systems. Table 4.9.G provides the modeled peak flows for the 100-year, 3-hour storm scenario.

Table 4.9.G: Existing and Proposed Storm Water Runoff for 100-Year, 3-Hour Storm Event

Watershed	Peak Flow (cfs)	
	Existing	Proposed[1]
A	2,810	2,190
B	1,130	1,080
C	820	825[1]
D	815	740
E	1,990	1,950
F	495	425

1 The flow volumes increase but are stored in the basins and either infiltrated or released at a rate that can be accommodated by downstream areas so the 5 cfs increase in Watershed C from existing to proposed conditions does not represent a significant impact

Source: Table 4-2 Draft Drainage Report, CH2M Hill, November 2012

Due to the construction of impervious surfaces on the project site, post-development flows will be higher than the pre-development flows. To avoid a significant impact to the existing drainage capacity, the post-development flows coming from the proposed project site must be managed to be equal to or less than pre-development flows.[1] As required by **Mitigation Measure 4.9.6.1A**, flows will be reduced to below or equal to pre-development conditions by routing the on-site storm water flows through a series of on-site detention and infiltration basins before flows are released off site. The existing storm water runoff discharge rate for the undeveloped project site is 8,060 cubic feet per second (cfs). With the installation of the on-site detention basins, culverts, and energy dissipaters included in the project, expected discharges would be at a rate of 7,210 cfs, which is less than the existing condition. With the installation of the storm drain system facilities outlined in CH2M Hill's hydrology reports (see Appendix J) and implementation of the recommended mitigation measures,

[1] As part of the MS4 Permit issuance requirements, projects must identify any Hydrologic Conditions of Concern and demonstrate that changes to hydrology are minimized to ensure that post-development runoff rates and velocities from a site do not adversely impact downstream erosion, sedimentation or stream habitat.

the buildout of the project will convey storm flows safely through the region in accordance with Riverside County Flood Control requirements and will not result in flooding or additional erosion within the project area or any downstream areas, including the Perris Valley Storm Drain Channel.

For additional analysis regarding anticipated construction and operational pollutants, please refer to Section 4.9.6.1, *Construction-Related Water Quality Impacts,* and Section 4.9.6.2, *Operational-Related Water Quality Impacts*.

Development of the proposed WLC project site will increase impervious surfaces on the project site due to the construction of the project's buildings, roadways, and associated improvements. While the resultant increase in impervious surfaces would contribute to a greater volume and higher velocities of storm flow, **Mitigation Measure 4.9.6.1A** require the WLC project site's drainage system be designed to accept and accommodate runoff that would result from the project construction at or better than historic, or pre-development, conditions, as outlined in the project's Master Plan of Drainage shown in previously referenced Figure 4.9.3.

Ultimately, for the proposed condition, the peak flows at downstream discharge points where the flows exiting the southerly project boundary will not exceed the peak flows for the existing condition. As the WLC project develops and regional drainage improvements are installed as anticipated (e.g., Perris Valley Storm Drain Master Plan), there should be no long-term significant impacts related to storm drainage or flood control. Overall, current experiences with flooding in the general project vicinity should decrease as on-site drainage is contained or controlled in planned improvements and detention basins. Section 4.16, *Utilities and Service Systems,* provides additional analysis of on-site drainage capacity relative to planned storm drain improvements.

Project or Specific Plan Design Features. The Drainage Master Plan (DMP) and creation and maintenance of the proposed detention basins in the southern portion of the project according to the DMP will help ensure that there will be no significant off-site impacts related to runoff from the proposed project.

Mitigation Measures. The following measure is proposed to help ensure that runoff from the proposed project site does not have significant impacts on downstream off-site properties, including the SJWA:

4.9.6.1A Prior to issuance of any development permit within the Specific Plan area, the developer shall place detention basin(s) and spreading area(s) as appropriate within each proposed watershed, as outlined in the project hydrology plan, to mitigate the impacts of increased peak flow rate, velocity, flow volume and reduce the time of concentration by storing increased runoff for a limited period of a time and release the outflow at a rate that does not exceed the pre-development condition. This measure shall be implemented to the satisfaction of the City Engineer. Energy dissipaters shall be used as the spillways of basins to reduce the runoff velocity and dissipate the flow energy. Drainage structures shall be constructed at the downstream end of the watersheds flowing to the San Jacinto Wildlife Area to control the runoff and spread the flow in such a way that the flows exiting the project boundary will return to the sheet flow pattern similar to the existing condition. Detention basins and spreading areas shall be designed to account for the amount of the sediment transported through the project boundary so that the existing sediment carrying capacity is maintained.

Level of Significance after Mitigation. Implementation of the Master Drainage Plan of the Specific Plan and **Mitigation Measure 4.9.6.1A** will reduce potential impacts associated with runoff from the project site to less than significant levels.

4.9.6.2 Construction-Related Water Quality Impacts

Impact 4.9.6.2: *The project may cause surface water pollution during construction.*

Threshold	Would the proposed project violate any water quality standards or waste discharge requirements during construction phases of the project in form of increased soil erosion, sedimentation, or storm water discharges?

The grading phases of any portion of the project will require temporary disturbance of surface soils and removal of vegetative cover, which could potentially result in erosion and sedimentation, major visible water quality impacts attributable to construction activities. Stockpiles and excavated areas would be susceptible to high rates of erosion from wind and rain and, if not managed properly, could result in increased sedimentation in local watercourses.

By volume, sediment is the principal component in most storm runoff. The delivery, handling, and storage of construction materials and wastes, as well as the use of on-site construction equipment will also introduce a risk for storm water contamination. Spills and leaks could occur from the use of construction equipment and could originate from construction staging areas. Once released, substances such as fuels, oils, paints, and solvents can be transported to nearby surface waterways and/or to groundwater in storm water runoff, wash water, and dust control water, potentially reducing the quality of the receiving waters. The anticipated and potential pollutants in storm water or urban runoff for various land uses are reflected in previously referenced Table 4.9.D.

Short-term storm water pollutant discharges from each development site within the project will be mitigated through compliance with the required NPDES permits, resulting in a less than significant impact. The NPDES permit program was established under Section 402 of the CWA, which prohibits the unauthorized discharge of pollutants, including municipal, commercial, and industrial wastewater discharges, from point sources to U.S. waters. Permittees must verify compliance with permit requirements by monitoring their effluent, maintaining records, and filing periodic reports. An NPDES permit specifies an acceptable level of a pollutant or pollutant parameter in a discharge (for example, a certain level of bacteria) and the permittee selects an appropriate process or technology to achieve that level. Some permits, however, do contain certain generic BMPs. Table 4.9.H lists possible construction site BMPs for runoff control, sediment control, erosion control, and housekeeping that may be used during the construction phases of the proposed WLC project. These construction site BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed.

The implementation of NPDES permits, including the General Construction permit, ensures that the Federal and State standards for clean water are met. Enforcement of required NPDES permit requirements will prevent sedimentation and soil erosion through implementation of an SWPPP and periodic inspections by RWQCB staff. An SWPPP is a written document that describes the construction operator's activities to comply with the requirements in the NPDES General Construction permit. Required elements of an SWPPP include (1) site description addressing the elements and characteristics specific to the project site; (2) descriptions of BMPs for erosion and sediment controls; (3) BMPs for construction waste handling and disposal; (4) implementation of approved local plans; and (5) proposed post-construction controls, including a description of local post-construction erosion and sediment control requirements. The SWPPP establishes a plan whereby the operator evaluates potential pollutant sources at the site and selects and implements BMPs designed specifically to prevent or control the discharge of the identified pollutants into storm water runoff.

Table 4.9.H: General Construction Site Best Management Practices

Runoff Control	Sediment Control	Erosion Control	Good Housekeeping
• Minimize clearing • Preserve natural vegetation • Stabilize drainage ways • Install check dams • Install diversion dikes	• Install perimeter controls (e.g., silt fences) • Install sediment trapping devices (e.g. straw wattles, hay bales, gravel bags) • Inlet protection (e.g. check dams) • Install fiber rolls	• Stabilize exposed soils (e.g., hydroseed, soil binders) • Protect steep slopes(e.g., geotextiles, compost blankets) • Cover stockpiles with blankets • Complete construction in phases	• Create waste collection area • Put lids on containers • Clean up spills immediately

Source: National Pollutant Discharge Elimination System, *Construction Site Storm Water Runoff Control*, http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm, site accessed April 20, 2012.

Project or Specific Plan Design Features. The Specific Plan itself does not contain any features that address water quality issues related to construction, but the WQMP (see Appendix J), the DMP, and the landscaping plan will help reduce long-term water consumption and water quality impacts within the project.

Mitigation Measures. Although adherence to NPDES requirements is required of all development within the City, the incorporation of these requirements as **Mitigation Measures 4.9.6.2A** and **4.9.6.1B** are designed to ensure that any future development within the WLC Specific Plan area obtains coverage under the NPDES General Construction permit, and to track compliance with these requirements as part of the Mitigation Monitoring and Reporting Plan or Program (MMRP):

4.9.6.2A Prior to issuance of any grading permit for development in the WLCSP, the project developer shall file a Notice of Intent (NOI) with the Santa Ana Regional Water Quality Control Board to be covered under the National Pollutant Discharge Elimination System (NPDES) General Construction Permit for discharge of storm water associated with construction activities. The project developer shall submit to the City the Waste Discharge Identification Number issued by the State Water Quality Control Board (SWQCB) as proof that the project's NOI is to be covered by the General Construction Permit has been filed with the SWQCB. This measure shall be implemented to the satisfaction of the City Engineer.

4.9.6.2B Prior to issuance of any grading permit for development in the WLCSP, the project developer shall submit to the State Water Quality Control Board (SWQCB) and receive approval for a project-specific Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall include a surface water control plan and erosion control plan citing specific measures to control on-site and off-site erosion during the entire grading and construction period. In addition, the SWPPP shall emphasize structural and nonstructural best management practices (BMPs) to control sediment and non-visible discharges from the site. BMPs to be implemented may include (but shall not be limited to) the following:

- Sediment discharges from the site may be controlled by the following: sandbags, silt fences, straw wattles and temporary debris basins (if deemed necessary),

and other discharge control devices. The construction and condition of the BMPs are to be periodically inspected by the RWQCB during construction, and repairs would be made as required.

- Materials that have the potential to contribute non-visible pollutants to storm water must not be placed in drainage ways and must be placed in temporary storage containment areas.
- All loose soil, silt, clay, sand, debris, and other earthen material shall be controlled to eliminate discharge from the site. Temporary soil stabilization measures to be considered include: covering disturbed areas with mulch, temporary seeding, soil stabilizing binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Stockpiles shall be surrounded by silt fences and covered with plastic tarps.
- The SWPPP shall include inspection forms for routine monitoring of the site during the construction phase.
- Additional required BMPs and erosion control measures shall be documented in the SWPPP.
- The SWPPP would be kept on site for the duration of project construction and shall be available to the local Regional Water Quality Control Board for inspection at any time.

The developer and/or construction contractor for each development area shall be responsible for performing and documenting the application of BMPs identified in the project-specific SWPPP. Regular inspections shall be performed on sediment control measures called for in the SWPPP. Monthly reports shall be maintained and available for City inspection. An inspection log shall be maintained for the project and shall be available at the site for review by the City of Moreno Valley and the Regional Water Quality Control Board.

Level of Significance after Mitigation. While on-site grading and development activities will increase the potential for the erosion of soils, adherence to the BMPs mandated by **Mitigation Measures 4.9.6.2A** and **4.9.6.2B** will reduce impacts associated with short-term (construction) storm water discharges during project construction to a less than significant level.

4.9.6.3 Operational-Related Water Quality Impacts

Impact 4.9.6.3: *The project may result in surface water pollution during operation.*

Threshold	Would the proposed project violate any water quality standards or waste discharge requirements during the operational phases of the project in the form of increased soil erosion, sedimentation, or urban runoff?

During the operational phase of any urban use, the major source of pollution in storm water runoff will be contaminants that have accumulated on the land surface over which runoff passes. Storm runoff from the roadways, parking lots, and commercial and industrial buildings can carry a variety of pollutants such as sediment, petroleum products, commonly utilized construction materials, landscaping chemicals, and (to a lesser extent) trace metals such as zinc, copper, lead, cadmium, and iron, which may lead to the degradation of storm water in downstream channels. Runoff from landscaped areas may contain elevated levels of phosphorus, nitrogen, and suspended solids. Oil and other hydrocarbons from vehicles are also expected in storm water runoff.

Pollutant concentrations in urban runoff are variable depending on storm intensity, land use, elapsed time since previous storms, and the volume of runoff generated in a given area that reaches receiving waters. Pollutant concentrations are typically highest during the first major rainfall event after the dry season, known as the "first-flush." The WQMP prepared for the project identifies pollutants and hydrologic conditions of concern that may be associated with the implementation of the project. Table 4.9.I identifies the receiving waters for post-development runoff from the site and states if the receiving water is listed as impaired or has a total maximum daily load (TMDL) adopted for a certain type of pollutant. Table 4.9.J provides a summary of pollutants associated with proposed land uses within the Specific Plan area.

Table 4.9.I: Pollutant Stressors in Receiving Waters

Receiving Waters	Receiving Water Classification	303(d) Listing		Adopted TMDL Pollutants
	Proximate	Listed?	Pollutant Causing Impairment	
San Jacinto River	Yes	No	None	None
Canyon Lake (Railroad Canyon Reservoir)	No	Yes	Nutrients, Pathogens	Phosphorus, Nitrogen
Lake Elsinore	No	Yes	Nutrients, Organic Enrichment/Low Dissolved Oxygen, PCBs, Unknown Toxicity	Phosphorus, Nitrogen, Dissolved Oxygen

Source: *Preliminary Water Quality Management Plan for World Logistics Center Specific Plan*, CH2MHILL, November 2012.

Table 4.9.J: WLC Specific Plan Potential Pollutants

Pollutants	Specific Plan Land Use	Is/Does the Pollutant?	
		Have a Potential to Occur?	Impaired in Receiving Waters?
Sediments	Landscape/Open Areas	Yes	No
Nutrients	Industrial/Commercial Areas	Yes	Yes
Toxic Organic Compounds	Industrial/Commercial Areas	Yes	Yes
Trash and Debris	Industrial/Commercial Areas	Yes	No
Bacterial Indicators	Industrial/Commercial Areas	Yes	Yes
Oil and Grease	Industrial/Commercial Areas	Yes	No
Pesticides	Industrial/Commercial Areas	Yes	Yes
Metals	Industrial/Commercial Areas	Yes	No

Source: *Preliminary Water Quality Management Plan for World Logistics Center Specific Plan*, CH2MHILL, November 2012.

As identified in Table 4.9.I, pollutants associated with the operations of the proposed logistics land uses include sediments, nutrients, toxic organic compounds, trash and debris, bacterial indicators, oil and grease, pesticides, and metals. Based on the WQMP, all downstream receiving waters to which a project directly or indirectly discharges have been identified. The selection of treatment controls for the project shall be based primarily on the potential pollutants associated with the project that are also present in impaired receiving waters.

As specific developments within the project are developed, updates to the Master WQMP for the World Logistics Center Specific Plan will be required to ensure that water quality treatment is being maintained per City requirements.

The WQMP prepared for the project (Appendix J) identifies the following BMPs to be implemented that will minimize the project's effects on site hydrology, urban runoff flow rates, and pollutant loads. This comprehensive water quality approach will be implemented throughout the project and will establish a three-tier program for achieving water quality goals through the enforcement of site design, source control, and treatment control BMPs. These project-specific site design, source control, and treatment control BMPs are listed below.

Site Design BMPs. Site design BMPs are implemented to create a hydrologically-functional project design that attempts to mimic the natural hydrologic regime. In accordance with the Riverside County WQMP, projects shall implement site design concepts that achieve each of the following:

1. Minimize Urban Runoff
    a. Maximize the permeable area.
    b. Incorporate landscaped buffer areas between sidewalks and streets.
    c. Maximize canopy interception and water conservation by planting native or drought-tolerant trees and large shrubs.
    d. Use natural drainage systems.
    e. Where soil conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration.
    f. Construct on-site ponding areas or retention facilities to increase opportunities for infiltration consistent with vector control objectives.
2. Minimize Impervious Footprint
    a. Maximize the permeable area.
    b. Construct streets, sidewalks and parking lot aisles to the minimum widths necessary, provided that public safety and a walk able environment for pedestrians are not compromised.
    c. Reduce widths of street where off-street parking is available.
    d. Minimize the use of impervious surfaces such as decorative concrete, in the landscape design.
3. Conserve Natural Areas
    a. Conserve natural areas.
    b. Maximize canopy interception and water conservation by planting native or drought-tolerant trees and large shrubs.
    c. Use natural drainage systems.
4. Minimize Directly Connected Impervious Areas (DCIAs)
    a. Runoff from impervious areas will sheet flow or be directed to treatment control BMPs.
    b. Streets, sidewalks, and parking lots will sheet flow to landscaping/bioretention areas.

Source Control BMPs. Source control BMPs are implemented to eliminate the presence of pollutants through prevention. Such measures can be both non-structural and structural.

- Non-structural operational source control BMPs include:
    - Education for property owners, operator, tenants, occupants, or employees;
    - Activity restrictions;
    - Irrigation system and landscape maintenance;

  - Common area litter control;
  - Street sweeping private streets and parking lots; and
  - Drainage facility inspection and maintenance.
- Structural source control BMPs include:
  - MS4 stenciling and signage;
  - Landscape and irrigation system design;
  - Protect slopes and channels; and
  - Properly design fueling areas, refuse areas, loading docks, and outdoor material storage areas.

Treatment Control BMPs. Treatment control BMPs supplement the pollution prevention and source control measures by treating the water to remove pollutants before it is released from the project site. The treatment control BMP strategy for the project is to select LID BMPs that promote infiltration and evapotranspiration, including the construction of infiltration basins, bioretention facilities, and extended detention basins. Where infiltration BMPs are not appropriate, bioretention, and/or biotreatment BMPs (including extended detention basins, bioswales, and constructed wetlands) that provide opportunity for evapotranspiration and incidental infiltration may be utilized. Harvest and use BMPs (i.e., storage pods) may be used as a treatment control BMP to store runoff for later non-potable uses.

Site-specific WQMPs have not been prepared at this time as no site-specific development project has been submitted to the City for approval. When specific projects within the project are developed, BMPs will be implemented consistent with the goals contained in the master WQMP. All development within the project will be required to incorporate on-site water quality features to meet or exceed the approved Master WQMP's water quality requirements identified previously.

Specific Plan Design Features. Long-term water quality design is addressed in Section 5.4, *On-site Landscaping*, of the Specific Plan and encourages (a) minimization of urban runoff; (b) minimization of impervious footprint of development; (c) conservation of natural areas; and (d) minimization of directly connected impervious areas. The previous section outlined the BMPs from the Specific Plan that include the following:

- Maximize the permeable area;
- Incorporate landscaped buffer areas between sidewalks and streets;
- Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs;
- Use natural drainage systems;
- Where soils conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration;
- Construct ponding areas or retention facilities to increase opportunities for infiltration consistent with vector control objectives;
- Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design;
- Sites must be designed to contain and infiltrate roof runoff, or direct roof runoff to vegetative swales or buffer areas, where feasible;

- Where landscaping is proposed, drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping;
- Increase the use of vegetated drainage swales in lieu of underground piping or imperviously lined swales;
- Parking areas may be paved with a permeable surface, or designed to drain into landscaping prior to discharging to the MS4; and
- Where landscaping is proposed in parking areas, incorporate landscape areas into the drainage design.

Figure 4.9.4 summarizes how protection of water quality is incorporated into the project design.

Mitigation Measures. To address potential impacts to water quality during the project's long-term operations, the following measures have been identified:

4.9.6.3A Prior to issuance of any grading or building permits a site-specific Water Quality Management Plan (WQMP) shall be submitted to the City Land Development Division for review and approval. The WQMP shall specifically identify site design, source control, and treatment control BMPs that shall be used on site to control pollutant runoff and to reduce impacts to water quality to the maximum extent practicable. The WQMP shall be consistent with the Water Quality Management Plan approved for the overall WLCSP project. At a minimum, the site developer shall implement the following site design, source control, and treatment control BMPs as appropriate:

Site Design BMPs

i. Minimize urban runoff.
ii. Maximize the permeable area.
iii. Incorporate landscaped buffer areas between sidewalks and streets.
iv. Maximize canopy interception and water conservation by planting native or drought-tolerant trees and large shrubs.
v. Use natural drainage systems.
vi. Where soil conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration.
vii. Construct on-site ponding areas or retention facilities to increase opportunities for infiltration consistent with vector control objectives.
viii. Minimize impervious footprint.
ix. Maximize the permeable area.
x. Construct streets, sidewalks and parking lot aisles to the minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised.
xi. Reduce widths of street where off-street parking is available.
xii. Minimize the use of impervious surfaces such as decorative concrete, in the landscape design.
xiii. Conserve natural areas.
xiv. Maximize canopy interception and water conservation by planting native or drought tolerant trees and large shrubs.
xv. Use natural drainage systems.
xvi. Minimize Directly Connected Impervious Areas (DCIAs).
xvii. Runoff from impervious areas will sheet flow or be directed to treatment control BMPs.

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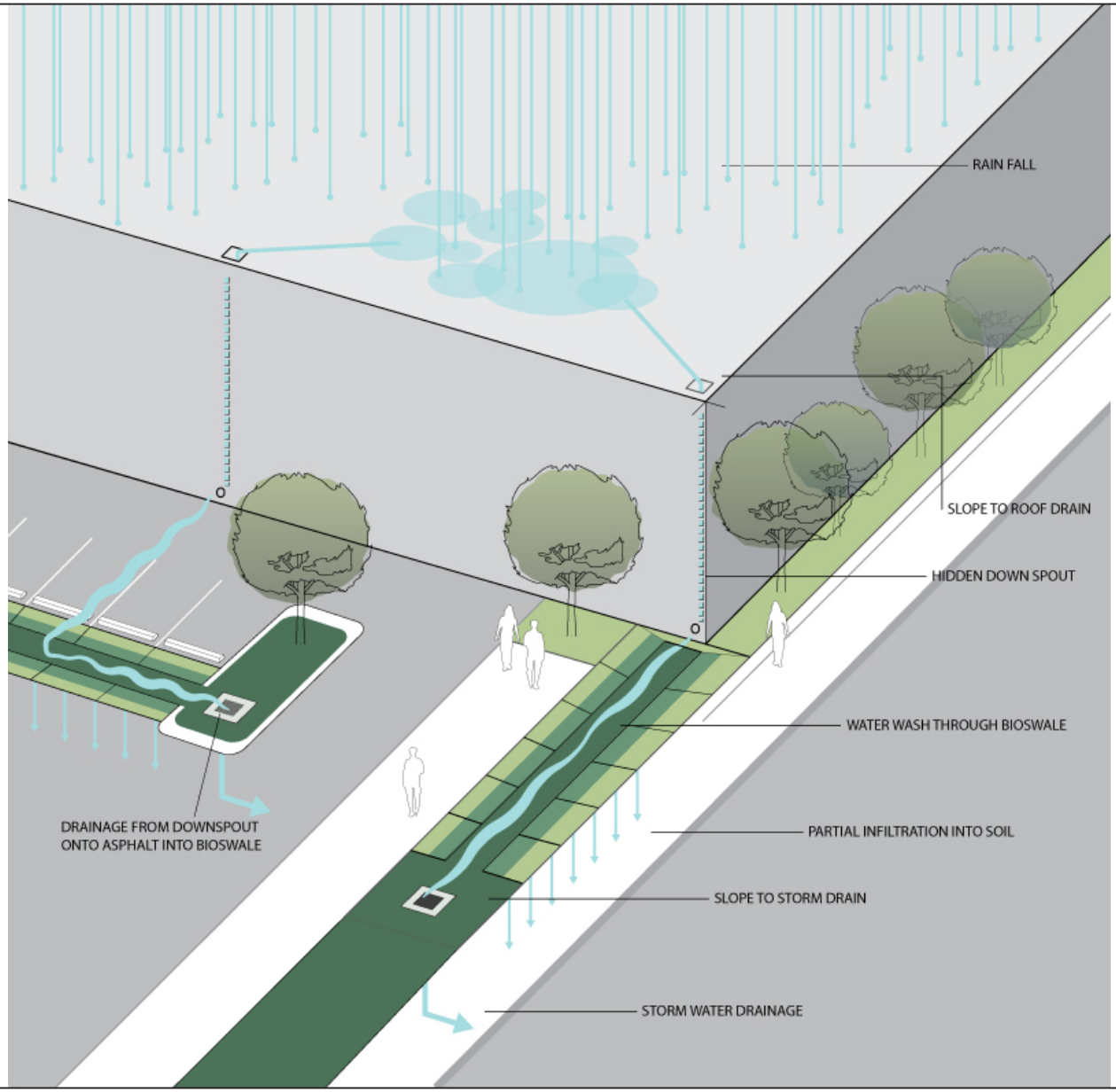

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FIGURE 4.9.4

World Logistics Center Project
Environmental Impact Report

Water Quality Management Diagram

SOURCE: World Logistics Center Specific Plan, Highlandfairview, November, 2012.

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xviii. Streets, sidewalks, and parking lots will sheet flow to landscaping/ bioretention areas.

Source Control BMPs

Source control BMPs are implemented to eliminate the presence of pollutants through prevention. Such measures can be both non-structural and structural.

a. Non-structural source control BMPs include:
   - Education for property owners, operator, tenants, occupants, or employees;
   - Activity restrictions;
   - Irrigation system and landscape maintenance;
   - Common area litter control;
   - Street sweeping private streets and parking lots; and
   - Drainage facility inspection and maintenance.

b. Structural source control BMPs include:
   - MS4 stenciling and signage;
   - Landscape and irrigation system design;
   - Protect slopes and channels; and
   - Properly design fueling areas, trash storage areas, loading docks, and outdoor material storage areas.

Treatment Control BMPs

Treatment control BMPs supplement the pollution prevention and source control measures by treating the water to remove pollutants before it is released from the project site. The treatment control BMP strategy for the project is to select Low Impact Development (LID) BMPs that promote infiltration and evapotranspiration, including the construction of infiltration basins, bioretention facilities, and extended detention basins. Where infiltration BMPs are not appropriate, bioretention and/or biotreatment BMPs (including extended detention basins, bioswales, and constructed wetlands) that provide opportunity for evapotranspiration and incidental infiltration may be utilized. Harvest and use BMPs (i.e., storage pods) may be used as a treatment control BMP to store runoff for later non-potable uses.

Site-specific WQMPs have not been prepared at this time as no site-specific development project has been submitted to the City for approval. When specific projects within the project are developed, BMPs will be implemented consistent with the goals contained in the master WQMP. All development within the project will be required to incorporate on-site water quality features to meet or exceed the approved Master WQMP's water quality requirements identified previously.

4.9.6.3B The Master Property Owners Association (MPOA) and all property owners shall be responsible to maintain all onsite water quality basins according to requirements in the guidance WQMP and/or subsequent site-specific WQMPs, and established guidelines of the Regional Water Quality Control Board. Failure to properly maintain such basins shall be grounds for suspension or revocation of discretionary operating permits, and/or referral to the Regional Water Quality Control Board for review and possible action. This measure shall be implemented to the satisfaction of the City Land Development Division, in consultation with the City Engineer, and Regional Water Quality Control Board.

4.9.6.3C Prior to issuance of future discretionary permits for any development along the southern boundary of the WLCSP, the project developer of such sites, in cooperation with the Master Property Owners Association (MPOA), shall establish and annually fund a Water Quality Monitoring Plan to confirm that project runoff will not have deleterious effects on the adjacent San Jacinto Wildlife Area (SJWA). This program

shall include at least quarterly sampling along the southern boundary of the site (i.e., at the identified outlet structures of the project detention basins) during wet season flows and/or when water is present, as well as sampling of any dry-season flows that are observed entering the SJWA property from the project property, including Drainage "H," which is planned to convey only clean off-site flows from north of the WLCSP site across Gilman Springs Road. The program shall also include at least twice yearly sampling after completion of construction, and a pre-construction survey must be completed to determine general water quality baseline conditions prior to and during development of the southern portion of the WLCSP. This sampling shall be consistent with and/or comply with the requirements of applicable Storm Water Pollution Prevention Plans (SWPPPs) for the development site.

The project developer of sites along the southern border of the WLCSP shall be responsible for preventing or eliminating any toxic pollutant (not including sediment) found to exceed applicable established public health standards. Once development is complete, the developer shall retain qualified personnel to conduct regular (i.e., at least quarterly) water sampling/testing of any basins and their outfalls to ensure the SJWA will not be affected by water pollution from the project site. The City Planning and/or Land Development Division shall file an annual water quality report with the Moreno Valley City Council, State Department of Recreation (Mystic Lake Manager), and Eastern Municipal Water District. This measure shall be implemented to the satisfaction of the City Planning and/or Land Development Division based on consultation with the project developer, Eastern Municipal Water District, the Regional Water Quality Control Board-Santa Ana Region, and the Mystic Lake Manager.

Level of Significance After Mitigation. The proposed project incorporates on-site drainage control structures and programs sufficient to meet the applicable Federal, State, and local water quality requirements. Through the use of site design BMPs, source control BMPs (e.g., street and parking lot sweeping and vacuuming), and treatment control BMPs (e.g., infiltration basins and pervious pavement), the resulting pollutant loads coming from the project will be reduced, thereby reducing pollutants discharged from urban storm water runoff to surface water bodies. Compliance with the requirements of the NPDES permit, which include implementation of the BMPs outlined in the WQMP, will be enforced by the City during the ongoing operation of the project. Implementation of **Mitigation Measures 4.9.6.3A** through **4.9.6.3C** will help to reduce potential water quality impacts resulting from storm water and urban runoff to less than significant levels.

4.9.7 Cumulative Impacts

Cumulatively, development within the watershed will result in an increase in impervious surfaces in addition to changes in land use and associated pollutant runoff characteristics. Increased impervious surfaces are likely to alter existing hydrology and increase potential pollutant loads. However, all future development in the City and throughout the Santa Ana RWQCB will be required to comply with the requirements of the NPDES permit program. Continued growth is anticipated to occur in the City and surrounding areas and all new development and significant redevelopment will be required to minimize its individual impacts to water quality and pollutant transport through implementation of BMPs. Therefore, since all new developments will be required to mitigate for impacts to water quality, a less than significant cumulative impact to water quality will occur.

Cumulatively, continued development within the West San Jacinto Groundwater Management Plan area will result in an increase in demand on water sources, including both surface and groundwater supplies. Since the majority of the projects within the Plan area obtain water service from the EMWD, most of the cumulative development will rely on imported water purchased from Metropolitan with

supplements from local groundwater sources. As stated in the previous Section 4.9.5.3, there has been a shift in the water demand patterns in the last 15 years, as a residential market has replaced an agricultural market, with a resulting incremental increase in urban-related surface and groundwater pollution. The proposed project will make an incremental contribution to production of urban pollutants, but the site-specific water quality Best Management Practices will help ensure that these contributions will not make a significant contribution to any cumulatively considerable regional water quality impacts.

The EMWD's Urban Water Management Plan (UWMP) concludes that the EMWD has sufficient supplies of local groundwater and imported surface water to accommodate existing and planned development, including the proposed project, as documented in the project's Water Supply Assessment (see Appendix M). For these reasons, the proposed project will not make a significant contribution to any cumulatively considerable surface water or groundwater supply impacts.

The drainage system for the proposed project will be designed so that peak flows from post-development runoff are equal to or less than historic conditions at any given off-site discharge location. This same requirement will be placed on all other development in the vicinity of the project site by the City of Moreno Valley. The proposed project, including implementation of its master drainage plan, will not make a significant contribution to any cumulatively considerable impacts related to drainage or water quality on a local or regional basis.

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4.10 LAND USE AND PLANNING

This section of the EIR addresses the land use impacts that will result from the change from the existing on-site land uses to the proposed land uses. In addition, this section analyzes the consistency of the proposed WLC project with the goals and policies of the City of Moreno Valley General Plan, applicable community plans, and the Zoning Code, and compatibility within local and regional plans. This section also identifies and evaluates the compatibility of the proposed WLC project with existing land uses and the potential land use impacts that may result during or subsequent to development of the proposed on-site uses.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements, which affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

The following technical study was prepared to support the analysis of potential impacts in this section:

- David Taussig and Associates, Inc. (DTAA). *Fiscal and Economic Impact Study*, Draft dated March 13, 2012, revised report dated January 15, 2013.

The analysis contained in this section is also based on the following reference documents:

- *City of Moreno Valley General Plan*, City of Moreno Valley, 2006;
- *Updated and Certified City of Moreno Valley Housing Element,* 2011;
- *Municipal Code*, City of Moreno Valley, codified through February 12, 2012;
- *Final Sustainable Communities Strategies Plan,* Southern California Association of Governments (SCAG), April 2012;

- *Final 2008 Regional Comprehensive Plan,* SCAG, October 2008;
- *Final 2012 Regional Transportation Plan*, SCAG, adopted April 2012;
- *Final 2010 Urban Water Management Plan*, Eastern Municipal Water District (EMWD), approved December 2010;
- *Riverside County Airport Land Use Compatibility Plan, Volume 1,* Riverside County Airport Land Use Commission (ALUC), October 14, 2004;
- *Water Quality Control Plan Santa Ana River Basin (8),* California Regional Water Quality Control Board (RWQCB), approved January 24, 1995;
- *Western Riverside County Multiple Species Habitat Conservation Plan*, Volume I, Part I, Dudek & Associates, June 17, 2003; and
- *Draft Environmental Impact Report, Highland Fairview Corporate Park*. (Skechers), Michael Brandman Associates, August 4, 2008.

4.10.1 Existing Setting

The project area includes two adjacent areas, the WLC Specific Plan Area and the General Plan Amendment Area. The two areas combined make up most of the older Moreno Highlands Specific Plan.

4.10.1.1 Project Location

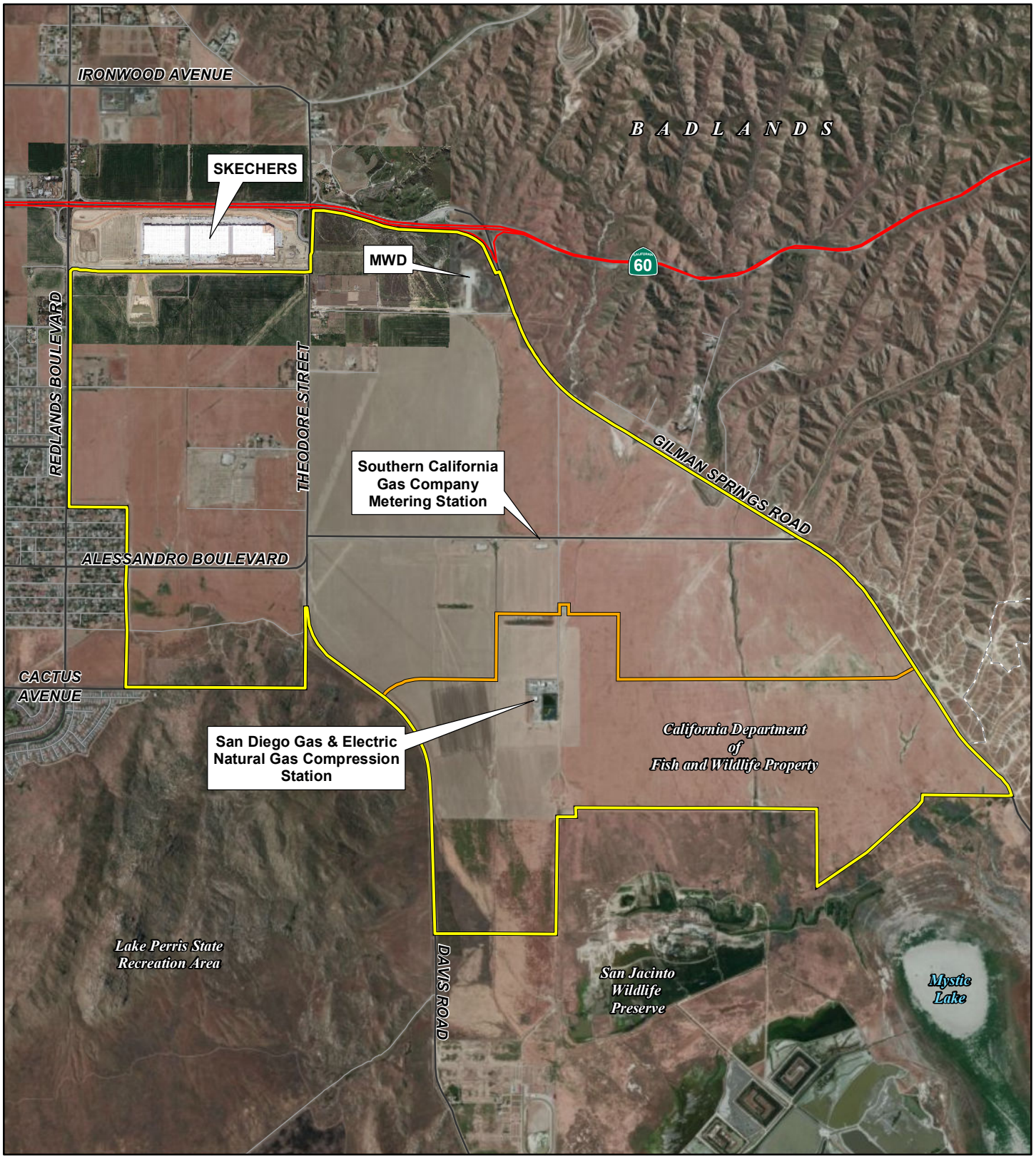
The proposed WLC project area is located in the northwestern Riverside County, within the eastern portion of the City of Moreno Valley. The proposed WLC project is situated generally south of SR-60, between Redlands Boulevard and Gilman Springs Road (the easterly City limit), extending to the southerly City limit. Previously referenced Figure 1.2 in Section 1.0, *Executive Summary*, depicts the proposed WLC project boundary on the applicable U.S. Geological Survey (USGS) Quad sheets.

4.10.1.2 Existing On-site Land Uses

The project area is largely undeveloped land and Figure 4.10.1 shows an aerial view of existing land uses. Presently, there are seven single-family homes in various locations on the property along with associated ranch/farm buildings. Most of the site has been used for dry farming at one time or another since the early 1900s, and much of the site continues to be used for dry farming at the present time. San Diego Gas & Electric (SDG&E) operates a natural gas compressor station, known as the Moreno Compressor Station, on 18 acres in the southern portion of the site. Southern California Gas Company (SCGC) operates a valving, metering, and pipe cleaning station on a one-acre parcel in the south-central portion of the site.

4.10.1.3 Existing Roadways

The major roadways that currently provide access to the WLC project area are SR-60 (the Moreno Valley Freeway), Redlands Boulevard, Alessandro Boulevard, Gilman Springs Road, and Theodore Street. Redlands Boulevard and Theodore Street are north-south collector roadways that intersect with SR-60. Alessandro Boulevard is an east-west thoroughfare that runs through Moreno Valley from Interstate 215 (I-215) on the west to Gilman Springs Road on the east. Gilman Springs Road runs in a northwesterly-southeasterly direction connecting SR-60 to the Hemet-San Jacinto area and State Route 79 (SR-79).



LSA

FIGURE 4.10.1

N

ProjectBoundary

Specific Plan Boundary

0 1,500 3,000

FEET

World Logistics Center Project
Environmental Impact Report

Aerial Photograph

SOURCE: ESRI World Imagery, 2010; Bing Maps, 2010; Google Maps, 2011.

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4.10.1.4 General Surrounding Land Uses

To the west of the proposed WLC project area are more developed portions of the City of Moreno Valley. Near the southern and western boundaries of the proposed project are existing residential neighborhoods along the west sides of Redlands Boulevard and Merwin Street; a small market and a Post Office are also located near Redlands and Alessandro Boulevards. A new industrial warehouse project (Westridge) was recently approved just west of Redlands Boulevard and south of SR-60 but it has been challenged in court. Another large warehouse project is currently being processed by the City just west of the Westridge project. Farther to the west, there is a variety of commercial and auto sales uses along Moreno Beach Drive.

Highland Fairview Corporate Park (HFCP), located north and west of the project area between Redlands Boulevard and Theodore Street, is currently under development and the first phase was completed in late 2011 (Skechers). The area north of SR-60 is largely undeveloped with clusters of low-density residential development within the Moreno Valley city limits.

There is little development adjacent to the east and south boundaries of the project area. The area easterly of the project, commonly referred to as the Badlands, is a rugged area that separates the City of Moreno Valley from San Timoteo Canyon and the City of Beaumont. Most of the Badlands area north of SR-60 is incorporated into the Norton Younglove Reserve. Due to its reserve status, steep slopes and canyons, the Badlands area has experienced little development; however, there are scattered single-family homes in the area east of Gilman Springs Road. The Badlands Sanitary Landfill, operated by the County of Riverside Waste Management Department, is located approximately 1.5 miles northeasterly of the project area in the Badlands.

The area south of the proposed project site is the San Jacinto Wildlife Area (SJWA), which includes an Upland Game Hunting Area and the Lake Perris State Recreation Area. These lands are State-owned and access to these areas is restricted. The SJWA is owned and operated by the California Department of Fish and Wildlife (CDFW) and contains approximately 9,000 acres of restored wetland and ponds. The Lake Perris State Recreation Area is owned and operated by the California State Parks Department and contains approximately 6,000 acres of open space land, which is used both for recreation and preservation of the natural southern California landscape.

In 1981–82, the State Wildlife Conservation Board initially purchased 15,000 acres of the Mystic Lake area as mitigation for habitat impacts associated with the construction of the State Water Project. This area was designated as the SJWA. In 1995, the Board acquired an additional 921 acres of upland farmland within the southern portion of the Moreno Highlands Specific Plan (MHSP) property to incorporate into the SJWA. In 2001, the Board acquired an additional 274 acres in this same area. This land was purchased to provide a buffer between the land surrounding Mystic Lake and the planned urban development within Moreno Valley. The Board action on this purchase indicated the land was to "facilitate restoration of historic water flows back into the lake bed and allow for reversion back to wetlands during wet years, and areas of low vegetation cover during dry years, all providing significant habitat for species using the SJWA, including a number of state and federally listed species."[1]

All of the State-owned land south of the project area is referred to as the SJWA. However, the land purchased out of the MHSP is referred to in this EIR as the CDFW Conservation Buffer Area to denote the reason for its original purchase. The 1,195 acres acquired by the Wildlife Board during the past 20 years was intended to serve as an effective buffer between the SJWA and the development expected to occur north of the SJWA area (the present mixed-use Moreno Highlands Specific Plan). Currently, this acreage provides not only a buffer area, but also provides open space for raptor and bird foraging habitat, and is actively farmed under CDFW contract. The proposed project will permanently designate this CDFW Conservation Buffer Area as Open Space under the City General

[1] Wildlife Conservation Board minutes from May 18, 2001.

Plan. It is anticipated the State would maintain its function as a buffer and also as foraging habitat for raptors as long as it is regularly tilled. There are no plans to alter the current agricultural use of the property.

There are two future commercial areas located immediately north of the project area. The first is located at the northwest corner of Theodore Street and Eucalyptus Avenue (proposed 80,000 square feet) and the second is at the northeast corner of Redlands Boulevard and Eucalyptus Avenue (proposed 120,000 square feet). The nearest large-scale commercial development is located on the south side of SR-60 at Moreno Beach Drive approximately 1.25 miles to the west of the proposed WLC project; this shopping complex includes Walmart and Target along with restaurants and ancillary commercial and service uses, as well as the Moreno Valley Auto Center. The central core of Moreno Valley, which includes residential neighborhoods and commercial activity, is located approximately three miles west of the project area.

March Air Reserve Base (MARB) is located approximately seven miles southwesterly of the WLC planning area. The MARB is under the authority of the March Joint Powers Authority, which acts as the land use authority, the Redevelopment Agency and Airport Authority (the March Inland Port Airport Authority) for reuse of the former March Air Force Base.

4.10.1.5 Existing General Plan, Specific Plan, and Zoning Land Use Designations Applicable to the Proposed WLC Project Site

The Community Development Element of the City's General Plan currently designates the project area as a mix of residential and associated uses, commercial, business park, and open space land uses. In 1992, the City approved the 3,038-acre MHSP as a master planned, mixed-use community, consisting of up to 7,283 residential dwelling units and associated uses (on approximately 2,435 acres) and approximately 603 acres of business, retail, institutional, and other uses. The MHSP is incorporated into the City's General Plan (see Table 4.10.A).

Table 4.10.A: Moreno Highlands Specific Plan (Current Land Use Designations)

Land Use	Acreage
Residential Community	
Residential (7,283 dwelling units)	1,359.3
Parks and Open Space	701.9
Neighborhood Commercial	10.0
Cemetery	16.5
Public Facilities	347.7
Planned Business Center	
Business Park	360.8
Mixed Use	80.5
Community Commercial	16.0
Parks and Open Space	77.9
Public Facilities	67.4
Project Total	**3,038**

Adopted by City Council March 17, 1992

The MHSP called for the development of an approximately 7,300 new residential units in the City of Moreno Valley. However, as discussed below, the City of Moreno Valley already has a very low jobs-to-housing ratio, meaning that the City has a surplus of housing as compared to jobs. This reduces the demand for new housing in the area, and implementation of the MHSP would further lower the

jobs/housing ratio. In addition, the 2008–2009 recession resulted in a substantial reduction of housing prices in the Inland Empire, the State of California, and throughout most of the U.S. As is well documented in the press, foreclosure rates became very high, and the demand for newly constructed housing has been greatly reduced. Therefore, the current demand for housing development on the site is greatly limited. As such, none of the MHSP has been implemented.

In February 2011, the City adopted an updated Housing Element that identified the MHSP project area as a potential location for future jobs-producing land uses, rather than residential uses. In April 2011, the City adopted its Economic Development Action Plan, which identified eastern Moreno Valley as a potential area for major job-producing land uses. The proposed WLC Specific Plan project is consistent with this planning prerogative, and seeks to comprehensively plan the project area for jobs-producing land uses.

4.10.1.6 Surrounding Land Uses

South of SR-60/East of Redlands Boulevard. The HFCP project is currently under development. Phase 1 (Skechers' North American Operational Headquarters) was completed in late 2011. HFCP is located immediately north and west of the project area, on the north side of Eucalyptus Avenue between Redlands Boulevard and Theodore Street. The HFCP project was approved by the City of Moreno Valley in 2009. The City General Plan land use designation for the site is Commercial (C) and Business Park/Light Industrial (BP/LI).

North of SR-60. The land located on the north side of SR-60 and westerly of Theodore Street is within the City of Moreno Valley and has a land use designation of Office (O) and Residential (R1-density of one dwelling unit per acre). The area easterly of Theodore Street is unincorporated within the County of Riverside with land use designations of Scenic Highway Commercial (C-P-S) and Controlled Development Area (W-2). The W-2 area allows single-family residential and light agriculture (the suffix indicates a 2-acre minimum parcel size); and the C-P-S district allows certain wholesale and retail commercial uses. This County territory is within the City's Sphere of Influence; the City land use designation for the area is Rural Residential (RR) and Residential (R1).

East of Gilman Springs Road. The Badlands area, easterly of Gilman Springs Road, is unincorporated within the jurisdiction of the County of Riverside and has a land use designation of Controlled Development Area (W-2, W-2-1, and W-2-20); allowed uses include single-family residential and light agriculture (the suffix indicates minimum parcel size in acres). This County territory is also within the City's Sphere of Influence and the City land use designation for the area is Rural Residential (RR).

Southern Boundary. The land area to the south of the project is within the SJWA and the Lake Perris State Recreation Area. Portions of these facilities are within the City limits and have a City General Plan land use designation of Open Space (OS).

West of Redlands Boulevard. The City land use designations for the residential areas west of Redlands Boulevard are Residential R2 and R3 (maximum density of 2 and 3 dwelling units per acre, respectively). Residential areas southerly of the site along Alessandro Boulevard are subject to City land use designations of R2 and R5 (maximum density of 2 and 5 dwelling units per acre).

4.10.1.7 Project Components

The project components are described in detail in Section 3.4, *Project Characteristics*. The City of Moreno Valley is the Lead Agency for the proposed WLC project. The entitlements necessary for the proposed WLC project include approval of the following:

- General Plan Amendment(s) for the former MHSP site;
- World Logistics Center Specific Plan;
- Corresponding Zone Change to Specific Plan;
- Development Agreement for parcels owned by the project applicant;
- Tentative Parcel Map (for financing purposes only); and
- Annexation of an 85-acre parcel along Gilman Springs Road.

In addition, the project will require other associated actions and approvals by other public entities in order to construct and operate the proposed WLC project.

General Plan Amendment. The General Plan Amendment proposes a revision to the City General Plan land use designations for the entire MHSP area, including the project area as set forth in the proposed WLC Specific Plan. The General Plan Amendment also includes amendments to the following elements: (a) Community Development; (b) Parks, Recreation and Open Space; (c) Circulation; (d) Environmental Safety; and (e) Conservation. With these amendments, these elements will be modified to authorize the World Logistics Center General Plan Land Use designations and the World Logistics Center Specific Plan.

Specific Plan. The proposed WLC project includes the 2,710-acre World Logistics Specific Plan to implement the logistics and industrial portion of the General Plan Amendment and to set forth comprehensive land use regulations governing the proposed WLC project. The World Logistics Center Specific Plan is a master plan for the development of approximately 41.4 million square feet of modern high-cube logistics warehouse distribution facilities defined as Logistics Development.

The Specific Plan establishes the master plan of development for the project area, including development standards and use regulations, a master plan for circulation and infrastructure, architectural, landscape and design guidelines and sustainability goals, all of which will be applicable to all development within the developable project area.

Within the Specific Plan, the primary land use category will be Logistics Development. This use will provide for high-cube logistics warehouse space consisting of buildings of 500,000 square feet or greater, with ceiling heights of approximately 60–80 feet. Warehousing and logistics activities consistent with the storage and processing of manufactured goods and materials prior to their distribution to other facilities and retail outlets will be permitted within this category. Ancillary office and maintenance space will be permitted, along with the outdoor storage of trucks, trailers, and shipping containers.

Change of Zone. The Change of Zone will establish the World Logistics Center Specific Plan, which will replace most of the Moreno Highlands Specific Plan and rezone several other properties. It will also redesignate the CDFW Conservation Buffer Area as Open Space and the natural gas facilities as Public Facilities.

Annexation. The project includes the annexation by the City of an 85-acre parcel located on the north side of Alessandro Boulevard at Gilman Springs Road. This parcel is already within the City's Sphere of Influence. The proposed project includes pre-annexation General Plan land use designations and zoning for this parcel, and the EIR will be the environmental documentation used by the Local Agency Formation Commission (LAFCO) to complete the annexation process. The County's land use designation currently applicable to this parcel is W-2-2½. The W-2 area allows single-family residential and light agriculture (the suffix indicates minimum parcel size in acres) and the City's current General Plan land use designation for the site is Business Park (BP). This project proposes to incorporate this property into the World Logistics Center Specific Plan.

4.10.1.8 General Plan and Zoning Designations

Table 4.10.B compares the existing and proposed land uses in the project vicinity.

Table 4.10.B: Existing and Proposed Land Uses in the Project Vicinity

Location	Current Land Uses	Existing General Plan Land Uses	Proposed General Plan and Specific Plan/Zoning Designations
On-site	Agricultural/ undeveloped	Moreno Highlands Specific Plan with Residential, Commercial, Public Facilities, Business Park, Open Space, Mixed Use	General Plan: World Logistics Center Specific Plan Specific Plan: Logistics Development (LD), Light Logistics (LL), Logistics Support (LS), and Open Space (OS).
North of Site/ South of SR-60	Highland/Fairview Corporate Park	Commercial/Light Industrial	No Change
North of Site/ North of SR-60	Low Density Residential/ Agriculture	Low Density Residential/Office Strip along freeway	No Change
South	Open Space	Open Space	No Change
East	Open Space	Open Space	No Change
West	Residential/ Undeveloped	Residential	No Change

4.10.2 Applicable Regulations

The following goals, objectives, and policies of the City of Moreno Valley General Plan are applicable to the proposed WLC project:

Section 9.2.2 Community Development

Goal 2.1 A pattern of land uses which organizes future growth, minimizes conflicts between land uses, and which promotes the rational utilization of presently underdeveloped and undeveloped parcels.

Goal 2.2 An organized, well-designed, high quality, and functional balance of urban and rural land uses that will meet the needs of a diverse population, and promote the optimum degree of health, safety, well-being, and beauty for all areas of the community, while maintaining a sound economic base.

Goal 2.3 Achieves an overall design statement that will establish a visually unique image throughout the City.

Objective 2.1 Balance the provision of urban and rural lands within Moreno Valley by providing adequate land for present and future urban and economic development needs, while retaining the significant natural features and the rural character and lifestyle of the northeastern portion of the community.

Objective 2.5 Promote a mix of industrial uses which provide a sound and diversified economic base and ample employment opportunities for the citizens of Moreno Valley with the establishment of industrial activities that have good access to the regional transportation system, accommodate the personal needs of workers and business visitors; and which meets the service needs of local businesses.

Policy 2.5.1 The primary purpose of areas designated Business Park/Industrial is to provide for manufacturing, research and development, warehousing and distribution, as well as office and support commercial activities. The zoning regulations shall identify the particular uses permitted on each parcel of land. Development intensity should not exceed a Floor Area Ratio of 1.00 and the average floor area ratio should be significantly less.

Policy 2.5.2 Locate manufacturing and industrial uses to avoid adverse impacts on surrounding land uses.

Policy 2.5.3 Screen manufacturing and industrial uses where necessary to reduce glare, noise, dust, vibrations and unsightly views.

Policy 2.5.4 Design industrial development to discourage access through residential areas.

Section 9.6.2 Safety Element

Objective 6.6 Promote land use patterns that reduce daily automotive trips and reduce trip distance for work, shopping, school, and recreation.

4.10.3 Methodology

The focus of the land use analysis is on land use impacts that would result from implementation of the proposed WLC project. Land use conflicts are identified and evaluated based on existing land uses, land uses proposed as part of the project, land use designations, and standards and policies related to land use. Land use compatibility is based on the intensity and patterns of land use to determine whether a project would result in incompatible uses or nuisance impacts to sensitive receptors (e.g., residences, medical facilities, or schools).

An evaluation of the potential land use impacts associated with implementation of the proposed WLC project is based on review of the Moreno Valley General Plan and associated Final EIR, the Moreno Valley Municipal Code, SCAG Regional Comprehensive Plan, SCAG Regional Transportation Plan, SCAG Compass Growth Vision, SCAQMD Air Quality Management Plan, Santa Ana Water Quality Control Plan, Riverside County Drainage Area Management Plan, and the EMWD Urban Water Management Plan. Compatibility of the proposed WLC project with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is discussed in Section 4.4, *Biological Resources*.

4.10.4 Thresholds of Significance

Appendix G of the *CEQA Guidelines* recognizes the following significance thresholds related to land use. Based on these significance thresholds, potential impacts to land use could be considered significant if the proposed WLC project would result in the following:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the General Plan, Specific Plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; and/or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.10.5 Less than Significant Impacts

The following potential impacts were determined to be less than significant. In each of the following issues, either no impact would occur (therefore, no mitigation would be required) or adherence to established regulations, standards, and policies would reduce potential impacts to a less than significant level.

4.10.5.1 Conflict with Any Applicable Habitat or Natural Community Conservation Plan

Threshold	Would the proposed WLC project conflict with any applicable habitat conservation plan or natural community conservation plan?

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The project site is located within the MSHCP area, Mead Valley and Reche Canyon/Badlands Plan Area.[1] The MSHCP is a comprehensive, multi-jurisdictional effort that includes Riverside County and fourteen cities to provide a regional approach to conservation planning. However, the study area is not located in any Criteria Cells; therefore, the proposed WLC project is not subject to cell criteria identified in the MSHCP, and is not located within any special linkage areas identified by the MSHCP. However, the project site is located within areas requiring burrowing owl surveys, within the MSHCP Criteria Area Species Survey Area (CASSA), and Narrow Endemic Plant Species Survey Area (NEPSSA).

Because the project site is within an MSHCP CASSA and is considered to be a covered activity, the project is subject to provisions of the MSHCP. In particular, the project proponent will be required to provide payment of mitigation fees and adhere to the BMPs found in Appendix C of the MSHCP. Pursuant to agreements with the U.S. Fish and Wildlife Service (USFWS) and the CDFW, the payment of the mitigation fees and compliance provisions of the MSHCP provides full mitigation under CEQA, the Federal Endangered Species Act (FESA), and the California Endangered Species Act (CESA) for impacts to the species and habitats covered by the MSHCP. Since the City has adopted the MSHCP and its requirements and provisions, and since the project is within Moreno Valley, the proposed WLC project would be required to adhere to applicable MSHCP requirements and fees. Therefore, the WLC project was determined to be consistent with the MSHCP proposed WLC project (see Section 4.4, *Biological Resources*).

[1] *Multiple Species Habitat Conservation Plan Compliance Report*, Michael Brandman Associates. April 23, 2012.

4.10.5.2 Conflict with Applicable Land Use Plans, Policies, or Regulations (Regional)

Threshold	Conflict with any applicable regional land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the General Plan, Specific Plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Section 15125 (d) of the *CEQA Guidelines* requires EIRs to "discuss any inconsistencies between the proposed project and applicable general plans and regional plans." The objective of such a discussion is to find ways to modify a project, if warranted, to eliminate any identified inconsistencies with relevant plans and policies, and thereby avoid creating an impact to the environment that consistency with the plan would otherwise mitigate. Pursuant to *CEQA Guidelines* Section 15125 (d), this EIR section includes an evaluation of the consistency of the proposed WLC project with pertinent goals and policies of relevant adopted local and regional plans. Because certain plans are more specifically tailored to other issue areas, such as air quality, transportation, biology, hazards, water quality, and water supply, the local and regional plans identified below are addressed in detail in other sections of this EIR. The following analysis evaluates the proposed project against all the applicable regional planning documents and processes, while the following Section 4.10.6.1 evaluates the project relative to the City of Moreno Valley General Plan.

Airport Regulations. MARB is a joint-use airport, used for military and civilian purposes, located seven miles west of the project site. The project area is outside of any Federal or State regulation related to MARB. The project is also outside of any areas regulated by the Riverside County Airport Land Use Plan (ALUP). Therefore, the project does not have a conflict with the ALUP and no impact will occur.

SCAG Applicable Regional Plans. On April 4, 2012, the SCAG approved the year 2012 Regional Transportation Plan (RTP) and associated Sustainable Communities Plan (SCS). As of this writing, the 2012 RTP has not yet been approved by the Federal agencies with jurisdiction. As such, this section evaluates consistency with both the SCAG 2008 RTP and the SCAG 2012 RTP.

SCAG 2008 Regional Comprehensive Plan (RCP), Regional Transportation Plan (RTP), and Compass Growth Vision (Compass): The SCAG (the designated Metropolitan Planning Organization [MPO] for the Counties of Ventura, Orange, San Bernardino, Riverside, Imperial, and Los Angeles) is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality. With its members and other regional planning entities, the SCAG prepared the 2008 RCP to serve as a framework to guide decision-making with respect to the growth and changes that can be anticipated in the region for the 2008–2012 timeframe. The RCP is a major advisory plan prepared by the SCAG that addresses important regional issues like housing, traffic/transportation, water, and air quality. The RCP serves as an advisory document to local agencies in the Southern California region for their information and voluntary use for preparing local plans and handling local issues of regional significance.

The RCP identifies voluntary best practices to approach growth and infrastructure challenges in an integrated and comprehensive way. It also includes goals and outcomes to measure progress toward a more sustainable region. The RCP includes nine chapters, each based on specific areas of planning or resource management. Each of the nine chapters contains goals, policies, implementation, and strategies to achieve the SCAG's overall goals of improving the standard of living for all; improving the quality of life for all; and enhancing equity and access to government. Local governments are required to use the RCP as the basis for their own plans and are required to discuss the consistency of projects of "regional significance" with the RCP.

Regional Comprehensive Plan: The RCP's overall goal is to reinvigorate the region's economy, avoid social and economic inequities and the geographical dislocation of communities, and to maintain the region's quality of life. The document is described as a regional policy framework for future land use decisions in the SCAG area that respects the need for strong local control, but that also recognizes the importance of regional comprehensive planning for issues of regional significance. The RCP is laid out much like a General Plan and organizes recommended policies into nine chapters. The highlight of each chapter is the regional strategy that addresses the RCP's vision for that resource area. As such, each chapter includes three levels of recommendations for the region:

- *Goals.* Each goal will help define how sustainability is defined for that resource area.
- *Outcomes.* These focus on quantitative targets that define progress toward meeting the RCP's Goals. Where possible, they are clearly defined (e.g., a 20% reduction in greenhouse gas emissions from 2007 levels), capable of being monitored with existing or reasonably foreseeable resources, and have a strong link to sustainability goals.
- *Action Plan.* This critical part of the RCP lays out a comprehensive implementation strategy that recommends how the region can systematically move to meet the RCP's quantitative Outcomes and achieve its Goals, Guiding Principles, and Vision. Each Action Plan contains:
    - *Constrained Policies.* This includes a series of recommended near-term, feasible policies that stakeholders should consider for implementation. For example, the RCP calls on the SCAG to adopt policies that reflect its role as a planning agency, council of governments, and metropolitan planning organization. The RCP also recommends voluntary policies for consideration by local governments and other key stakeholders.
    - *Strategic Initiatives.* This encompasses longer-term strategies that require significant effort to implement but are necessary to achieve the RCP's desired Goals and Outcomes. For example, identifying technological breakthroughs that can reduce air pollution from the transportation sector requires both commitment and time. Most of these initiatives are not constrained and will require political will, enabling legislation, new funding sources, and other key developments to become a reality. In most cases, this tier of strategies is the key to achieving the region's sustainability Goals and Outcomes.

Other policies contained within the 2008 RCP were either not applicable to the proposed WLC project or are directed at the SCAG and actions that the SCAG would undertake at the regional level that would not pertain directly to the proposed WLC project. Policies within the 2008 RCP that are applicable to the proposed WLC project were identified and are discussed below.

Land Use and Housing Chapter

Goal *Focusing growth in existing and emerging centers and along major transportation corridors.*

Consistent. The proposed WLC project site is currently either underdeveloped or used for agriculture. Regional access to the City and project area is provided from SR-60, which runs east-west just north of the project site. SR-60 provides direct access to the site via interchanges at Redlands Boulevard, Theodore Street, and Gilman Springs Road.

According to the City's "Rancho Belago Development Strategy" adopted in 2011, the proposed WLC project would occur in an area acknowledged by the City as appropriate for this type of development. The existing roadway system and infrastructure surrounding the project site will be utilized to the maximum extent possible, and the proposed WLC project will install improvements and/or pay necessary fees to facilitate the continuation of satisfactory operation. The proposed WLC project is consistent with this SCAG policy in that it exists along a major transportation corridor of the City and will be connecting to the existing utilities underlying the arterial roadways.

Goal *Targeting growth in housing, employment, and commercial development within walking distance of existing and planned transit stations.*

Consistent. The proposed WLC project would comply with all City development policies, standards, and programs pertaining to supporting alternative modes of transportation included in the General Plan Circulation Element. In addition, the proposed WLC project is located within an urbanizing area of the City. As provided in the discussion on cumulative projects (Section 4.10.7), the approved and planned development in the project area includes residential, commercial, and industrial uses. As such, the project site is in an area that is developing with projects that have already been approved and constructed, or are in the various stages of the planning process.

Transit service in Moreno Valley is provided by the Riverside Transit Authority (RTA), which provides two routes in the vicinity of the proposed development:

- Route 35, which runs along Eucalyptus Street, Moreno Beach Boulevard, and SR-60; while this route does not directly serve the project site, it could be readily rerouted through the site.
- Route 20, which runs along the southerly portion of Moreno Beach Boulevard, approximately one mile west of the site.

Because the project site is located in close proximity existing RTA routes,[1] the proposed WLC project could be accessible to existing transit systems. As the project site is located adjacent to an area where commercial, residential, and industrial uses are planned or approved, and because the project site is readily accessible from SR-60 and from existing RTA bus routes, the proposed WLC project would be consistent with this SCAG Policy.

Goal *Inject new life into underused areas by creating vibrant new business districts, redeveloping old buildings, and building new businesses and housing on vacant lots.*

Consistent. The proposed WLC project site is currently used for agriculture. The proposed WLC project would introduce new high-cube logistics warehouse uses on vacant lots.

Outcome *Significantly increase the number and percentage of new housing units and jobs created within the Compass Blueprint 2% Strategy Opportunity Areas by 2012 and improve the regional jobs-housing balance. (Tracking the number of new units will measure the region's progress in accommodating forecast growth. The percentage of housing and jobs developed within the Opportunity Areas will indicate the locational efficiency of growth.)*

Consistent. The project is designed to address the City of Moreno Valley jobs/housing imbalance; the City has a scarcity of jobs compared to the number of residents.

Direct population increases are generally associated with residential developments and as there are no residential uses proposed for the project, there would be no direct increase in population. As most of the new employment opportunities are anticipated to be filled by existing local area residents, a large influx of new residents to the City would not occur. The City's current population per the 2010 Census is 195,216 and the SCAG projects the City's population will grow by 59,984 persons by the year 2035 (+31%). A City or sub-region with a jobs-to-housing ratio lower than the overall standard would be considered a "jobs poor" area, indicating that many of the residents must commute to places of employment outside the sub-area. The 2010 estimated jobs-to-housing ratios for the City, County, and SCAG region are 0.49, 0.81, and 1.02, respectively. These ratios indicate that both Western Riverside County and the City of Moreno Valley are "jobs poor" because the jobs-to-housing ratios are below that of the Southern California region (as defined by SCAG).

It is anticipated that any new employment opportunities created by the proposed development would be filled by persons already residing in the local area. The proposed WLC project would serve the existing and continuing growth in the City and would not result in any direct increase to the population or households not previously anticipated in the City of Moreno Valley. In fact, it would result in a

[1] Riverside Transit Agency, http://www.riversidetransit.com, website accessed April 15, 2012.

decrease in projected population in favor of an increase in anticipated job growth. As such, the proposed WLC project would be within the SCAG and Western Riverside Council of Governments (WRCOG) growth projection forecasts and would be consistent with this SCAG policy.

Outcome *Reduce total regional vehicle miles traveled (VMT) to 1990 levels by 2020. (The Land Use and Housing Action Plan can be expected to result in a 10% reduction in VMT in 2035 when compared to current trends. VMT serves as a proxy for jobs/housing balance, urban design, transit accessibility, and other urban form issues. VMT per household will decrease with Compass Blueprint implementation.)*

Consistent. As previously identified, the proposed WLC project would comply with all City development policies, standards, and programs pertaining to supporting alternative modes of transportation included in the General Plan Circulation Element. In addition, the proposed WLC project would result in the development of employment opportunities in fairly close proximity to existing residential development. The type of uses proposed and their proximity to each other allow for increased pedestrian and bicycle activity, limiting the need for vehicle travel. Because the project site is located adjacent to existing RTA Route 35[1] the proposed WLC project would be accessible to existing transit systems. Through consultation with the RTA, the project applicant will coordinate and facilitate the use of public transit to access the project site. The provision of additional employment options in proximity to existing residential development has the potential to reduce VMT; therefore, the proposed WLC project is consistent with this policy.

Section 4.15 of the EIR, *Traffic and Transportation*, indicates that Moreno Valley currently has a jobs/ housing imbalance resulting in long westbound commutes for thousands of City residents every workday. The Specific Plan would eventually create approximately 25,000 new jobs, nearly doubling the number of jobs in Moreno Valley. This would have several effects on commute patterns over the long-term:

- Many existing and future residents of Moreno Valley would be able to work locally with very short commute trips.
- Residents of neighboring cities who work within the Specific Plan area would have short commutes and be able to access the site using the local arterial road network rather than the freeway. This is consistent with the policies of the WRCOG and the Riverside County Transportation Commission (RCTC) to promote use of the arterial road network as an alternative to freeways. The traffic study indicates that nearly half of auto traffic associated with the project would be on surface streets (i.e., not on freeways).
- Workers coming from more distant residences would, in most cases, be traveling on freeways in the off-peak direction; i.e. commuters traveling to the project from Los Angeles or Orange Counties would be headed eastbound in the morning and westbound in the evening. This would enable them to take advantage of the existing unused off-peak capacity of facilities that were sized for flows in the peak direction. The traffic study determined that, although the project would increase freeway auto traffic eastbound in the morning, it would decrease the traffic in the more congested westbound direction (Figure 14, TIA 2012). In the evening, this pattern would reverse, with the project relieving traffic in the congested eastbound direction (Figure 15, TIA 2012). Therefore, it appears the proposed project will have a net beneficial impact on the regional freeway auto traffic. This is consistent with the policies of the SCAG, WRCOG, and other regional bodies to encourage better jobs/housing balances as a way to reduce peak flow on the freeway system. It will also help the project and City comply with the requirements of SB 375 regarding long-term land use patterns to achieve a better regional balance of jobs/housing, which in turn will help reduce traffic congestion on regional freeways.

It should also be noted that this project will help reduce VMT within the City of Moreno Valley over the long term since it will add thousands of new jobs to the local workforce instead of new housing, thus improving the City's jobs to housing ratio.

[1] Riverside Transit Agency, http://www.riversidetransit.com, website accessed April 15, 2012.

Policy LU-6.2 *Developers and local governments should integrate green building measures into project design and zoning such as those identified in the U.S. Green Building Council's Leadership in Energy and Environmental Design, Energy Star Homes, Green Point Rated Homes, and the California Green Builder Program.*

Consistent. According to Section .1.2.2 of the WLC Specific Plan, the project will be in conformance with California's CALGreen building regulations. The Specific Plan states that 1) these are "the most stringent, environmentally friendly building codes in the U.S.;" and 2) "CALGreen is a comprehensive, far-reaching set of regulations which mandate environmentally advanced building practices and regulations designed to conserve natural resources and reduce greenhouse gas emissions, energy use, and water use."

In addition to compliance with the CALGreen building regulations, Section 1.2.2, *Green Building – Sustainable Development*, (WLCSP page 10) indicates the project proposes to incorporate the following sustainable design features to further reduce its environmental footprint, including:

- Allow the installation of solar photovoltaic panels on each building (i.e., WLCSP will have "solar ready" buildings) to help offset each building's annual electrical demand;
- Building design to reduce energy consumption by complying with the most current version of Title 24 energy conservation standards;
- Channelizing street runoff into landscape areas instead of storm drains;
- Use of recycled and/or locally sourced building materials to the extent feasible;
- Reduction in the use of impervious surfaces throughout the project;
- Provide for site access via existing transit systems; and
- Provide for internal circulation via bicycles and walking.

Therefore, the proposed WLC project is consistent with this SCAG policy.

Open Space and Habitat Chapter

Policy OSC-8 *Local governments should encourage patterns of urban development and land use, which reduce costs of infrastructure and make better use of existing facilities.*

Consistent. The proposed WLC project is adjacent to existing developed in areas that are presently served by various existing water, sewer, storm drainage, electrical, natural gas, and transportation services. During the construction of the project and as needed throughout the process, necessary utility and roadway improvements will be installed or extended to the project site from adjacent existing facilities. The supply of electricity and natural gas is demand-responsive and the project proponent would be required to meet the service requirements of these utility providers. By maximizing the use of existing facilities, the costs of expanding infrastructure would be minimized. Because the proposed WLC project would be located in close proximity to existing industrial, commercial, and residential structures requiring a similar type of infrastructure, it is consistent with this growth management policy.

Policy OSC-12 *Developers and local governments should promote water-efficient land use and development.*

Consistent. As identified in Section 4.17 of this EIR, pursuant to Assembly Bill 325 (AB 325), the City of Moreno Valley implements landscape and irrigation design standards (Chapter 9.17 of the City's Municipal Code), which establishes water conservation requirements for new or rehabilitated landscapes.[1] The proposed WLC project is subject to this ordinance and will be required to implement water-efficient landscaping design (i.e., drought-tolerant landscaping) within the project site. In addition, a major design concept of the Specific Plan is water conservation through the careful

[1] City of Moreno Valley Municipal Code

selection and maintenance of drought-tolerant native plants. For example, Section 1.2.3 of the Specific Plan indicates a major goal of the project will be to minimize water consumption as outlined in Specific Plan Section 1.2.3, *Green Building - Sustainable Development*, Section 5.2, *Onsite Landscaping Design Standards*, and Section 6.0, *Sustainability*. All of these sections call for the project to minimize water use through installation of drought-tolerant landscaping and irrigating with runoff from building roofs and ground-level hardscape areas. Therefore, the proposed WLC project would be consistent with this SCAG policy.

Water Chapter

Policy WA-11 *Developers and local governments should encourage urban development and land uses to make greater use of existing and upgraded facilities prior to incurring new infrastructure costs.*

Consistent. Existing warehousing development is located in the immediate vicinity of the project site where infrastructure for water, sewer, storm drainage, electrical, natural gas, and transportation facilities currently exist. During the construction of the project and as needed throughout the process, necessary utility and roadway improvements will be installed or extended to the project site from adjacent existing facilities. The utility and roadway improvements will facilitate future growth in the surrounding area. The availability of this infrastructure would reduce the cost to public agencies that would provide services to the project area. The proposed WLC project would be developed in an area where such infrastructure is accessible. Furthermore, the project applicant would pay all applicable development fees for the necessary infrastructure and public service improvements, including those associated with water, sewer, drainage, roadways, fire, and police; therefore, the proposed WLC project is consistent with this policy.

Policy WA-12 *Developers and local governments should reduce exterior uses of water in public areas, and should promote reduced use in private homes and businesses by shifting to drought-tolerant native landscape plants (xeriscaping), using weather-based irrigation systems, educating other public agencies about water use, and installing related water pricing incentives.*

Consistent. As identified in earlier in this section, pursuant to Assembly Bill 325 (AB 325), the City of Moreno Valley implements landscape and irrigation design standards (Chapter 9.17 of the City's Municipal Code), which establishes water conservation requirements for new or rehabilitated landscapes.[1] The proposed WLC project is subject to this ordinance and will be required to implement water-efficient landscaping design (i.e., drought-tolerant landscaping) within the project site. Therefore, the proposed WLC project would be consistent with this SCAG policy.

Energy Chapter

Policy EN-10 *Developers and local governments should integrate green building measures into project design and zoning such as those identified in the U.S. Green Building Council's Leadership in Energy and Environmental Design, Energy Star Homes, Green Point Rated Homes, and the California Green Builder Program. Energy-saving measures that should be explored for new and remodeled buildings include:*

- *Using energy-efficient materials in building design, construction, rehabilitation, and retrofit.*
- *Encouraging new development to exceed Title 24 energy efficiency requirements.*
- *Developing Cool Communities measures including tree planting and light-colored roofs. These measures focus on reducing ambient heat, which reduces energy consumption related to air conditioning and other cooling equipment.*

[1] *City of Moreno Valley Municipal Code*.

- *Utilizing efficient commercial/residential space and water heaters. This could include the advertisement of existing and/or development of additional incentives for energy-efficient appliance purchases to reduce excess energy use and save money. Federal tax incentives are provided online at http://www.energystar.gov/index.cfm?c=Products.pr_tax_credits.*
- *Encouraging landscaping that requires no additional irrigation; utilizing native, drought-tolerant plants can reduce water usage up to 60 percent compared to traditional lawns.*
- *Encouraging combined heating and cooling (CHC), also known as cogeneration, in all buildings.*
- *Encouraging neighborhood energy systems, which allow communities to generate their own electricity.*
- *Orienting streets and buildings for best solar access.*
- *Encouraging buildings to obtain at least 20 percent of their electric load from renewable energy.*

Consistent. According to Section 1.2.2 of the WLC Specific Plan (Green Building – Sustainable Development), the project will be in conformance with California's "CALGreen" building regulations which are considered the most stringent, environmentally friendly building codes in the U.S. In addition to compliance with the CALGreen building regulations, the project proposes to incorporate the following additional sustainable design features to further reduce its environmental footprint, including:

- Reduce energy consumption of buildings by complying with the most current version of State Title 24 energy conservation standards;
- Allow the future installation of solar photovoltaic panels on each building (i.e., WLCSP buildings will be "solar ready") to help offset annual electrical energy consumption;
- Substantially reduced water use for landscape irrigation;
- Channelizing street runoff into landscape areas instead of storm drains;
- Use of recycled and/or locally sourced building;
- Reduction in the use of impervious surfaces throughout the project;
- Provide for site access via existing transit systems (WLCSP Section 3.3.5, Mass Transit Circulation, page 27); and
- Provide for internal circulation via bicycles and walking (WLCSP Section 3.4, Non-Vehicular Circulation, page 27).

In addition, the strategies listed in Section 4.7, *Greenhouse Gases and Global Climate Change*, of this EIR are considered to be greenhouse gas emission reduction strategies, which include green building measures. These strategies are either part of the project, required mitigation measures, or requirements under local or State ordinances. Since the project would implement these strategies into project design and operation, the project would be consistent with this SCAG policy.

Solid Waste Chapter

Policy SW-14 *Developers and local governments should integrate green building measures into project design and zoning including, but not limited to, those identified in the U.S. Green Building Council's Leadership in Energy and Environmental Design, Energy Star Homes, Green Point Rated Homes, and the California Green Builder Program. Construction reduction measures to be explored for new and remodeled buildings include:*

- *Reuse and minimization of construction and demolition (C&D) debris and diversion of C&D waste from landfills to recycling facilities.*
- *An ordinance that requires the inclusion of a waste management plan that promotes maximum C&D diversion.*
- *Source reduction through (1) use of building materials that are more durable and easier to repair and maintain, (2) design to generate less scrap material through dimensional planning, (3) increased recycled content, (4) use of reclaimed building materials, and (5) use of structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings).*
- *Reuse of existing building structure and shell in renovation projects.*

Building lifetime waste reduction measures that should be explored for new and remodeled buildings include:

- *Development of indoor recycling program and space;*
- *Design for deconstruction; and*
- *Design for flexibility through use of moveable walls, raised floors, modular furniture, moveable task lighting, and other reusable components.*

Consistent. As noted above, according to Section 1.2.2 of the WLC Specific Plan, *Green Building – Sustainable Development*, the project will be in conformance with California's "CALGreen" building regulations. In addition to compliance with the CALGreen building regulations, the project proposes to incorporate the following additional sustainable design features to further reduce its environmental footprint, including:

- Substantially reduced water use for landscape irrigation;
- Channelizing street runoff into landscape areas instead of storm drains;
- Use of recycled and/or locally sourced building materials to the extent feasible;
- Reduction in the use of impervious surfaces throughout the project;
- Provide for site access via existing transit systems; and
- Provide for internal circulation via bicycles and walking.

The strategies listed in Section 4.7 *Greenhouse Gases and Global Climate Change* of this EIR are considered to be greenhouse gas emission reduction strategies, which include green building measures. These strategies are either part of the project, required mitigation measures, or requirements under local or State ordinances. With implementation of these strategies/measures, the project would be consistent with this SCAG policy.

Transportation Chapter

Goal *A more efficient transportation system that reduces and better manages vehicle activity.*

Consistent. The proposed WLC project would result in the development of employment opportunities in close proximity to housing. In addition, the project proposes sidewalks, bicycle routes, and landscaping treatments to provide for pedestrian and bicycle access throughout the project site. The type of uses proposed and their proximity to each other allow for increased pedestrian and bicycle activity, limiting the need for vehicle travel. At present, Moreno Valley has a jobs/housing imbalance that results in long westbound commutes for thousands of city residents every workday. The WLC

would create approximately 25,000[1] new jobs; nearly doubling the number of jobs in Moreno Valley. This would have several effects on commute patterns:

- Many existing and future residents of Moreno Valley would be able to work locally with very short commute trips.
- Residents of neighboring cities who work at the WLC would have short commutes and, importantly, be able to access the site using the arterial road network. This is consistent with the policies of the WRCOG and the RCTC to promote use of the arterial road network as an alternative to freeways. Tests with the Riverside County Traffic Analysis Model (RivTAM) model suggest that nearly half of auto traffic associated with the WLC would be on surface streets (i.e., not on freeways).
- Workers coming from more distant residences would, in most cases, be traveling on freeways in the off-peak direction; i.e. commuters traveling to the WLC from Los Angeles or Orange Counties would be headed eastbound in the morning and westbound in the evening. This would enable them to take advantage of the existing unused off-peak capacity of facilities that were sized for flows in the peak direction. Although the project would increase freeway auto traffic eastbound in the morning, it would decrease the traffic in the more congested westbound direction. In the evening, the pattern would reverse, with the project relieving traffic in the congested eastbound direction. Therefore the WLC project will have a net beneficial impact on the regional freeway auto traffic. This is consistent with the policies of SCAG, WRCOG, and other regional bodies to encourage better jobs/housing balances as a way to reduce peak flow on the freeway system.

Therefore, this project is consistent with this transportation goal.

Security and Emergency Preparedness Chapter

Goal *Ensure transportation safety, security, and reliability for all people and goods in the region.*

Consistent. The proposed WLC project is consistent with this goal in that the proposed WLC project would be required to adhere to the City of Moreno Valley's General Plan. The General Plan contains goals and policies that aim to provide adequate and reliable transportation facilities. The goals and policies identified in the City's General Plan resemble those of the RCP that address mobility, traffic safety, environmental concerns, and land use consistency as the major traffic study factors to identify existing traffic conditions and to assess the future effects on area traffic patterns/flow.

Economy Chapter

Goal *Enable business to be profitable and competitive (locally, regionally, nationally, and internationally).*

Consistent. The proposed WLC project would add to the City's portfolio of industrial and logistics services. Through the addition of the proposed WLC project, the City would also expand its economic competitiveness with other areas in the region. Therefore, the proposed WLC project is consistent with this policy.

Goal *Promote sustained economic health through diversifying the region's economy, strengthening local self-reliance and expanding competitiveness.*

Consistent. As previously stated, the proposed WLC project would add to the City's portfolio of industrial and logistic services, which would enable the City to be more self-reliant through the provision of goods and services to residents within the City. Through the addition of the proposed

[1] Based on a ratio of 0.6 employee per 1000 square feet of logistics. This ratio is taken from *DTA Public Works Database; confirmed by "Employment Density Study," SCAG (2001), and "Logistics Trends and Specific Industries," NAIOP Research Foundation (March 2010).San Bernardino Planning Department.*

WLC project, the City would also expand its economic competitiveness with other areas in the region. Therefore, the proposed WLC project is consistent with this policy.

Goal *Ensure a healthy, flourishing economy that provides sufficient employment opportunities to decrease poverty and meet the basic needs of all the people who participate in our economy by promoting education and workforce training policies that give residents an opportunity to compete for the full range of jobs available with good wages and benefits.*

Consistent. The proposed WLC project would provide additional employment opportunities in a community with a low jobs/housing ratio. In addition, the proposed WLC project would meet the basic needs of those who participate in the economy through the use of training in the workforce. Therefore, the proposed WLC project is consistent with this policy.

Outcome *Increase job growth to add three million jobs to the regional economy by 2035.*

Consistent. The proposed WLC project would result in additional jobs in the City, which would contribute to job growth in the regional economy. Therefore, the proposed WLC project is consistent with this policy.

Outcome *Increase the region's economic vitality and attractiveness by focusing housing and job additions in urban centers, employment centers, and transportation corridors, such that there will be a minimum of 35 percent of the region's household growth and 32 percent of employment growth in these areas from their levels in 2005 by 2035.*

Consistent. Development of the proposed on-site uses would increase the number of jobs in the City by approximately 16,640 at full development. The 2010 estimated jobs-to-housing ratios for the City, sub-region, and region are 1.14, 1.18, and 1.43, respectively. The 2030 future jobs-to-housing ratios for the City, sub-region, and region are 1.03, 1.20, and 1.37, respectively. These ratios indicate that both western Riverside County and the City of Moreno Valley are "jobs poor" because the jobs-to-housing ratios are below the Southern California region (as defined by SCAG). A city or sub-region with a jobs-to-housing ratio lower than the overall standard would be considered a "jobs poor" area, indicating that many of the residents must commute to places of employment outside the sub-area. Since the proposed WLC project would add jobs to a "jobs poor" region, the proposed WLC project would increase the region's economic vitality and attractiveness by job additions in urban centers and along transportation corridors. Therefore, the proposed WLC project is consistent with this SCAG policy.

2008 Regional Transportation Plan: The 2008 RTP adopted by the SCAG in May 2008 contains a set of existing socioeconomic projections used as the basis for the SCAG's transportation planning efforts. They include projections of population, housing, and employment at the regional, county, sub-regional, jurisdictional, Census tract, and transportation analysis zone levels. The RTP includes policies and regulations set forth to ensure development within the SCAG regional area is within planned and forecast socioeconomic projections. Goals established within the RTP include the following:

- Maximize mobility and accessibility for all people and goods in the region (discussed in Section 4.15, *Traffic and Circulation*);
- Ensure travel safety and reliability for all people and goods in the region (discussed in Section 4.15, *Traffic and Circulation*);
- Preserve and ensure a sustainable regional transportation system (discussed in Section 4.15, *Traffic and Circulation*);
- Maximize the productivity of our transportation system (discussed in Section 4.15, *Traffic and Circulation*);
- Protect the environment, improve air quality, and promote energy efficiency (discussed in Section 4.3, *Air Quality*);

- Encourage land use and growth patterns that complement our transportation investments and improve the cost-effectiveness of expenditures (discussed in Section 4.15, *Traffic and Circulation*); and
- Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies (discussed in Section 4.15, *Traffic and Circulation*).

The proposed WLC project is consistent with the RTP in that it would be required to adhere to the City of Moreno Valley's General Plan. The General Plan contains goals and policies that aim to minimize traffic congestion, provide adequate transportation facilities, and require development to pay its share of costs. The goals and policies identified in the City's General Plan resemble those of the RTP that address mobility, traffic safety, environmental concerns, and land use consistency as the major traffic study factors to identify existing traffic conditions and to assess the future effects on area traffic patterns/flow.

Compass Growth Vision: The Compass Growth Vision plan provides a framework for local and regional decision-making regarding growth, transportation, land use, and economic development. The framework includes principles and a specific set of strategies intended to achieve and improve a quality of life that promotes and sustains for future generations the region's mobility, livability, and prosperity. The main objective of the Compass Growth Vision is to manage the forecast growth while improving future living conditions for all people within the SCAG area, including live, work, and play activities.

The following discussion includes the principles within the Compass Growth Vision plan and their association to the proposed WLC project.

- ***Principle 1:*** Improve mobility for all residents.
- ***Principle 2:*** Foster livability in all communities.
- ***Principle 3:*** Enable prosperity for all people.
- ***Principle 4:*** Promote sustainability for future generations.

The proposed WLC project is consistent with the four principles identified above. The nature of the proposed WLC project allows the transport of commodities from a single area rather than multiple areas, minimizing vehicle trip generation. The proposed WLC project supports the prosperity for all people by providing employment opportunities close to existing housing within the City of Moreno Valley. The proposed WLC project is located in an area that is already developing with urban uses and where existing infrastructure (freeway, sewer, electrical, water, etc.) is accessible. During the construction of the project and as needed throughout the process, necessary utility and roadway improvements will be installed or extended to the project site from adjacent existing facilities. The utility and roadway improvements will facilitate future growth in the surrounding area. The development of the proposed WLC project is consistent with the land use vision for the site and will augment existing services available in the City and region.

SCAG 2012 Regional Transportation Plan and Sustainable Communities Plan. As part of the adoption of the 2012 RTP, SCAG developed an SCS, which was required as part of SB 375. According to SB 375, each metropolitan planning organization shall prepare a sustainable communities strategy, including the requirement utilizing the most recent planning assumptions considering local general plans and other factors. The Sustainable Communities Strategy shall:

1. Identify the general location of uses, residential densities, and building intensities within the region;
2. Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period of the regional

transportation plan taking into account net migration into the region, population growth, household formation and employment growth;

3. Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region;
4. Identify a transportation network to service the transportation needs of the region;
5. Gather and consider the best practically available scientific information regarding resource areas and farmland in the region;
6. Consider the State housing goals specified in Sections 65580 and 65581;
7. Set forth a forecast development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the State Board; and
8. Allow the regional transportation plan to comply with the Federal Clean Air Act.

The SCS and the 2012 RTP contain new regional growth projections for each city in the Southern California region. Table 4.10.C contains the population and employment forecasts for the City of Moreno Valley.

Table 4.10.C: SCAG Population and Employment Projections, 2008–2035

Population			Employment			Increase 2008–2035	
2008 per Census	2020 Projection	2035 Projection	2008 per Census	2020 Projection	2035 Projection	Population	Employment
187,400	213,700	255,200	32,300	48,000	64,400	36%	99%

Source: SCAG 2012 RTP

The 2012–2035 RTP/SCS contains a number of "Outcome and Performance Measures/Indicators"[1] that are used to evaluate various regional land use plan alternatives, with the objective being an improvement over the No Project (i.e., no SCS) baseline. These measures are applied on a regional basis, and are not necessarily applicable to individual projects like the World Logistics Center. However, the following general discussion of consistency with the relevant measures shown in Table 4.10.D can be provided.

Table 4.10.D: Discussion of RTP Outcomes and Performance Measures/Indicators

Performance Measure/ Indicator	Definition	Consistency of Proposed WLC project
Share of growth in High Quality Transit Areas (HQTAs)	Increase share of the region's growth in households and employment in HQTAs	**Consistent.** The project is not currently located in an SCAG-defined HQTA. However, the project is located adjacent to existing transit routes and makes provisions for future bus service through the relocation of existing routes. By developing a focused employment center, the project can attract more frequent transit service to the area. Given the potential for readily providing transit service to the site, the project is generally consistent with this goal.
Land consumption	Reduce additional land needed for development that has not previously been developed or otherwise affected, including agricultural land, forest land, desert land, and other virgin	**Consistent.** The SCAG plan calls for reducing the amount of virgin land converted to development, as compared to the "No Project" condition. The project would develop land long planned for suburban level development, but would replace the approved mixed-use residential project with a logistics warehousing

[1] http://rtpscs.scag.ca.gov/Documents/2012/final/SR/2012fRTP_PerformanceMeasures.pdf, Table 2.

Table 4.10.D: Discussion of RTP Outcomes and Performance Measures/Indicators

Performance Measure/ Indicator	Definition	Consistency of Proposed WLC project
	sites.	project that would add employment instead of housing to the City which has long been considered by SCAG to be "housing rich." The EIR does note that the WLC project would convert agricultural land to other uses.
Average distance for work or non-work trips	Decrease the average distance traveled for work or non-work trips separately.	**Consistent.** The City of Moreno Valley is "jobs-poor," which forces many Moreno Valley residents to commute long distances from their homes to work. By providing employment opportunities closer to existing population centers, the project should reduce the length of work related trips.*
Percentage of work trips less than 3 miles.	Increase the share of total work trips that are fewer than 3 miles.	**Consistent.** As noted above, the City of Moreno Valley needs additional jobs for its residents. The project will increase the ability of Moreno Valley residents to find work closer to home and thereby reduce travel times. Approximately 50% of the City of Moreno Valley is within three miles of the project site. To the extent that Moreno Valley residents are employed at the project site, the share of work-related trips less than three miles should increase.
Work trip length distribution.	Reduce the statistical distribution of work trip length in the region.	**Consistent.** In addition to the discussion above, the project traffic study indicates that nearly half of auto traffic associated with the project would be on surface streets (i.e., not on freeways). The traffic study determined that, although the project would increase freeway auto traffic eastbound in the morning, it would decrease the traffic in the more congested westbound direction. In the evening, this pattern would reverse, with the project relieving traffic in the congested eastbound direction. Therefore, it appears the proposed project will have a net beneficial impact on the regional freeway auto traffic.
Criteria pollutants and greenhouse gas emissions.	Reduce CO, NO_X, $PM_{2.5}$, PM_{10}, VOC, and per capita greenhouse gas emissions (CO_2).	**Consistent.** To the extent that total work-related trip lengths are reduced, the project would reduce such emissions.
Annual household transportation cost.	Reduce annual household spending on transportation costs of vehicle ownership, operation, and maintenance, and public transportation.	**Consistent.** To the extent that total work-related trip lengths are reduced, the project would reduce such costs.
Percentage of jobs within 15 minutes' walk of transit.	Increase the number of jobs within 15 minutes' walk of public transportation.	**Consistent.** Assuming the bus service revisions as described above, all of the WLCSP site would be within 15 minutes' walk of public transportation.

* Market conditions at the time that employers move into the site will determine the actual match of jobs within the project to the then current employment needs of Moreno Valley residents.

Source: http://rtpscs.scag.ca.gov/Documents/2012/final/SR/2012fRTP_PerformanceMeasures.pdf

As Table 4.10.D shows, the project is generally consistent with the SCAG RTP/SCS Performance measures. It should be noted that the WLCSP project will significantly improve the jobs/housing ratio for the City, which will assist SCAG in achieving its regional RTP growth goals, as well as a number

of RTP performance standards regarding sub-regional jobs/housing ratios (i.e., regional goal is to add housing in jobs rich areas and add jobs in housing rich areas like Moreno Valley). Additional information and analysis in this regard is provided in Section 4.13, *Population, Housing, and Employment.*

Santa Ana Water Quality Control Plan (Basin Plan). The Santa Ana Basin Plan, which is implemented by the Santa Ana RWQCB, specifically (1) designates beneficial uses for surface and ground waters, (2) sets qualitative and quantitative objectives that must be attained and maintained at that level in order to protect the designated beneficial uses and conform to the State's anti-degradation policy, and (3) describes implementation policies and programs to protect all waters in the region. In cases where the Basin Plan does not contain a standard for a particular pollutant, other criteria are used to establish a standard. Storm water runoff from approximately the western half of the project drains toward the west, into the Perris Valley Storm Drain, then flows into the San Jacinto River and eventually into Canyon Lake and Lake Elsinore. The eastern half of the project drains south into Mystic Lake when flows are high, and runoff eventually makes its way to the San Jacinto River. Because the proposed WLC project is required to comply with all applicable water quality standards and requirements established by the RWQCB, and is therefore in compliance with the NPDES permitting system, the proposed WLC project would be consistent with the Basin Plan.

Riverside County Drainage Area Management Plan (DAMP). Like the Basin Plan, the Drainage Area Management Plan deals primarily with the Santa Ana Region. The DAMP describes a wide range of continuing and enhanced Best Management Practices (BMPs) and control techniques for development projects within a municipality and are being implemented during the five-year terms of the third-term MS4 permits. In essence, the DAMP describes the overall urban runoff management strategies planned by the permittees in the Santa Ana Region. The proposed WLC project is required to comply with all applicable drainage standards and requirements designed to protect water resources and enhance water quality and would therefore, be consistent with the DAMP.

Eastern Municipal Water District Urban Water Management Plan (EMWD UWMP). A UWMP is required of every urban water supplier in order to be in compliance with the Urban Water Management Plan Act. The UWMP includes assessment of current and projected water supplies, evaluation of water demand, customer types, and reliability of water supplies, description of conservation measures, a response plan for water shortage, and a comparison of demand and supply projections. The proposed WLC project is required to comply with all applicable standards and requirements designed to conserve water supplies and ensure water source reliability for future years prior to the approval of the project. As such, the proposed WLC project would be consistent with the EMWD UWMP. A comprehensive Water Supply Assessment (WSA) was prepared for this project by the EMWD that determined there were sufficient water supplies, including during multiple drought years, to supply the WLCSP project.

Summary of Impact 4.10.5.2: Conflict with Applicable Regional Land Use Plans, Policies, or Regulations. The preceding analysis demonstrates that the proposed project is generally consistent with the goals of SCAG's Regional Comprehensive Plan, Compass Plan and Regional Transportation Plan in that it seeks to add employment in an area that has historically been "jobs poor," which will help reduce worker commute trips from Moreno Valley over the long term. The WLCSP project is generally consistent with these plans because the WLCSP will generate fewer emissions than the currently approved Moreno Highland Specific Plan, and it will provide for a better balance of jobs versus housing in Moreno Valley, which will incrementally improve regional commuting directions and distances by providing almost 25,000 new jobs in an area currently planned for housing.

4.10.5.3 Conflict with Applicable Land Use Plans, Policies, or Regulations (Local)

Threshold	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the General Plan, Specific Plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Section 15125 (d) of the *CEQA Guidelines* requires EIRs to "discuss any inconsistencies between the proposed project and applicable general plans and regional plans." The objective of such a discussion is to find ways to modify a project, if warranted, to eliminate any identified inconsistencies with relevant plans and policies, and thereby avoid creating an impact to the environmental that consistency with the plan would otherwise mitigate. Pursuant to *CEQA Guidelines* Section 15125 (d), this EIR section includes an evaluation of the consistency of the proposed project with pertinent goals and policies of the adopted City of Moreno Valley General Plan.

The project proposes to amend the existing City of Moreno Valley General Plan Land Use Plan for the project area. By definition, the project is inconsistent with the existing General Plan and approval of the project would correct the inconsistency by amending the General Plan Land Use and other Elements to be consistent with the WLC project and Specific Plan. Figures 4.10.2 and 4.10.3 show the existing General Plan land uses and the proposed land uses. Table 4.10.E compares the land uses allowed under the current General Plan with those allowed under the proposed amended General Plan.

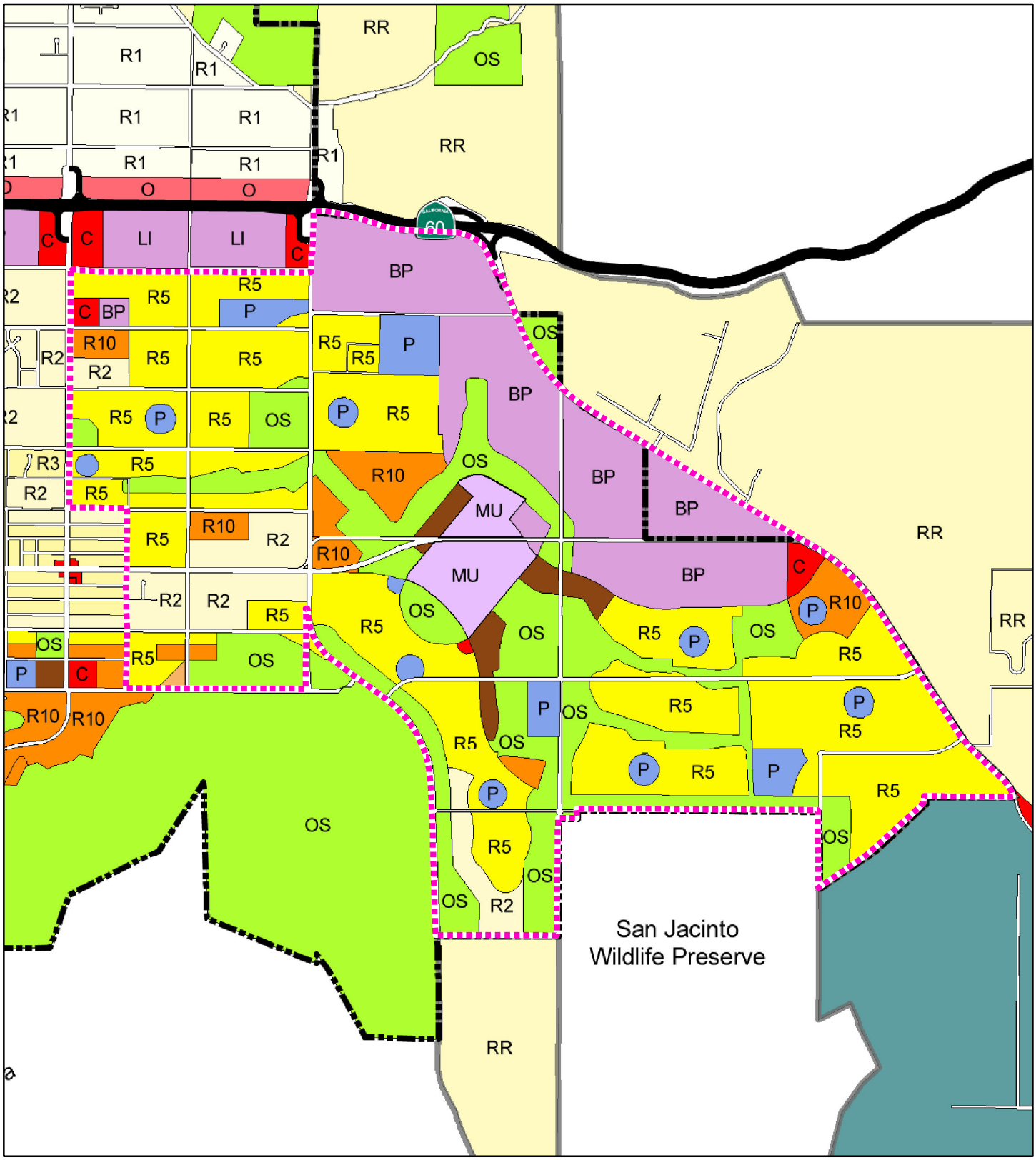
While the project would amend the General Plan Land Use Map, the project also needs to be assessed against the Goals, Policies, and Objectives of the adopted General Plan, as contained in Section 9 of the General Plan. The potentially relevant policies have been extracted in Table 4.10.E, and the project's consistency with said policies is assessed.

In summary, the project is consistent with the goals, objectives, and policies of the City of Moreno Valley General Plan, except Objective 2.1 and Community Development Policy 2.5.2. As proposed, the Specific Plan represents a fundamental land use change for the Rancho Belago area, the eastern portion of Moreno Valley. The land is currently planned for a mixed-use residential community, but the WLC project will introduce 41.6 million square feet of logistics warehousing onto existing agricultural land that is adjacent to existing residential uses to the west and the San Jacinto Wildlife Area to the south.

With the implementation of the General Plan amendment that is part of the project approvals being sought, the project will be consistent with the City's General Plan.

Housing Element. During the NOP period, several group representatives expressed concern that the WLCSP would eliminate 7,700 housing units in the Moreno Highlands Specific Plan that would have to be replaced elsewhere in the City. The City adopted an updated Housing Element in February 2011 identifying the Moreno Highlands area as a potential location for future jobs-producing land uses rather than housing (affordable or otherwise).

The 2011 Housing Element update indicated the Moreno Highlands area would likely be rezoned to support employment-generating uses rather than housing. It also stated that "pursuing any land use changes with the Moreno Highlands Specific Plan area will not hinder the City's ability to meet its RHNA obligations." The term RHNA refers to the Regional Housing Needs Allocation (affordable housing allocations) from the SCAG. The State Department of Housing and Community Development (HCD) certified the City's Housing Element on May 31, 2011.



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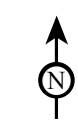

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Project Boundary
Highways
City Boundary
Sphere of Influence

Land Use

Residential: Max. 1 du/ac
Mixed Use
Residential: Max. 2 du/ac
Residential: Max. 3 du/ac
Residential: Max. 5 du/ac
Residential: Max. 10 du/ac
Residential: Max. 20 du/ac
Office
Commercial
Business Park/Light Industrial
Open Space
Public Facilities
Floodplain

SOURCE: Riverside County and City of Moreno Valley, August, 2010.

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FIGURE 4.10.2

World Logistics Center Project
Environmental Impact Report

General Plan Land Uses

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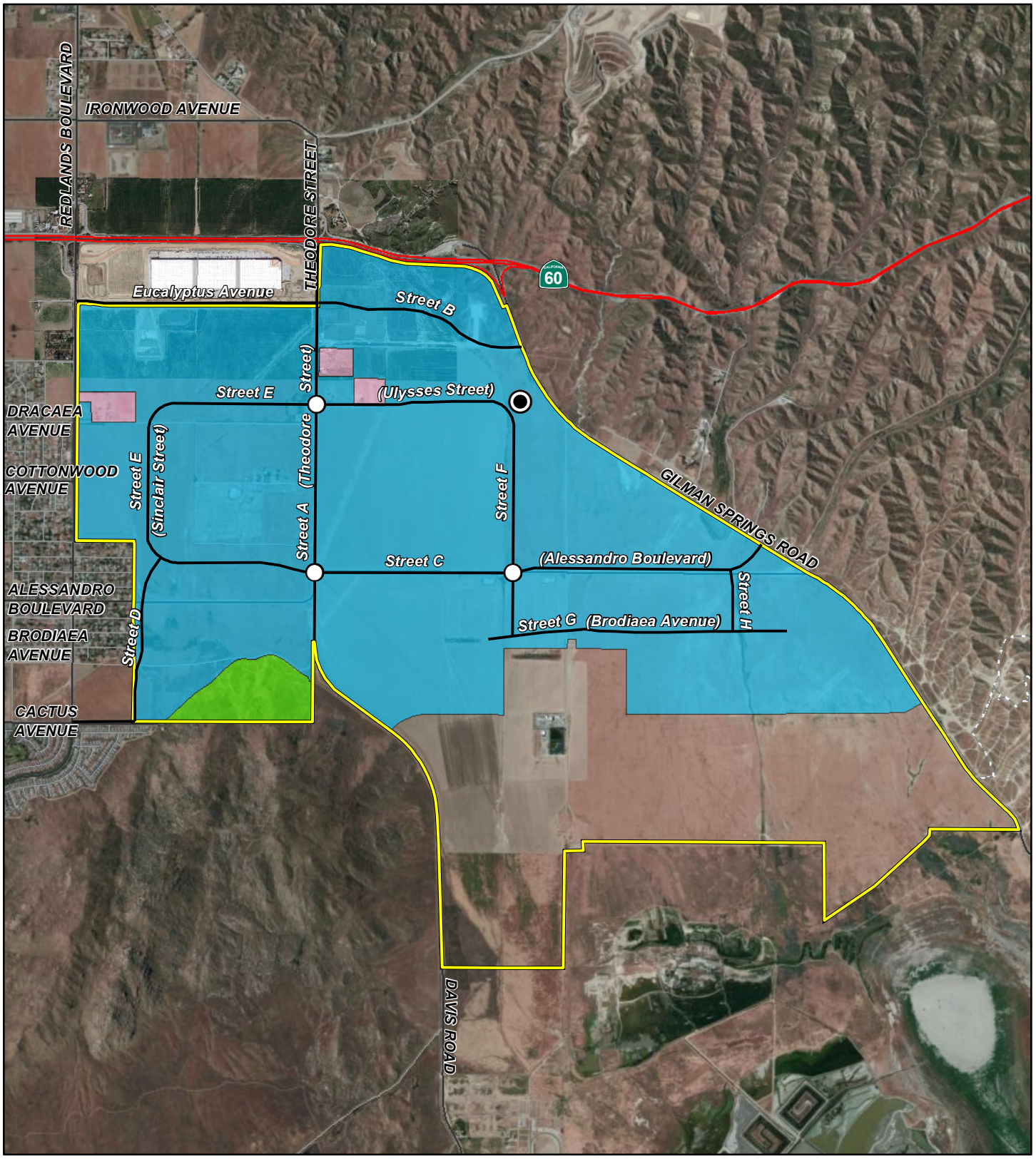

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- Project Boundary
- Light Logistics
- Logistics Development
- Open Space
- Logisctics Support

SOURCE: ESRI World Imagery, 2010; Bing Maps, 2010; Google Maps, 2011.

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FIGURE 4.10.3

World Logistics Center Project
Environmental Impact Report

Specific Plan Land Uses

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Table 4.10.E: City of Moreno Valley General Plan Consistency Analysis

Goals, Policies and Objectives	Project Consistency Analysis
Ultimate Goal IV: Enjoys a healthy economic climate that benefits both residents and businesses.	**Consistent:** The City has determined that its low jobs/ housing ratio limits the job opportunities for local residents, and creates economic challenges for the City. By increasing employment opportunities and potentially increasing the jobs/housing ratio, the project will enhance the economic climate for both businesses and residents.
Ultimate Goal VI: Enjoys a circulation system that fosters traffic safety and the efficient movement of motor vehicles, bicycles, and pedestrians.	**Consistent:** The WLCSP circulation will be designed to modern safety standards, and provide for efficient movement and motor vehicles, both on the local streets and freeway. To the extent that the project increases job opportunities for local residents, it should decrease the length of employment trips, increasing the efficiency of the local transportation system. However, it will result in substantial additional traffic, including trucks, on SR-60 and Gilman Springs Road. The project will make various roadway and intersection improvements, and make fair share contributions to local Development Impact Fee (DIF) and regional Transportation Uniform Mitigation Fee (TUMF) traffic mitigation programs.
Community Development Goal 2.1: Develop a pattern of land uses, which organizes future growth, minimizes conflicts between land uses, and which promotes the rational utilization of presently underdeveloped and undeveloped parcels.	**Consistent:** The project proposes a major industrial/ logistics center on agricultural land in the eastern end of the City. With proposed mitigation, these land uses will have adequate setbacks or be buffered from adjacent residential land uses. The property was planned for a mixed use residential master planned community (i.e. Moreno Highlands Specific Plan) and so the proposed WLCSP project will require a General Plan Amendment. In addition, although this is a fundamental change from previous planned land uses, it will provide a substantial amount of new employment consistent with the City's Economic Development Strategy and the 2011 Housing Element. Therefore, the WLC project is considered to be consistent with the General Plan in this regard.
Objective 2.1: Balance the provision of urban and rural lands within Moreno Valley by providing adequate land for present and future urban and economic development needs, while retaining the significant natural features and the rural character and lifestyle of the northeastern portion of the community.	**Consistent:** The proposed WLCSP will provide logistics-related employment to help balance out the historical abundance of housing developed in the City. It would not affect the northeastern portion of the City (i.e., north of SR-60).
Community Development Objective 2.5: Promote a mix of industrial uses that provides a sound and diversified economic base and ample employment opportunities for the citizens of Moreno Valley with the establishment of industrial activities that have good access to the regional transportation system, accommodate the personal needs of workers and business visitors; and which meets the service needs of local businesses.	**Consistent:** The project will provide 41.6 million square feet of logistics-related warehousing and supporting office space. This development will enhance the economic base and provide increased employment opportunities for the citizens of Moreno Valley in a limited number of worker categories. The project site has direct access to two interchanges on SR-60, along with arterial access to the balance of Moreno Valley, and access to the San Jacinto/Hemet Valley via Gilman Springs Road. It is therefore consistent with the General Plan.
Community Development Policy 2.5.1: The primary purpose of areas designated Business Park/ Industrial is to provide for manufacturing, research and development, warehousing and distribution, as well as office and support commercial activities. The zoning regulations shall identify the particular uses	**Consistent**: The project is consistent with policies applicable to the Business Park/Industrial designation. The project will primarily provide opportunities for warehousing/logistics distribution, along with additional opportunities for manufacturing and research and development, along with associated office space. The

Table 4.10.E: City of Moreno Valley General Plan Consistency Analysis

Goals, Policies and Objectives	Project Consistency Analysis
permitted on each parcel of land. Development intensity should not exceed a Floor Area Ratio of 1.00 and the average floor area ratio should be significantly less.	Specific Plan will become the zoning regulations for the site, and designates the land uses allowed on each parcel. The net Floor Area Ratio is estimated to be 0.5, which is considered significantly less that the General Plan maximum of 1.0.
Community Development Policy 2.5.2: Locate manufacturing and industrial uses to avoid adverse impacts on surrounding land uses.	**Consistent:** The project proposes to locate logistics warehouses in the far eastern portion of the City, and residential uses are adjacent to the southwest portion of the project site. The Specific Plan addresses these adjacency impacts with setbacks and landscaping, berms, walls, etc. so the project will be compatible with surrounding uses.
Community Development Policy 2.5.3: Screen manufacturing and industrial uses where necessary to reduce glare, noise, dust, vibrations and unsightly views.	**Consistent:** The Specific Plan will provide visual and physical screening where planned uses are adjacent to existing residential uses.
Community Development Policy 2.5.4: Design industrial developments to discourage access through residential areas.	**Consistent:** The proposed circulations network provides primary project access directly from SR-60, and does not rely on residential streets. Trucks will generally access the site off SR-60 by using the Theodore Street Interchange. Truck access along Street D to Cactus Avenue and along Redlands Boulevard south of Eucalyptus Avenue will be prohibited.
Community Development Objective 2.10: Ensure that all development within the City of Moreno Valley is of high quality, yields a pleasant living and working environment for existing and future residents, and attracts business as the result of consistent exemplary design.	**Consistent:** The Specific Plan includes contemporary design standards, which will provide a pleasant working environment.
Community Development Policy 2.10.1: Encourage a design theme for each new development that is compatible with surrounding existing and planned developments.	**Consistent:** Section 5.0 of the Specific Plan provides the architectural theme for the development.
Community Development Policy 2.10.12: Screen parking areas from streets to the extent consistent with surveillance needs (e.g., mounding, landscaping, low profile walls, and/or grade separations).	**Consistent:** Section 6.0 of the Specific Plan provides for mounding and screening of parking lots.

In April 2011, the City adopted its Economic Development Action Plan, which also identified the eastern part of the City as a potential area for major job-producing land uses. The *Fiscal and Economic Impact Study World Logistics Center Moreno Valley, California* ("Study") prepared by David Taussig & Associates, Inc., in 2012 concluded that the proposed WLC project would generate 34,039 jobs/employees to the area, which includes the creation of direct, indirect, and induced jobs/ employees to the City, County, and region.

The City's 2006 Housing Element identified the Moreno Highlands Specific Plan as a potential source of vacant land that could accommodate possible future residential growth in the City. However, in 2011 the City updated its Housing Element and (i) anticipated possible land use changes from mixed use and residential to jobs producing warehouses in the eastern part of the City, and (ii) concluded that redesignating the entire land east of Redlands to the eastern City border for warehouse uses would not impede the City's Housing Element Objectives. As stated in the City's Housing Element:

The City will likely consider undertaking future planning efforts to achieve an improved jobs-housing balance. These future planning efforts could include the consideration of future proposals to re-designate areas south of SR 60 and east of Redlands Boulevard to the City's eastern border to jobs-producing commercial and/or industrial-type uses.

The Moreno Highlands Specific Plan is an older, mixed use residential and industrial land use plan originally conceived and approved nearly twenty years ago and therefore may not be representative of the current economic environment and may not be viable. The plan does not specify unit types, thus allowing the City and the developer to tailor the unit mix to the community's needs at the time the project is actually developed.

Moreno Highlands does make provisions for the phasing of the residential units. The plan does not specifically address the phasing of the affordable units, but merely notes the total number of units that will be developed in each of the three phases.

As noted above, the current economic recession has severely and negatively affected the residents of the City. Unemployment in the City is extraordinarily high, and many City residents have expressed a desire that the City consider job-producing land uses that create an improved jobs-housing balance.

As shown in Table 8-19.5, even with the elimination of all residential uses from the land area approximately south of SR 60 and east of Redlands Boulevard and extending to the City's eastern and southern boundaries, the City is still fully capable of and is expected to achieve its RHNA obligations for the 2008-2014 planning period.

Table 8-19.5

AFTER removing sites south of SR 60 and east of Redlands, the Amended Inventory accommodates:
4,100 Low and Very Low Income units which is 1.3 times the RHNA number (3,045) (deleting sites south of SR 60 and east of Redlands has no effect on low and very low income housing opportunities)
2,600 Moderate Income units which is 2.1 times the RHNA number (1,239)
7,828 Above Moderate Income units which is 2.5 times the RHNA number (3,068)
14,528 total identified units which is 1.94 times the total RHNA number (7,474)

The HCD certified the City's Housing Element as compliant with State law on May 31, 2011. This means that approval of the proposed project will not impede the City's housing goals as set forth in its Housing Element, and no mitigation is required.

4.10.6 Significant Impacts

4.10.6.1 Physically Divide an Established Community

Impact 4.10.6.1: *The proposed project may adversely affect existing rural residences on the project site.*

Threshold	Would the proposed WLC project physically divide an established community?

The adjacent properties surrounding the proposed WLC project are residential, light industrial, open space and undeveloped. Essentially, the project site is located along the eastern urban boundary of the City of Moreno Valley with development only adjacent to the western boundary and northwest corner of the site. As it is located at the edge of the community, its development could not physically

divide the community and no impact would occur relative to residences near the southwest corner of the site.

At present, there are seven rural residences on the project site. These properties vary in size from 0.5 to 5 acres and are located on the east side of Redlands Boulevard and Theodore Street. The WLC Specific Plan designates these properties as "Light Logistics" and allows various logistics-related uses but not actual development of logistics warehousing since none of the properties are large enough to support a warehouse building of 500,000 square feet or more. It is believed these properties are currently occupied. It is possible that, as development of the project site occurs according to the WLCSP, large warehouse buildings may eventually be located in close proximity to existing residences. It would be ineffective and inefficient to try to incorporate these residences into the WLCSP land plan of large logistics warehouses to accommodate these residences. In addition, logistics operations would cause air pollutant, noise, lighting, and health risk impacts on residents living in these units if they were adjacent to operating warehouses. This is a significant land use impact.

Specific Plan Design Features. The WLCSP currently shows a 250-foot buffer or setback along the western boundary of the site to separate existing residences from the proposed warehouse buildings. However, it would be similarly ineffective and inefficient to try incorporate residences with similar buffers or setbacks into the WLCSP land plan.

Mitigation Measures. Installation of solid block walls around the warehouse building or the existing residence would help reduce noise and lighting impacts, but they would not help reduce air pollutant or health risk impacts. Therefore, there is no effective mitigation available to protect or separate these existing residences from future warehousing buildings and operations.

Level of Impact After Mitigation. Since there is no effective means of mitigating these onsite residences from the planned logistics warehouses, this land use impact is significant and unavoidable.

4.10.7 Cumulative Impacts

As discussed in this section, the WLC project would not have significant project-related impacts related to conflicts with applicable land use plans, policies, or regulations with approval of the proposed GPA, or conflict with an approved habitat conservation plan. While the project would represent a shift in land use policy for the eastern portion of the City, this policy shift does not represent a significant cumulative land use impact under CEQA. Section 4.10.6 determined the proposed project would have significant land use impacts on existing rural residences ("dividing an established community"), but this conflict does not rise to the level of a cumulative impact since the potential land use impacts to all adjacent residences will be less than significant, as discussed in Section 4.10.5.

4.11 MINERAL RESOURCES

This chapter evaluates potential impacts related to known mineral resources that may result from the proposed project.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements, which affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

This chapter is based in part on the following document, which is incorporated by reference:

- *City of Moreno Valley General Plan*, City of Moreno Valley, adopted July 2006.

4.11.1 Existing Setting

There are no lands within the City of Moreno Valley designated by the California Department of Conservation as known significant resource areas, defined by the State as Mineral Resources Zone 2 areas. As identified in the City's General Plan, lands within the City of Moreno Valley and its Sphere of Influence are designated MRZ-3 and MRZ-4, which are not defined as significant mineral resource areas.

4.11.1.1 NOP/Scoping Comments

No comments were received from public agencies or the public regarding mineral resources.

4.11.2 Policies and Regulations

4.11.2.1 State Regulations

Surface Mining and Reclamation Act. The Surface Mining and Reclamation Act of 1975 (SMARA) requires classification of land into mineral resource zones (MRZs) according to the known or inferred mineral potential of the area. Construction aggregate resources (sand and gravel) deposits were the first commodity selected for classification by the State Mining and Geology Board. Once mapped, the State Mining and Geology Board is required to designate for future use those areas that contain aggregate deposits that are of prime importance in meeting the region's future need for construction-quality aggregates. There are three key objectives of SMARA regulations:

- Adverse environmental effects are prevented or minimized, and mined lands are reclaimed to a usable condition that is readily adaptable for alternative uses;
- The production and conservation of minerals are encouraged, while consideration is given to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; and
- Residual hazards to the public health and safety are eliminated.

The primary objective of the SMARA is for each jurisdiction to develop policies that will conserve important mineral resources, where feasible, that might otherwise be unavailable when needed. The SMARA requires that once policies are adopted, local agency land use decisions must be in accordance with its mineral resource management policies. These decisions must also balance the mineral value of the resource to the market region as a whole, not just their importance to the local jurisdiction. Under SMARA, areas are categorized into four MRZs as follows:

MRZ-1 Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their production.

MRZ-2 Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.

MRZ-3 Areas containing mineral deposits, the significance of which cannot be evaluated from available data.

MRZ-4 Areas where available information is inadequate for assignment to any other MRZ zone.

4.11.2.2 City of Moreno Valley General Plan Policies

No policies related to mineral resources are identified within the City's General Plan.

4.11.3 Methodology

The California Geological Survey (CGS) provides objective geologic information about California's diverse non-fuel mineral resources. Maps, reports, and other data products developed by CGS were used to locate mineral extraction areas in the project area. In addition, the City of Moreno Valley's General Plan was used to determine the location of possible mineral extraction areas in the project area.

4.11.4 Thresholds of Significance

Appendix G of the *State CEQA Guidelines* recognizes the following thresholds related to mineral resources. Based on these significance thresholds, potential impacts to mineral resources could be considered significant if the proposed project:

- Resulted in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State;
- Resulted in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plans.

4.11.5 Less Than Significant Impacts

The following potential impacts were determined to be less than significant. In both of the following issues, either no impact would occur or adherence to established regulations, standards, and policies would reduce potential impacts to a less than significant level. In both instances, no mitigation is required.

4.11.5.1 Loss of Statewide, Regional, or Locally Important Mineral Resources

Thresholds	Would the proposed project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State? Would the proposed project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plans?

Lands within the City of Moreno Valley and its Sphere of Influence are designated MRZ-3 and MRZ-4, which are not defined as significant mineral resource areas. No sites have been designated as locally-important mineral resource recovery sites on any local plan.[1] In addition, Figure OS-5 of the Riverside County General Plan shows that the proposed project area is also located within MRZ-3. The development of the project site would not result in the loss of identified regional or local mineral resources, conversion of an identified mineral resource use, or conflict with existing mineral resource extraction activities. Therefore, the development of the project site would not result in a loss of statewide, regional, or locally important mineral resources. No impacts associated with this issue would occur and no mitigation is required.

4.11.6 Significant Impacts

Based on the analysis in Section 4.11.5, the project will have no significant impacts related to mineral resources, and no mitigation is required.

4.11.7 Cumulative Impacts

CEQA requires that an EIR discuss the project's incremental effects to determine if they are cumulatively considerable. The discussion of cumulative impacts must reflect the severity of the impacts and the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. The discussion must demonstrate practicality and reasonableness.

The cumulative area for mineral resources is the City of Moreno Valley and this part of western Riverside County. As population levels increase in the region, greater demand for aggregate and other mineral materials will be placed on mineral resources, especially sand and gravel. Similarly, development pressures in areas where these materials are known or expected to occur would result

[1] *Section 6.10 Mineral Resources, Section 6.0 Issues Found Not To Be Significant*, Draft Environmental Impact Report for City of Moreno Valley General Plan 2030, State Clearinghouse #2004031135, City of Moreno Valley, October 2004.

in the loss of availability of these mineral resources. However, because the project site is not identified as a significant source of sand/gravel deposits and development subsequent to the adoption of the proposed land use actions on any of the sites would not decrease the local or regional availability of mineral resources, potential future development of any of the sites would have no significant cumulative mineral resources impact.

4.12 NOISE

This section of the EIR is intended to satisfy the City's requirements for a project-specific noise impact analysis by examining the short-term and long-term noise impacts of the proposed project on sensitive uses adjacent to the proposed project area and by evaluating the effectiveness of mitigation measures. This includes the potential for the proposed project to result in impacts associated with a substantial temporary and/or permanent increase in ambient noise levels in the vicinity of the project area; exposure of people to excessive noise levels, groundborne vibration, or groundborne noise levels.

CEQA requires an analysis of the proposed project's impacts on the existing environment; not an analysis on the existing environment's impacts on the proposed project. The occasional blow downs that occur at the Southern California Gas Company (SCGC) are part of the existing conditions and have been part of the existing conditions for years. Thus, for purposes of clarity, it should be noted that the impact analysis below goes beyond the requirements of CEQA and provided as part of an analysis to ensure worker safety. All mitigation measures imposed in this analysis are the responsibility of future developers and not SCGC.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements, which affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

The analysis contained in this section is based on the following technical study prepared for the proposed project:

- *Noise Assessment for the World Logistic Center Specific Plan,* Mestre Greve Associates, January 24, 2013 (Appendix K of this EIR); and

In addition to these project-specific technical studies, the analysis contained in this section is also based on the following reference documents:

- *California Noise Insulation Standards,* California Code of Regulations, Title 24, Part 2, §3501;
- *Highway Traffic Noise Prediction Model (FHWA-RD-77-108)*, Federal Highway Administration (FHWA);
- *City of Moreno Valley General Plan*, City of Moreno Valley, July 2006;
- *Moreno Valley Municipal Code,* City of Moreno Valley, current through Ordinance 836 and the February 2012 code supplement; and
- *State of California General Plan Guidelines*, Governor's Office of Planning and Research, October 2003, pages 249 and 250.

4.12.1 Existing Setting

4.12.1.1 Background

Characteristics of Noise. To the human ear, sound is technically described in terms of its loudness (amplitude) and pitch (frequency). Pitch is generally an annoyance, while loudness can affect our ability to hear. Noise is usually defined as unwanted sound; it consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

Measurement of Noise. The standard unit of measurement of the loudness of sound is the decibel (dB). Decibels are based on a logarithmic scale. The logarithmic scale compresses the wide range in sound levels resulting in a more usable range of sound level values, similar to the Richter scale used to measure earthquakes. To humans, a sound 10 dB higher than another is considered to be twice as loud; a sound 20 dB higher than another is considered four times as loud; etc. Typical daily sounds in the environmental range from 30 dB (very quiet) to 100 dB (very loud).

Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel (dBA) scale performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. Community noise levels are measured in terms of the dBA. Figure 4.12.1 shows examples of various noises sources and their typical dBA noise level.

There are two categories of noise that are measured to characterize noise conditions: single event noise and community, or cumulative, noise. Single event measurements describe the noise levels from an individual event such as a passing airplane or a heavy-duty truck. Cumulative measurements average the total noise in a community over a specific time period, which is typically 1 or 24-hours. The noise impact analysis performed for this EIR is based on assessment of both single event noise and community or cumulative, noise.

Several rating scales have been developed for measurement of community noise. These account for: (1) the parameters of noise that have been shown to contribute to the effects of noise on humans; (2) the variety of noises found in the environment; (3) the variations in noise levels that occur as a person moves through the environment; and (4) the variations associated with the time of day. They are designed to account for the known health effects of noise on people described previously. Based on these effects, the observation has been made that the potential for a noise to affect people is

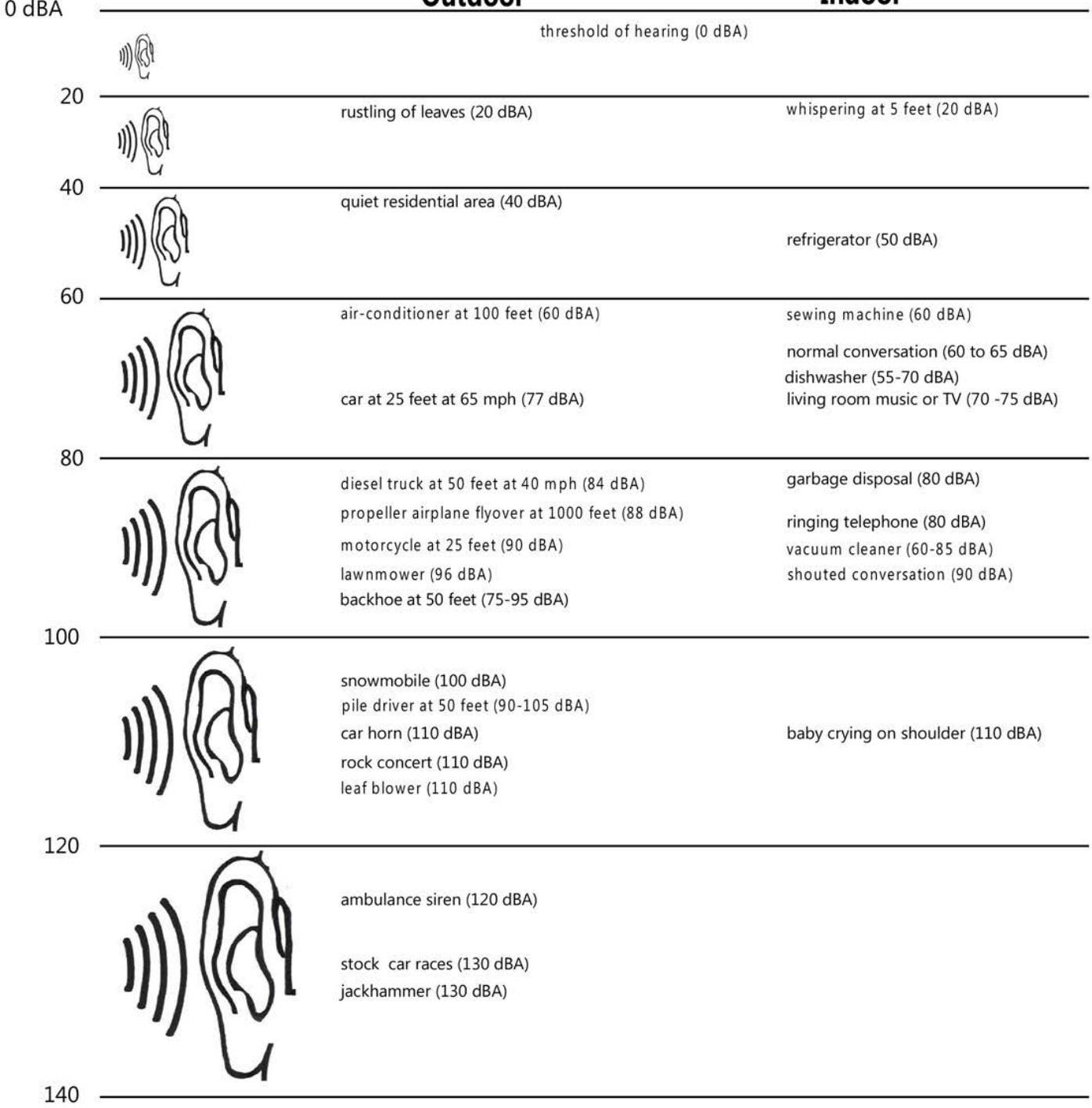

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FIGURE 4.12.1

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Typical A-Weighted Noise Levels

Source: Mestre Greve Associates, Division of Landrum & Brown, 2012

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dependent on the total acoustical energy content of the noise. A number of noise scales have been developed to account for this observation. Two of the predominant noise scales are the Equivalent Noise Level (L_{eq}) and the Community Noise Equivalent Level (CNEL). L_{eq} is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. L_{eq} is the "energy" average noise level during the time period of the sample. L_{eq} can be measured for any time period, but is typically measured for 1 hour. This 1-hour noise level can also be referred to as the Hourly Noise Level (HNL). It is the energy sum of all the events and background noise levels that occur during that time period.

CNEL is the predominant rating scale now in use in California for land use noise compatibility assessment. The CNEL scale represents a time weighted 24-hour average noise level based on the dBA. Time weighted refers to the inclusion of penalties for noise that occurs during certain noise-sensitive time periods. The evening time period (7 p.m. to 10 p.m.) penalizes noises by 5 dBA, while nighttime (10 p.m. to 7 a.m.) noises are penalized by 10 dBA, reflecting people's increased sensitivity to noise during these time periods. A CNEL noise level may be reported as a CNEL of 60 dBA, 60 dBA CNEL, or simply 60 CNEL.

L(%) is a statistical method of describing noise which accounts for variance in noise levels throughout a given measurement period. L(%) is a way of expressing the noise level exceeded for a percentage of time in a given measurement period. For example, since 5 minutes is 25 percent of 20 minutes, L(25) is the noise level that is equal to or exceeded for five minutes in a twenty-minute measurement period. It is L(%) that is used for most Noise Ordinance standards. For example most daytime County, State and City noise ordinances use a standard of 55 dBA for 30 minutes per hour, or an L(50) level of 55 dBA. In other words, the noise ordinance may state that no noise level should exceed 55 dBA for more than fifty percent of a given period.

The maximum noise level (L_{max}) is the highest exponential time averaged sound level that occurs during a stated time period. The noise levels discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by L_{max}, which reflects peak noise conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

Fundamentals of Groundborne Vibration. Vibration refers to groundborne noise and perceptible motion of the earth. Similar to noise, vibration is transmitted in noise-like waves through the earth and solid objects.

There are several ways to categorize vibration sources. One way is to divide vibration into natural sources (e.g., earthquakes, volcanic eruptions, sea waves, and landslides) and human sources (e.g., explosions, machinery, traffic, trains, and construction equipment). Similar to noise sources, vibration sources can also be described as continuous (e.g., operating factory machinery) or transient (e.g., explosions).

As with noise, ground vibrations can be described by amplitude and frequency. Vibration amplitude is characterized by its displacement, velocity, and acceleration. Displacement is the distance that soil particles travel from their original location as a result of vibration, as measured in inches or millimeters. Velocity is the speed of the soil particles measured in inches per second or millimeters per second. Acceleration is the acceleration of the soil particles measured in inches per second per second or millimeters per second per second. Particle velocity is the most commonly used vibration

attribute used to describe vibration. Table 4.12.A presents the human reaction to various levels of peak particle velocity. Vibrations also vary in frequency. Traffic vibrations generally range in frequencies from 10 to 30 hertz (Hz), and tend to average around 15 Hz. As a point of reference, city buses often generate frequencies around 3 Hz at high vehicle speeds, due to their suspension systems.

Table 4.12.A: Human Reaction to Typical Vibration Levels

Vibration Level Peak Particle Velocity (inches/second)	Human Reaction
0.0059–0.0188	Threshold of perception, possibility of intrusion.
0.0787	Vibrations readily perceptible.
0.0984	Level at which continuous vibrations begin to annoy people.
0.1968	Vibrations annoying to people in buildings.
0.3937–0.5905	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges.

Source: Caltrans 1992.

Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernable. However, without the effects associated with the shaking of a building, there is less adverse reaction. Building vibration may be perceived by the occupants as motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. Building damage is not a factor for normal projects, with the occasional exception of blasting and pile driving during construction or mining. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by up to 10 decibels. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of groundborne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with groundborne vibration and noise from these sources are usually localized to within about 100 feet of the vibration source, although there are examples of groundborne vibration causing interference out to distances greater than 200 feet, as described in the FTA Transit Noise and Vibration Impact Assessment (FTA, May 2006). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible.

Factors that influence groundborne vibration and noise include the following:

- *Vibration Source:* Vehicle suspension, wheel types and condition, track/roadway surface, track support system, speed, transit structure, and depth of vibration source.
- *Vibration Path:* Soil type, rock layers, soil layering, depth to water table, and frost depth.
- *Vibration Receiver:* Foundation type, building construction, and acoustical absorption.

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground versus at ground surface. In addition, soil conditions are known to have a strong influence on the levels of groundborne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock. Vibration propagation is more efficient in stiff clay soils than in loose sandy soils, and shallow rock seems to concentrate the vibration energy close to the surface and can result in groundborne vibration problems at a great distance from the track. Factors such as layering of the soil and depth to water table can have significant effects on the propagation of groundborne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

4.12.1.2 Sensitive Land Uses in the Project Vicinity

Certain land uses are considered more sensitive to noise than others. Examples include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. The project vicinity and Specific Plan area are characterized by a mix of developed and undeveloped properties. Developed properties in the vicinity include an industrial/warehouse building in Moreno Valley to the northwest (Skechers) and several residential neighborhoods along Redlands Boulevard along the western boundary of the project site. An area of the City known as "Old Moreno" is situated near the southwest portion of the project site, around the intersection of Redlands and Alessandro Boulevards. The homes along Merwin Street, east of Redlands Boulevard, constitute the closest sensitive receptors to the project site (i.e., they are adjacent to the property).

4.12.1.3 Existing Noise Measurements

Existing noise levels in the vicinity of the proposed project are used establish baseline noise levels in key areas. Noise measurements within the project site and in the surrounding area were taken. The noise measurement locations were selected to provide coverage of the project's potential noise impact area. The noise measurement locations are shown Figure 4.12.2.

Noise measurements were taken at sixteen sites in the project vicinity during the daytime hours (between 7 a.m. and 10 p.m.) and during nighttime hours (between 10 p.m. and 7 a.m.). For each measurement site and time period, noise levels were measured for 15 minutes and calibrated to ensure that the measured sound level readings were accurate. The measurements were used to calculate existing L_{eq}, L_{min}, L_{max}, $L_{1.7}$, $L_{8.3}$, L_{25} and L_{50} values for the measurement locations. Table 4.12.B shows the results for the daytime measurements, and Table 4.12.C shows the nighttime measurements.

Table 4.12.B: Existing Daytime Noise Measurements (dBA)

Site	Date	Start Time	L_{eq}	L_{max}	$L_{1.7}$	$L_{8.3}$	L_{25}	L_{50}	L_{min}
1	1-25-12	9:38 a.m.	55.4	72.0	63.0	56.5	54.0	53.0	48.7
2	1-25-12	10:15 a.m.	53.6	68.8	61.0	57.0	53.5	50.5	44.0
3	1-25-12	10:42 a.m.	66.3	73.7	73.0	71.5	68.0	61.5	43.5
4	1-25-12	11:04 a.m.	40.8	50.3	46.0	43.5	41.0	39.5	35.9
5	1-25-12	11:27 a.m.	40.4	56.9	48.0	44.5	39.5	36.0	31.4
6	1-25-12	11:48 a.m.	46.1	68.3	51.5	41.0	37.5	34.0	30.0
7	1-25-12	12:08 p.m.	57.7	75.3	66.5	63.0	55.5	47.5	34.8
8	1-25-12	12:30 p.m.	65.1	85.5	73.5	70.0	63.0	56.5	39.0
9	1-25-12	12:50 p.m.	42.9	55.8	53.0	46.0	41.5	37.5	33.5
10	1-25-12	1:48 p.m.	49.2	68.0	56.0	48.0	46.5	45.0	40.5
11	1-25-12	2:10 p.m.	60.4	73.0	66.5	64.5	61.0	58.0	47.2
12	1-25-12	2:32 p.m.	51.2	58.4	55.5	53.5	51.5	50.5	44.7
13	1-25-12	2:52 p.m.	45.8	59.8	52.0	48.0	45.5	44.0	39.9
14	1-25-12	3:15 p.m.	65.5	73.3	70.0	68.5	66.5	64.5	54.4
15	1-25-12	3:39 p.m.	52.6	72.1	59.5	55.5	51.5	49.5	42.9
16	1-25-12	4:08 p.m.	58.7	75.2	67.0	59.0	57.0	55.0	50.5

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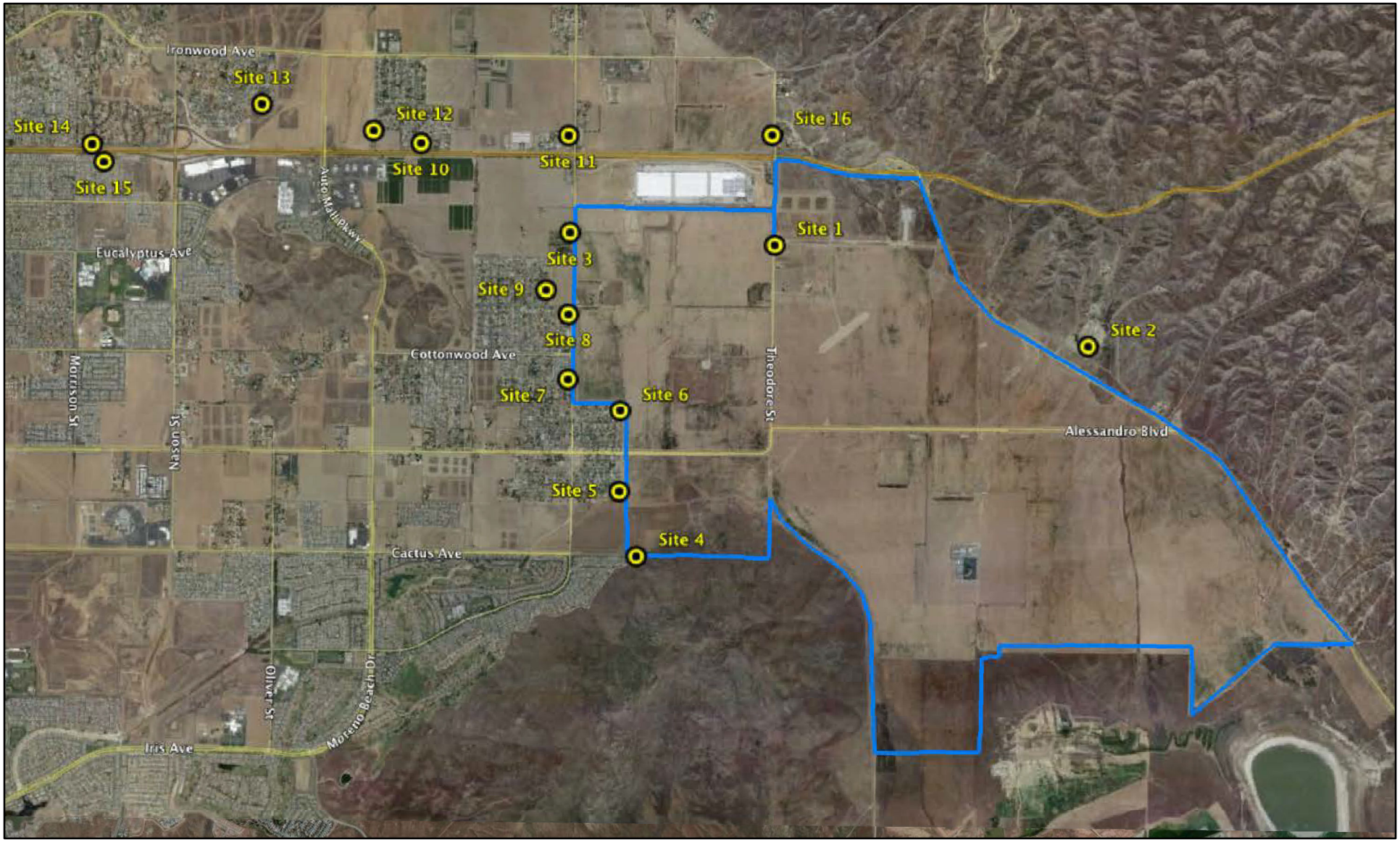

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FIGURE 4.12.2

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Noise Measurement Locations

SOURCE: Mestre Greve Associates, 2013

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Table 4.12.C: Existing Nighttime Noise Measurements (dBA)

Site	Date	Start Time	L_{eq}	L_{max}	$L_{1.7}$	$L_{8.3}$	L_{25}	L_{50}	L_{min}
1	2-8-12	11:51 p.m.	50.6	64.5	59.0	54.5	50.5	45.5	36.0
2	2-6-12	10:30 p.m.	47.4	65.1	52.5	50.0	48.0	45.5	37.5
3	2-6-12	10:55 p.m.	61.8	75.9	71.0	67.5	58.0	54.0	45.9
4	2-6-12	11:33 p.m.	35.8	51.1	44.0	39.0	34.5	32.0	30.0
5	2-9-12	12:15 a.m.	36.4	46.6	42.5	39.5	36.0	35.0	31.5
6	2-7-12	12:15 a.m.	43.2	51.0	49.5	46.5	44.0	41.5	35.3
7	2-7-12	12:35 a.m.	51.5	66.9	64.0	54.0	41.5	37.5	32.6
8	2-7-12	12:55 a.m.	56.0	74.1	68.0	57.0	42.5	38.5	33.6
9	2-9-12	12:35 a.m.	41.5	57.1	50.5	44.5	38.0	36.0	30.4
10	2-9-12	1:01 a.m.	46.7	63.8	50.5	48.5	46.5	45.0	38.1
11	2-9-12	1:25 a.m.	59.6	68.3	67.5	64.5	60.5	54.0	46.3
12	2-9-12	1:48 a.m.	51.8	63.9	58.0	55.0	52.0	50.0	39.2
13	2-9-12	2:09 a.m.	48.0	59.7	55.5	52.0	47.5	45.0	38.6
14	2-9-12	2:33 a.m.	60.8	72.3	68.0	65.5	61.0	57.5	44.9
15	2-9-12	2:56 a.m.	48.2	59.9	54.5	52.5	49.0	45.0	35.4
16	2-9-12	3:20 a.m.	54.3	62.7	60.0	58.5	55.5	52.0	38.8

4.12.1.4 Existing Traffic Noise Environment

The primary existing noise sources in the project area are transportation facilities. Traffic on SR-60, Redlands Boulevard, Theodore Street, Gilman Springs Road, and other local streets is the dominant source contributing to the ambient noise levels in the project vicinity. Noise from motor vehicles is generated by engine vibrations, the interaction between the tires and the road, and the exhaust system. Table 4.12.D identifies the existing (2012) traffic noise levels adjacent to roadway segments in the project vicinity.

Table 4.12.D: Existing Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet
Alessandro Boulevard (Lasselle Street and Morrison Street)	55.5
Alessandro Boulevard (Morrison Street to Nason Street)	56.8
Alessandro Boulevard (Nason Street to Oliver Street)	64.4
Cactus Avenue (Nason Street to Oliver Street)	64.3
Cactus Avenue (Oliver Street to Moreno Beach Drive)	58.2
Cactus Avenue (Redlands Boulevard to Street D)	50.2
Cactus Avenue (west of Redlands Boulevard)	57.5
Canyon Crest Drive (Alessandro Boulevard to Sandtrack Road)	41.8
Canyon Crest Drive (Central Avenue to Country Club Drive)	67.0
Country Club Drive (Chicago Avenue to Canyon Crest Drive)	57.5
Crescent Avenue (west of Alessandro Road)	57.1
Day Street (Cottonwood Avenue to Alessandro Boulevard)	57.7
Elsworth Street (Cottonwood Avenue to Alessandro Boulevard)	62.9
Evans Road (Marbella Gate to Ramona Expressway)	56.9
Gilman Springs Road (Bridge Street to Beaumont Avenue)	61.0

Table 4.12.D: Existing Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet
Gilman Springs Road (Bridge Street to SR-79 Southbound Ramps)	61.0
Gilman Springs Road (Eucalyptus Avenue to Street C)	46.1
Gilman Springs Road (Jack Rabbit Trail to Bridge Street)	62.7
Gilman Springs Road (south of Street C)	56.1
Gilman Springs Road (SR-79 Northbound Ramps to Record Road)	60.7
Heacock Street (Alessandro Boulevard to Cactus Avenue)	59.7
Heacock Street (Cactus Avenue to John F Kennedy Drive)	62.6
Indian Street (Alessandro Boulevard to Cactus Avenue)	59.9
Indian Street (Cactus Avenue to John F Kennedy Drive)	59.3
Iris Avenue (Kitching Street to Lasselle Street)	6031
Iris Avenue (Lasselle Street to Nason Street)	57.0
Iris Avenue (Nason Street to Oliver Street)	60.0
Iris Avenue (Perris Boulevard to Kitching Street)	60.8
Ironwood Avenue (Moreno Beach Drive to Redlands Boulevard)	55.6
Ironwood Avenue (Redlands Boulevard to Highland Boulevard)	46.3
John F Kennedy Drive (south of Cactus Avenue)	61.5
Kitching Street (Alessandro Boulevard to Cactus Avenue)	58.2
Kitching Street (Cactus Avenue to John F Kennedy Drive)	59.1
Kitching Street (Iris Avenue to Ivory Avenue)	61.1
Kitching Street (Krameria Avenue to Lurin Avenue)	62.4
Krameria Avenue (Perris Boulevard to Lasselle Street)	57.5
Lasselle Street (Cahuilla Drive to Krameria Avenue)	60.5
Lasselle Street (Cottonwood Avenue to Alessandro Boulevard)	64.4
Lasselle Street (Krameria Avenue to Arroyo Park Drive)	56.4
Live Oak Canyon Road (San Timoteo Canyon Road to I-10)	56.5
Lochmoor Drive (Central Avenue to Fair Isle Drive)	52.1
Locust Avenue (Moreno Beach Drive to Redlands Boulevard)	55.7
Locust Avenue (Moreno Beach Drive to Smiley Boulevard)	46.2
Mission Grove Parkway (Alessandro Boulevard to Northrop Drive)	58.1
Mission Grove Parkway (Cannon Road to Alessandro Boulevard)	62.5
Moreno Beach Drive (John F Kennedy Drive to Cactus Avenue)	57.6
Moreno Beach Drive (John F Kennedy Drive to Oliver Street)	55.2
Moreno Beach Drive (Locust Avenue to Ironwood Avenue)	55.3
Old 215 Frontage Road (Eucalyptus Avenue to Alessandro Boulevard)	61.4
Orange Avenue (Evans Road to Foothill Drive)	55.3
Perris Boulevard (Alessandro Boulevard to Cactus Avenue)	61.0
Perris Boulevard (Alessandro Boulevard to Cottonwood Avenue)	61.9
Perris Boulevard (Cactus Avenue to John F Kennedy Drive)	62.0
Perris Boulevard (Iris Avenue to Krameria Avenue)	60.8
Perris Boulevard (John F Kennedy Drive to Iris Avenue)	67.2
Perris Boulevard (Krameria Avenue to Harley Knox Boulevard)	60.7
Perris Boulevard (Krameria Avenue to Harley Knox Boulevard)	59.6

Table 4.12.D: Existing Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet
Perris Boulevard (Sunnymead Boulevard to Fir Avenue)	69.0
Ramona Expressway (Evans Road to Rider Street)	59.2
Reche Canyon Road (Keissel Road to Reche Vista Drove)	62.7
Reche Vista Drive (Heacock Street to Reche Canyon Road)	66.7
Redlands Boulevard (Ironwood Avenue to San Timoteo Canyon Road)	67.8
Redlands Boulevard (Ironwood Avenue to SR-60)	68.3
Redlands Boulevard (SR-60 to Eucalyptus Avenue)	58.8
San Timoteo Canyon Road (Alessandro Road to Live Oak Canyon Road)	62.0
San Timoteo Canyon Road (Live Oak Canyon Road to Redlands Boulevard)	62.7
Street A (Eucalyptus Avenue to Street F)	47.0
Sunset Drive (Alessandro Road to Cameo Drive)	52.5
Sunset Drive (Crown Street to Alessandro Road)	49.0
Sycamore Canyon Boulevard (Central Avenue to College Boulevard)	62.8
Theodore Street (SR-60 to Highland Boulevard)	53.6
Freeways	
SR-60 (Heacock Street to Perris Boulevard)	65.2
SR-60 (Moreno Beach Drive to Redlands Boulevard)	62.5
SR-60 (Perris Boulevard to Nason Street)	64.6
SR-60 (Pigeon Pass Road/Frederick Street to Heacock Street)	66.5
SR-60 (Redlands Boulevard to Theodore Street)	60.2

Source: Mestre Greve Associates, November 2012.

4.12.1.5 Existing SDG&E and SCGC Facilities

The proposed World Logistics Center Specific Plan area is currently occupied by one San Diego Gas and Electric Company (SDG&E) compressor station and two Southern California Gas Company (SCGC) facilities. These facilities are located within the boundaries of the Specific Plan as shown in previously referenced Figure 4.12.2. The SDG&E compressor station recompresses natural gas received from interstate gas pipelines and delivers the gas to Southern California via transmission pipelines. The two SCGC facilities contain flow valve and metering equipment facilities. The southern SCGC facility contains a maintenance functions as well. All of these facilities contain gas pipeline blow-down equipment. This equipment includes exhaust stacks that vent the high pressure gas into the atmosphere occur during emergencies, scheduled maintenance, and annual testing of the blow-down systems.

The SDG&E and SCGC facilities produce noise from three different sources that could affect future development within the proposed project: 1) the operation of the compressor station; 2) blow-down events at the compressor station; and 3) blow-down events at the SCGC facilities. The blow-down events generate infrequent high noise levels for relatively short periods. The compressor station generates a relatively constant noise level, although noise levels vary slightly when the compressors are turned on and off when the gas is conveyed to the transmission pipelines.

The SDG&E compressors are the primary source of operational noise generated by the compressor station. The facility contains two sets of three reciprocating natural gas combustion engines and one set of four natural gas-fired turbines, for a total of ten compressors with power ranging from 995 to 3,400 horsepower. The compressors are located within noise attenuation structures and are equipped

with intake and exhaust silencers. The facility routinely operates at maximum capacity 24 hours per day. It is anticipated that demand on the compressor station will increase in the future to the point where the facility operates 24 hours a day, year round.

The CNEL levels for the SDG&E compressor station presented in Figure 4.12.3 are based on a worst-case assumption that the compressor station is in full operation 24 hours a day. Figure 4.12.4 presents the average (L_{eq}) noise levels generated by the compressor station during full operation. Both the CNEL and L_{eq} metrics are used to assess the noise impacts from the facility.

There are several blow-down points within the SDG&E compressor station. As stated previously, these blow-down points allow for the release of pressurized gas during emergencies, scheduled maintenance, and annual testing. Blow-down events at the compressor station vent gas and last between 30 and 90 seconds. The maximum sound levels (L_{max} dBA) generated by the blow-down events is presented in Figure 4.12.5.

There are blow-down points in the SCGC facilities. Blow-down events at the SCGC facilities vent gas from miles of pipeline and are much longer than those at the compressor station, and can last up to 90 minutes. Approximately four blow-down events occur annually at the SCGC facilities. L_{max} noise levels (dBA) are shown in in Figure 4.12.6. The noise level will be at or near the L_{max} level during the entire blow-down event. It should also be noted that blow-down events generate ground vibrations and natural gas odors in the vicinity in the surrounding area when events occur. Again, it must be noted that these blow-down events are part of the existing conditions of the project site, and any impacts caused by development of new warehousing near these facilities, and any mitigation necessary, are not the responsibility of SCGC or SDG&E.

4.12.2 Existing Policies and Regulations

The applicable noise standards governing the project site are the criteria in the City of Moreno Valley General Plan Safety Element (Environmental Safety, Noise) and Municipal Code (Noise Ordinance). The City's Safety Element of the General Plan does not contain specific noise standards or significance thresholds. However, the General Plan does cite applicable State standards including the California Administrative Code, Section 1092 of Title 25, Chapter 1, Subchapter 1, Article 4 and Section 5014 of Title 21, Subchapter 6, Article 2. In addition, other applicable standards identified in the *California Noise Insulation Standards*[1] and the *State of California Vehicular Code*[2] are included below. The following sections list the General Plan policies, Municipal Code, and State standards relevant to noise for the proposed project.

4.12.2.1 City of Moreno Valley General Plan Policies

Chapter 9 of the *City of Moreno Valley General Plan*[3] defines goals, objectives, policies, and action items related to noise conditions in the City. The specific policies related to noise that are relevant to the proposed project are as follows:

Objective 6.3 Provide noise compatible land use relationships by establishing noise standards utilized for design and siting purposes.

Policy 6.3.5 Enforce the California Administrative Code, Title 24 noise insulation standards for new multi-family housing developments, motels and hotels.

Policy 6.3.6 Building shall be limited in areas of sensitive receptors.

1 California Code of Regulations, Title 24, Part 2, §3501, *California Noise Insulation Standards.*
2 Governor's Office of Planning and Research, *State of California General Plan Guidelines*, October 2003, pages 249 and 250.
3 *City of Moreno Valley General Plan*, City of Moreno Valley, July 2006.

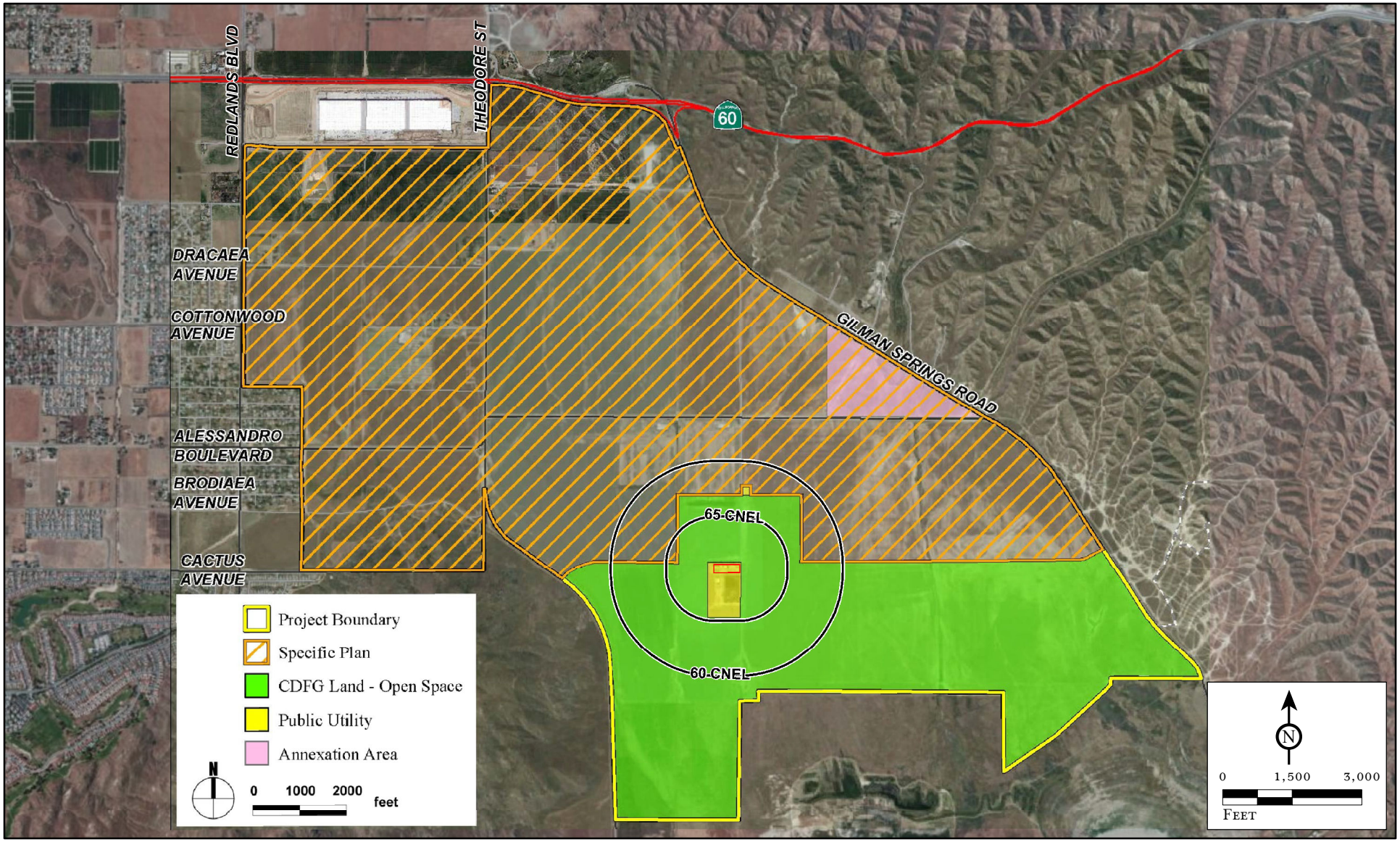

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FIGURE 4.12.3

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Existing CNEL Noise Contours for the SDG & E Compressor Station

SOURCE: Mestre Greve Associates, 2013.

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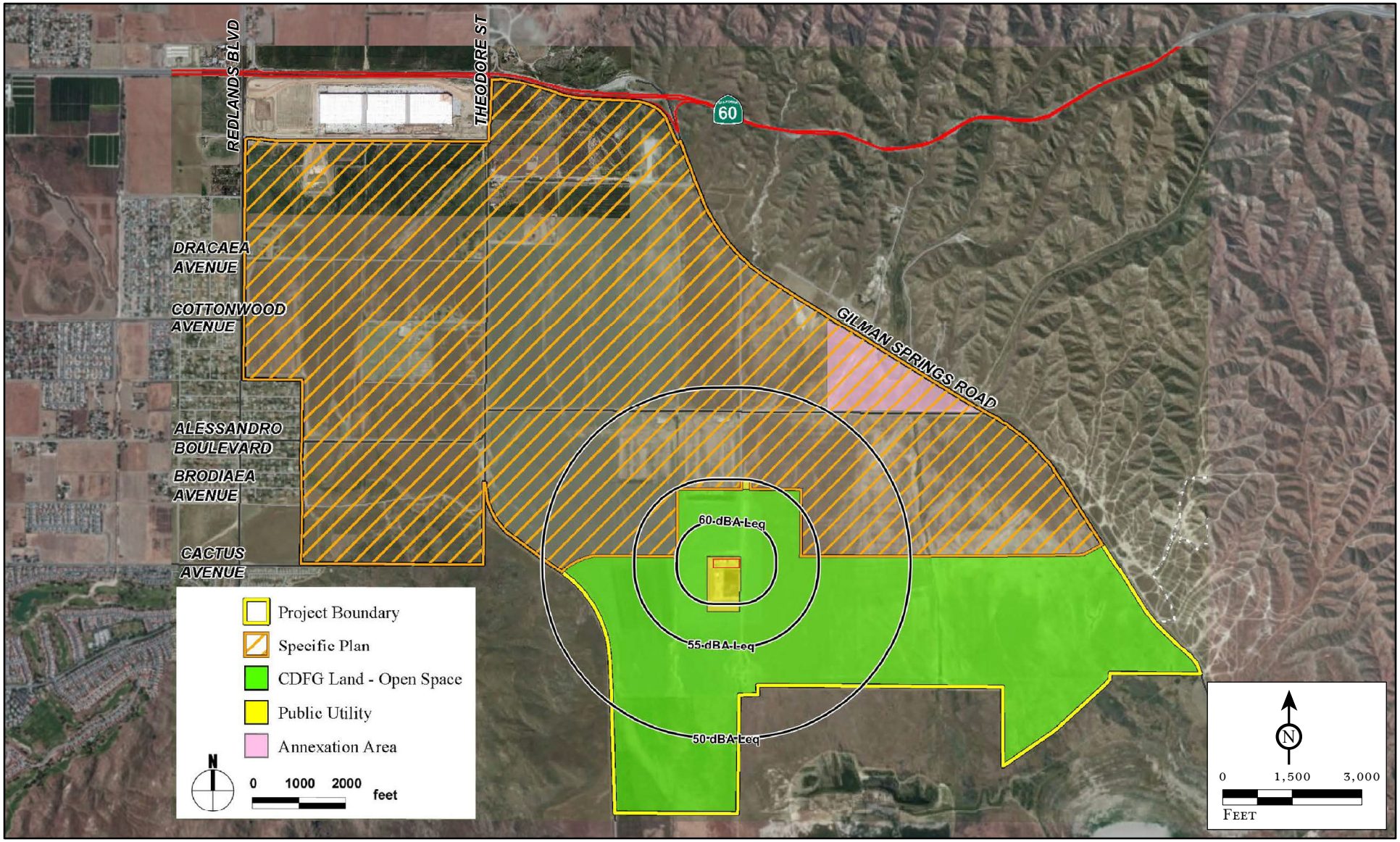

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FIGURE 4.12.4

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Existing Leq Noise Levels for the SDG & E Compressor Station

SOURCE: Mestre Greve Associates, 2013.

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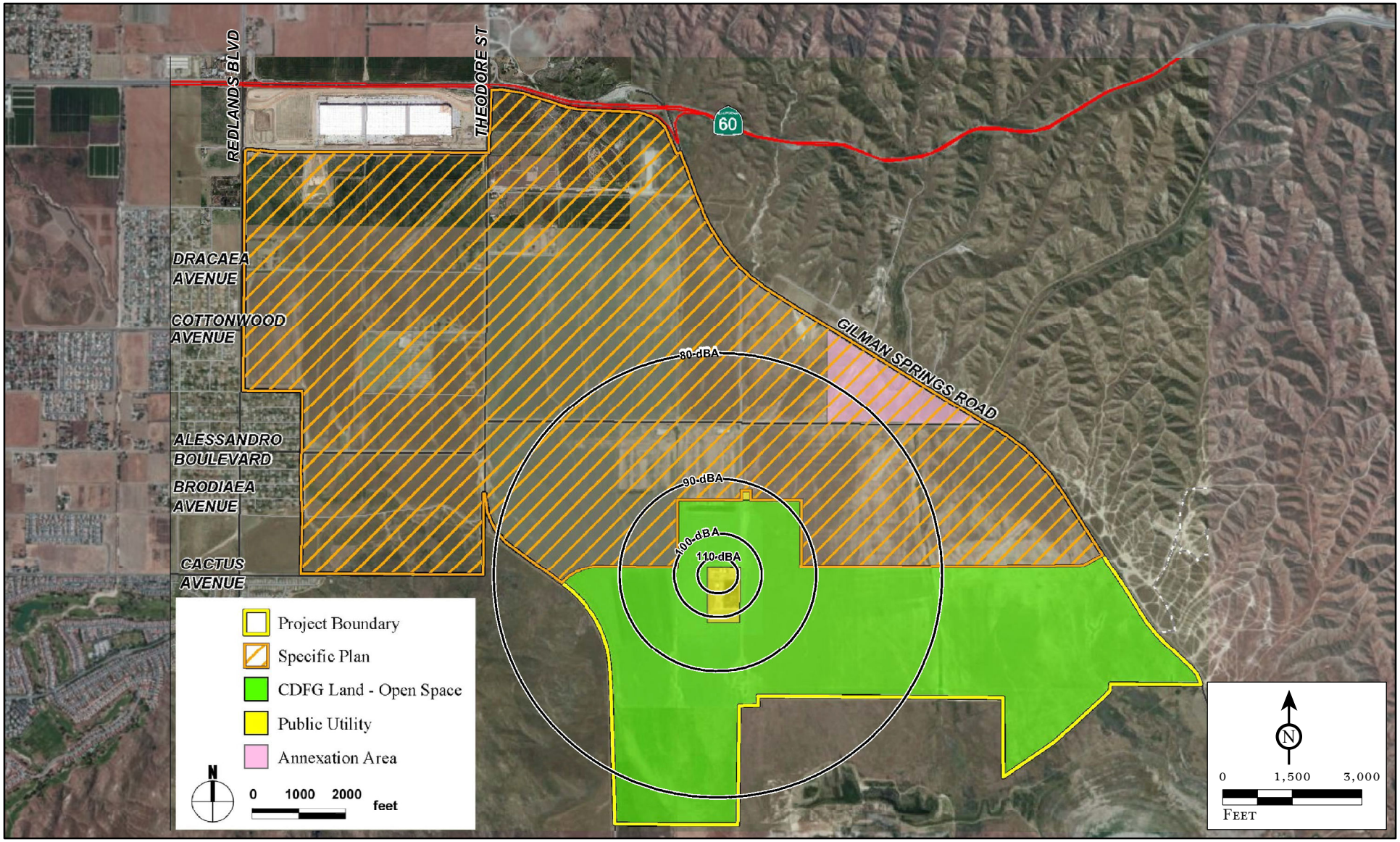

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FIGURE 4.12.5

World Logistics Center Project
Environmental Impact Report

Existing Lmax Levels for SDG&E Blow-Down

SOURCE: Mestre Greve Associates, 2013.

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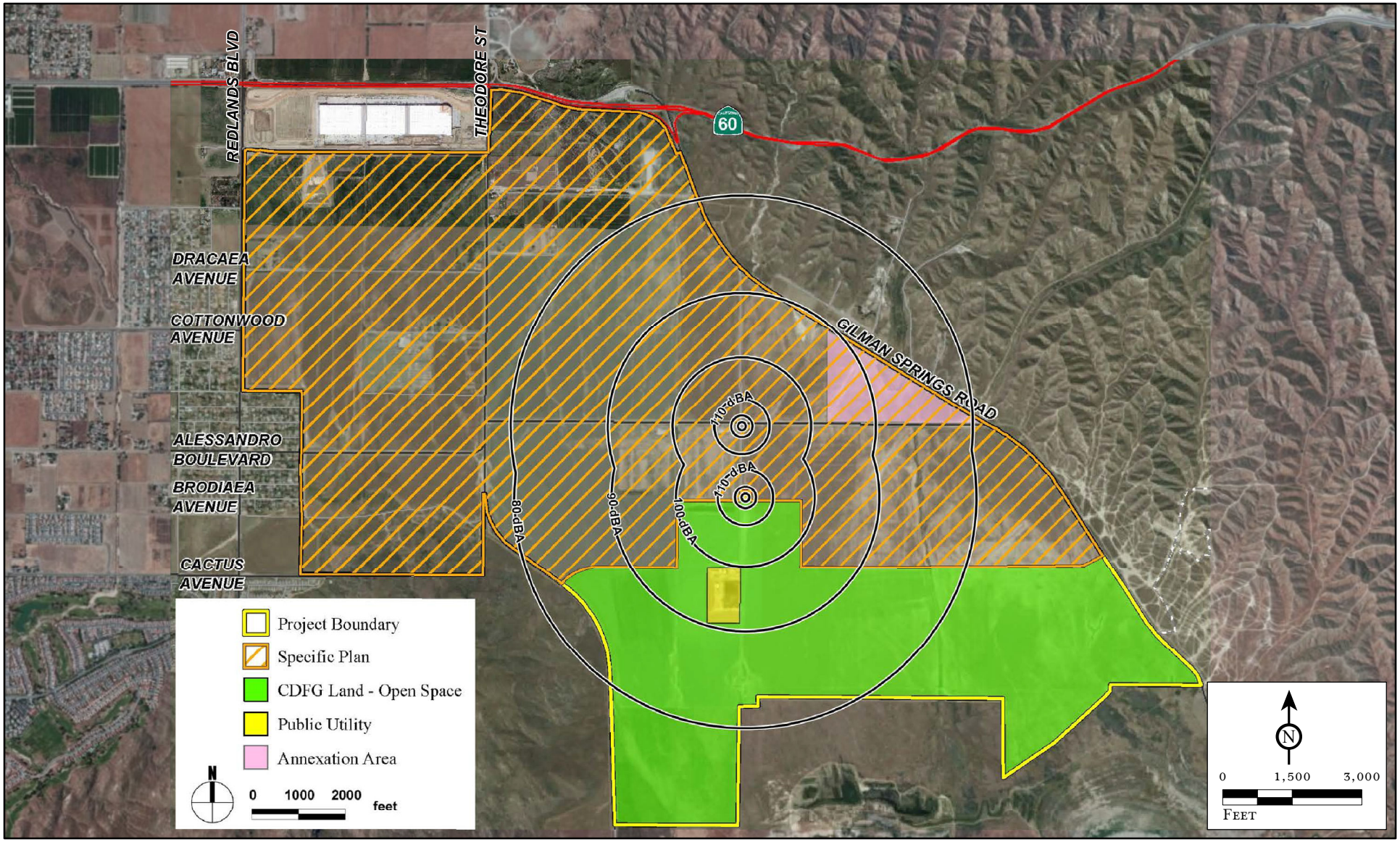

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FIGURE 4.12.6

World Logistics Center Project
Environmental Impact Report

Existing Lmax Noise Levels for the SCE Blow Down Event

SOURCE: Mestre Greve Associates, 2013.

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Objective 6.4 Review noise issues during the planning process and require noise attenuation measures to minimize acoustic impacts to existing and future surrounding land uses.

Policy 6.4.1 Site, landscape and architectural design features shall be encouraged to mitigate noise impacts for new developments, with a preference for noise barriers that avoid freeway sound barrier walls.

Objective 6.5 Minimize noise impacts from significant noise generators such as, but not limited to, motor vehicles, trains, aircraft, commercial, industrial, construction, and other activities.

Policy 6.5.1 New commercial and industrial activities (including the placement of mechanical equipment) shall be evaluated and designed to mitigate noise impacts on adjacent uses.

Policy 6.5.2 Construction activities shall be operated in a manner that limits noise impacts on surrounding uses.

4.12.2.2 City of Moreno Valley Municipal Code

The *Moreno Valley Municipal Code*[1] establishes a Noise Ordinance that describes the noise standards within the City. Chapter 11.80.030 (Title 11) lists specific prohibited acts.

The City's residential site development standards, as identified in Chapter 9.03.040 of the City's Planning and Zoning Code, state that in all residential districts, air conditioners, heating, cooling, and ventilating equipment and all other mechanical lighting or electrical devices shall be operated so that noise levels do not exceed 60 dBA (L_{dn}) at the property line.

The City's Municipal Code, Section 6.04.030.J states that "to create, allow or maintain any loud or unusual noise or operate or maintain any device, instrument, vehicle, or machinery in such a manner as to create loud or unusual noise, cause vibrations, or unreasonable light spillage or glare which causes discomfort or annoyance to reasonable persons of normal sensitivity, or which endangers the comfort, repose, health or peace of the public or of any person using or occupying other property in the vicinity" is prohibited.

The City's Municipal Code, Section 9.10.140, specifies that all commercial and industrial uses shall be operated so that noise created by any loudspeaker, bells, gongs, buzzers, or other noise attenuation or attracting devices shall not exceed 55 dBA at any one time beyond the boundaries of the property.

Chapter 11.80.030 of the City's Municipal Code also states:

> *Based on statistics from the Center for Disease Control and Prevention and the National Institute for Occupational Safety and Health, Table 1 and Table 1-A specify sound level limits which, if exceeded, will have a high probability of producing permanent hearing loss in anyone in the area where the sound levels are being exceeded. No sound shall be permitted within the City which exceeds the parameters set forth in Table 11.80.030-1* [Table 4.12.E] *and 11.80.030-1-A* [Table 4.12.F] *of this chapter.*
>
> *No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any nonimpulsive sound which exceeds the limits set forth for the source land use category (as defined in Section 11.80.020) in Table 11.80.030-2* [Table 4.12.F] *when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property. Any source of sound in violation of this subsection shall be deemed prima facie to be a noise disturbance.*

[1] *Moreno Valley Municipal Code,* City of Moreno Valley, current through Ordinance 836 and the November 2012 code supplement.

The following uses and activities shall be exempt from the sound level regulations except the maximum sound levels provided in Tables 11.80.030-1 [Table 4.12.E] *and 11.80.030-1A* [Table 4.12.F]*:*

1. *Sounds resulting from any authorized emergency vehicle when responding to an emergency call or acting in time of an emergency.*
2. *Sounds resulting from emergency work as defined in Section 11.80.020.*
3. *Any aircraft operated in conformity with, or pursuant to, federal law, federal air regulations and air traffic control instruction used pursuant to and within the duly adopted federal air regulations; and any aircraft operating under technical difficulties in any kind of distress, under emergency orders or air traffic control, or being operated pursuant to and subsequent to the declaration of an emergency under federal air regulations.*
4. *All sounds coming from the normal operations of interstate motor and rail carriers, to the extent that local regulation of sound levels of such vehicles has been preempted by the Noise Control Act of 1972 (42 U.S.C. § 4901 et seq.) or other applicable federal laws or regulations.*
5. *Sounds from the operation of motor vehicles, to the extent they are regulated by the California Vehicle Code.*
6. *Any constitutionally protected noncommercial speech or expression conducted within or upon any public right-of-way, public space or other publicly owned property constituting an open or a designated public forum in compliance with any applicable reasonable time, place and manner restriction on such speech or expression or otherwise pursuant to legal authority.*
7. *Sounds produced at otherwise lawful and permitted city-sponsored events, organized sporting events, school assemblies, school playground activities, by permitted fireworks, and by permitted parades on public right-of-way, public space, or other publicly owned property.*
8. *An event for which a temporary use permit or special event permit has been issued under other provisions of this code, where the provision of Section 11.80.010 are met, the permit granted expressly grants an exemption from specific standards contained in this chapter, and the permittee and all persons under the permitttee's reasonable control actually comply with all conditions of such permit. Violation of any condition of such permit related to sound or sound equipment shall be in violation of this chapter and punishable as such.*

Table 4.12.E and Table 4.12.F show the maximum sound levels that are permitted in the City for continuous and impulsive sounds, respectively.

Table 4.12.E: Maximum Continuous Sound Levels*

Duration Per Day Continuous Hours	Sound Level (dBA)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25	115

* When the daily sound exposure is composed of two or more periods of sound exposure at different levels, the combined effect of all such periods shall constitute a violation of this section if the sum of the percentage of allowed period of sound exposure at each level exceeds 100 percent.

Source: Chapter 11.80.030 Table 11.80.030-1, City of Moreno Valley Municipal Code, City of Moreno Valley.

Table 4.12.F: Maximum Impulsive Sound Levels

Number of Repetitions Per 24-Hour Period	Sound Level (dBA)
1	145
10	135
100	125

Source: Chapter 11.80.030 Table 11.80.030-1A, City of Moreno Valley Municipal Code, City of Moreno Valley.

The City also restricts the sound levels for non-impulsive sound on lands designated for residential and commercial land uses during the daytime and nighttime time periods. These levels are shown in Table 4.12.G. Section 11.80.050 (3) clearly identifies the measurement as an "average" noise level, and therefore, the noise limits shown in Table 4.12.G are interpreted as the L_{eq} noise level.

Table 4.12.G: Maximum Sound Levels (in dBA) for Source Land Uses

Residential		Commercial	
Daytime	Nighttime	Daytime	Nighttime
60	55	65	60

Source: Chapter 11.80.030 Table 11.80.030-2, City of Moreno Valley Municipal Code, City of Moreno Valley.

The City prohibits all construction and demolition activities between the hours of 8:00 p.m. and 7:00 a.m. the day following a noise disturbance. A noise disturbance is defined as any sound which that disturbs a reasonable person of normal sensitivities, exceeds the sound level limits set forth in the Noise Ordinance, or is plainly audible. A noise disturbance is defined as plainly audible measured at a distance of 200 feet from the real property line of the source of the sound if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property.

4.12.2.3 State of California Vehicle Code

Recent studies have shown that the most objectionable feature of traffic noise is the sound produced by vehicles equipped with illegal or faulty exhaust systems. In addition, such vehicles are often operated in a manner that causes tire squeal and excessively loud exhaust noise. A number of California State vehicle noise regulations can be enforced by local authorities as well as the California Highway Patrol. These include § 27150 (mufflers) of the California Vehicle Code (CVC), as well as excessive speed laws, which may be applied to curtail traffic noise. The California Highway Patrol and the Department of Health Services (through local health departments) are available to aid local authorities in code enforcement and training pursuant to proper vehicle sound level measurements.

4.12.2.4 State of California Noise Compatibility Guidelines

The State of California Noise Compatibility Guidelines, published by the Department of Health, Services provides guidance for use when siting land uses. The compatibility guidelines are shown in Figure 4.12.7. The guidelines will be used to evaluate the compatibility of the proposed land uses with the noise environment. The guidelines show compatibility of various land uses with different noise environments. The guidelines show that industrial uses are normally acceptable in noise environments up to 75 CNEL.

4.12.3 Methodology

Evaluation of noise impacts associated with the proposed project includes the following:

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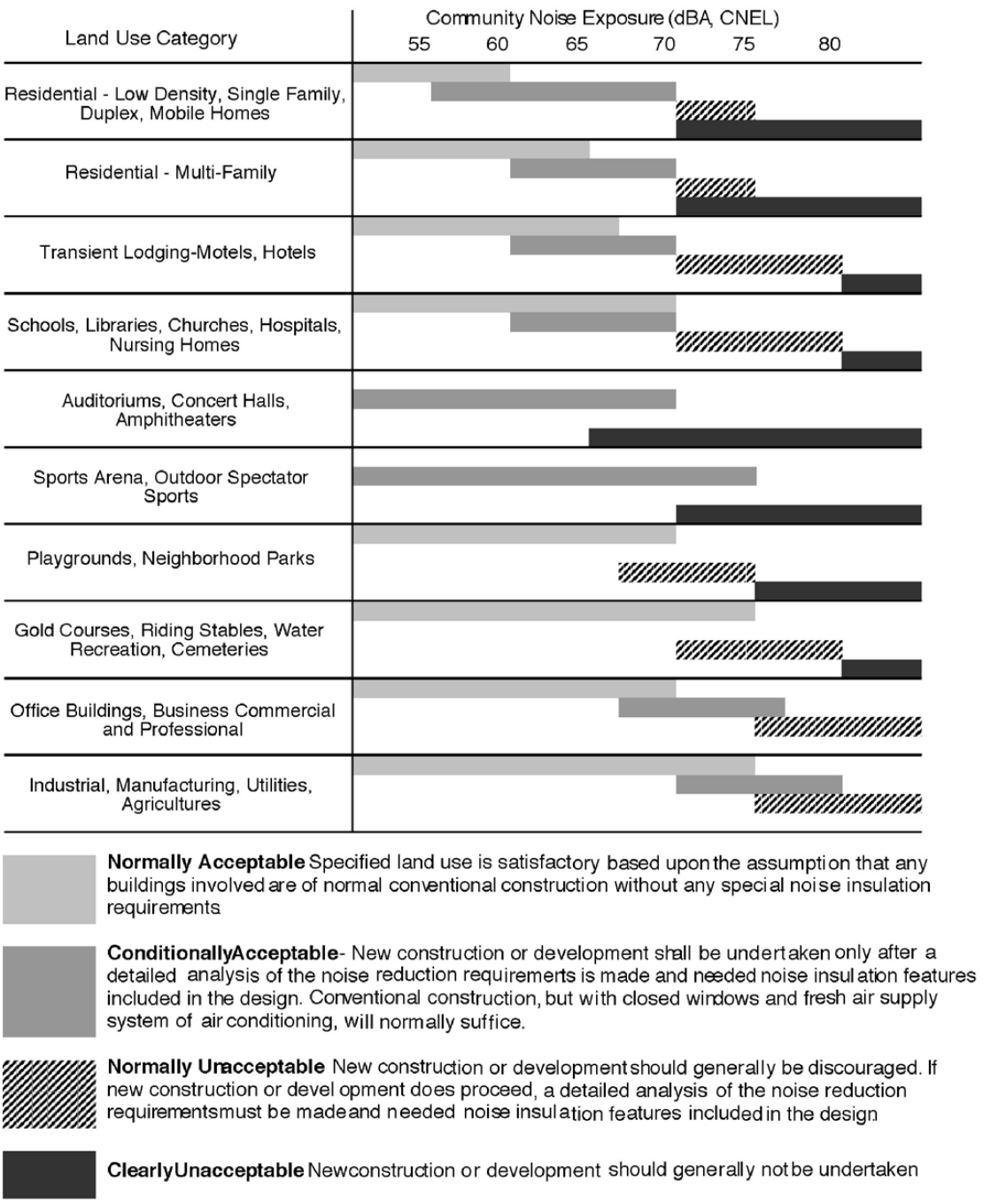

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FIGURE 4.12.7

World Logistics Center Project
Environmental Impact Report

California Noise Compatibility Guidelines

SOURCE: Mestre Greve Associates, 2012

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- Determination of the short-term construction noise impacts on off-site noise-sensitive uses;
- Determination of the long-term noise impacts, including vehicular traffic and stationary noise sources, on on-site and off-site noise-sensitive uses; and
- Determination of the required mitigation measures to reduce long-term noise impacts from all sources.

Because of the location of noise-sensitive receptors, the noise analysis evaluates the noise effects of the industrial development on the existing residential development (sensitive receptors) near the southwest portion of the proposed project area.

There are no Federal Highway Administration (FHWA), State, or local standards for vibration. According to the FHWA, highway traffic and construction vibrations pose no threat to buildings and structures; and annoyance to people is not considered any worse than other discomforts experienced from living near highways. However, a substantial amount of research has been completed to compare vibrations from single events such as dynamite blasts with architectural and structural damage. The U.S. Bureau of Mines has set a safe limit of 0.5 inch per second peak particle velocity to avoid structure damage in residential structures (U.S. Bureau of Mines 1980). Below this level, there is virtually no risk of building damage.

4.12.4 Thresholds of Significance

A project would have a significant effect on the environment related to noise if it would substantially increase the ambient noise levels for adjoining areas or if it would conflict with adopted environmental plans and goals of the community in which it is located.

The applicable noise standards and guidelines governing the project are those specified previously in Sections 4.12.2.1 through 4.12.2.4. In summary, these criteria are contained within the Safety Element of the General Plan, the Municipal Code, the California Vehicle Code, and the State Noise Compatibility Guidelines.

For this project, a noise impact is considered significant if the project would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the *City of Moreno Valley General Plan*, *Moreno Valley Municipal Code*, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial temporary, periodic, and/or permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels; and/or
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

The standards within the *City of Moreno Valley General Plan* and *Moreno Valley Municipal Code* determine the acceptable noise environment for proposed project and its vicinity. The standards are as follows:

- To the extent feasible, ensure through the design review process that exterior noise levels at commercial and industrial areas do not exceed 75 dBA CNEL.
- Consider the following uses noise-sensitive and discourage them in areas where exterior noise levels exceed 65 dBA CNEL unless measures are implemented that reduce the noise exposure below this level: single-family and multiple-family residential uses, group homes, hospitals, schools and other learning institutions, and parks and open space areas where quiet is a basis for use.

Long-term impacts from the project's traffic noise that affect existing sensitive land uses are considered to be substantial and, therefore, constitute a significant noise impact if the project would:

- Increase noise levels by 5 dB or more where the no project noise level is less than 60 CNEL;
- Increase noise level by 3 dB or more where the no project noise level is 60 CNEL to 65 CNEL; or
- Increase noise levels by 1.5 dB or more where the no project noise level is greater than 65 CNEL.

The project's incremental contribution to a cumulative noise increase would be considered cumulatively considerable and significant when ambient noise levels affect noise-sensitive land uses and when the project increases noise levels by 1 dB or more over pre-project conditions and the predicted future cumulative with project noise levels cause the following cumulative increases:

- Increase noise levels by 5 dB or more where the existing noise level is less than 60 CNEL;
- Increase noise levels by 3 dB or more where the existing noise level is 60 to 65 CNEL; or
- Increase noise levels by 1.5 dB or more where the existing noise level is greater than 65 CNEL.

4.12.5 No Impact/Less than Significant Impacts

The following impacts were identified as having a less than significant impact or no impact on the environment with implementation of the proposed project.

4.12.5.1 Groundborne Vibration Impacts

Threshold	Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Roadways in the vicinity of the project area are either paved or would be paved as the area develops, and would not result in project traffic driving over rough or dirt roads. Well maintained roads typically do not result in substantial vibration levels. Even roads with irregularities typically only generate substantial levels of vibration very near, less than 50 feet from the irregularity. Construction activities that would occur within the WLCSP area are not anticipated to require blasting or pile driving. Roadway vibrations are typically not perceptible more than 50 feet from the roadway except in very unusual circumstances. Generally, the interface between the soft tire of a truck or automobile will not generate significant vibration unless the road is in poor shape (e.g., potholes or pavement joints) Therefore, impacts associated with this issue are anticipated to be less than significant, and no mitigation is required.

4.12.5.2 Airport Noise Impacts

Threshold	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, results in exposure of people residing or working in the project area to excessive noise levels. For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

The project area is located approximately 5.5 miles northeast of the March Airfield (MAF) and is not located within two miles of a private airstrip. The MAF is a joint-use airport, used for both military and civilian purposes. The March Air Reserve Base (MARB) is the military operator of the MAF and March Inland Port (MIP) is the civilian operator of the airport. This facility is anticipated to play an increasingly important role in the transportation of goods and cargo for the Southern California region. Existing flight patterns affect a large portion of the City of Moreno Valley, along a path that affects the western portion of the City in a northwest/southeast alignment. Aircraft operations from the airport currently contribute intermittent single-event noise.

There is potential for single-event noise exposure levels from MAF activity to affect the proposed project. The exposure levels will vary dependent upon the type of aircraft and flight track flown for each operation at MAF. However, the proposed project is not identified as being within the noise or safety contours delineated for the MARB Airport.[1] In addition, the proposed project is not considered to contain sensitive receivers and, therefore, the impacts from these single-event noise levels are considered to be below the level of significance. The City's exterior noise standard for industrial uses is 70 dBA CNEL. MAF noise levels are less than 60 dB CNEL within the project area. Therefore, the proposed project would not have the potential to expose people to excessive noise levels from airport operations. Therefore, no significant noise impacts would occur regarding these issues from implementation of the proposed project, and no mitigation is required.

4.12.6 Significant Impacts

4.12.6.1 Short-Term Construction Noise Impacts

Threshold	Would the project result in a substantial temporary, periodic, and/or permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Short-term noise would occur during the construction of the WLCSP. First, construction crew commutes and the transport of construction equipment and materials to the site for the proposed WLC project would incrementally increase noise levels on access roads in the WLC planning area. In addition, noise would be generated during excavation, grading, and building construction on various portions of the Specific Plan site. Construction is completed in discrete steps, each of which has its own mix of equipment, and consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment, which includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full-power operation followed by three to four minutes at

[1] *Figure 5.4-1 March Reserve Air Base Noise Impact Area*, City of Moreno Valley General Plan EIR, July 2006.

lower power settings. Implementation of the Specific Plan would result in construction activities that would require the use of scrapers, bulldozers, and water and pickup trucks within the WLCSP area.

Figure 4.12.8 presents construction noise levels measured at 50 feet. The peak noise level for the majority of the equipment that will be used during construction of the proposed project will range from 70 to 95 dBA. Based on the fact that noise levels dissipate with increases in distance from the noise source due to noise divergence, noise levels at greater distances are less than those presented in Figure 4.12.8. Noise measurements made by Mestre Greve Associates demonstrate that the noise levels generated by commonly used grading equipment (e.g., loaders, graders, and trucks) generate noise levels that typically do not exceed the middle of the range shown in Figure 4.12.8.[1] However, the noise levels shown in Figure 4.12.8 have been used as the basis for the noise analysis estimates presented in this EIR.

Construction activities that are associated with the proposed WLCSP project would occur in two general areas: on-site and off-site. Some phases of the on-site construction would occur for 24 hours a day for 7 days a week. It is anticipated that on-site construction would occur periodically over a nine-year period with a potential start year of 2013 and ending in 2021. Off-site construction (which would involve minor grading, drainage, interchange, utility, and roadway improvements) is anticipated to only during the daytime weekday hours and would have a shorter construction duration.

On-site Construction. Sensitive receptors that would be potentially affected by on-site construction activities would include residences located within and adjacent to the WLCSP area as well as residences located on the north side of SR-60. For residences on the opposite side of SR-60, existing daytime and nighttime freeway noise is anticipated to be greater than the noise generated by the construction activities that would occur within the WLCSP area. Although certain conditions at night, such as low inversions and very calm conditions, can increase the ability of construction noise to travel to the residences north of the freeway, these same conditions would also amplify the noise generated on the freeway. Since freeway noise would continue to be the dominant noise source in the area for these residences along SR-60, construction noise impacts on the residents north of the freeway will be less than significant and no mitigation is required.

Existing residences within the WLCSP area or adjacent to the Specific Plan area, such as those along Redlands Boulevard, Merwin Street, Bay Avenue, Cactus Avenue, and Gilman Springs Road, may be located within 50 feet or less from areas where intense construction (24 hours a day, 7 days a week) would occur. Although residential properties located within the WLCSP would be rezoned as Light Logistics, the existing residences are considered to be noise-sensitive uses that would be affected by intense construction activities. Similarly, residences located adjacent to the project site (i.e., along Redlands Boulevard, Merwin Street, Bay Avenue, Cactus Avenue, and Gilman Springs Road) would also be affected by intense construction activities. Based on a 50-foot noise attenuation distance, these residences may experience worst-case unmitigated peak construction noise levels (L_{max}) up to 97 dBA. The average noise levels are typically 5 to 15 dB lower than the peak noise levels. Average noise levels (L_{eq}) at 50 feet could easily be in the range of 82 to 92 dBA during most phases of construction.

The City of Moreno Valley Municipal Code does not include any exemptions for construction noise. Therefore, construction would be subject the limitations of 60 dBA during daytime and 55 dBA at nighttime measured at residential areas. According to Section 3.4.14, *Project Description*, WLC project construction may occur 24 hours a day, 7 days a week for certain activities. Significant noise impacts would be expected, especially if work with high noise levels occurs between 8:00 p.m. and 6:00 a.m.

[1] *Noise Assessment for the World Logistic Center Specific Plan*, page 27, Mestre Greve Associates, Division of Landrum & Brown, November 2012.

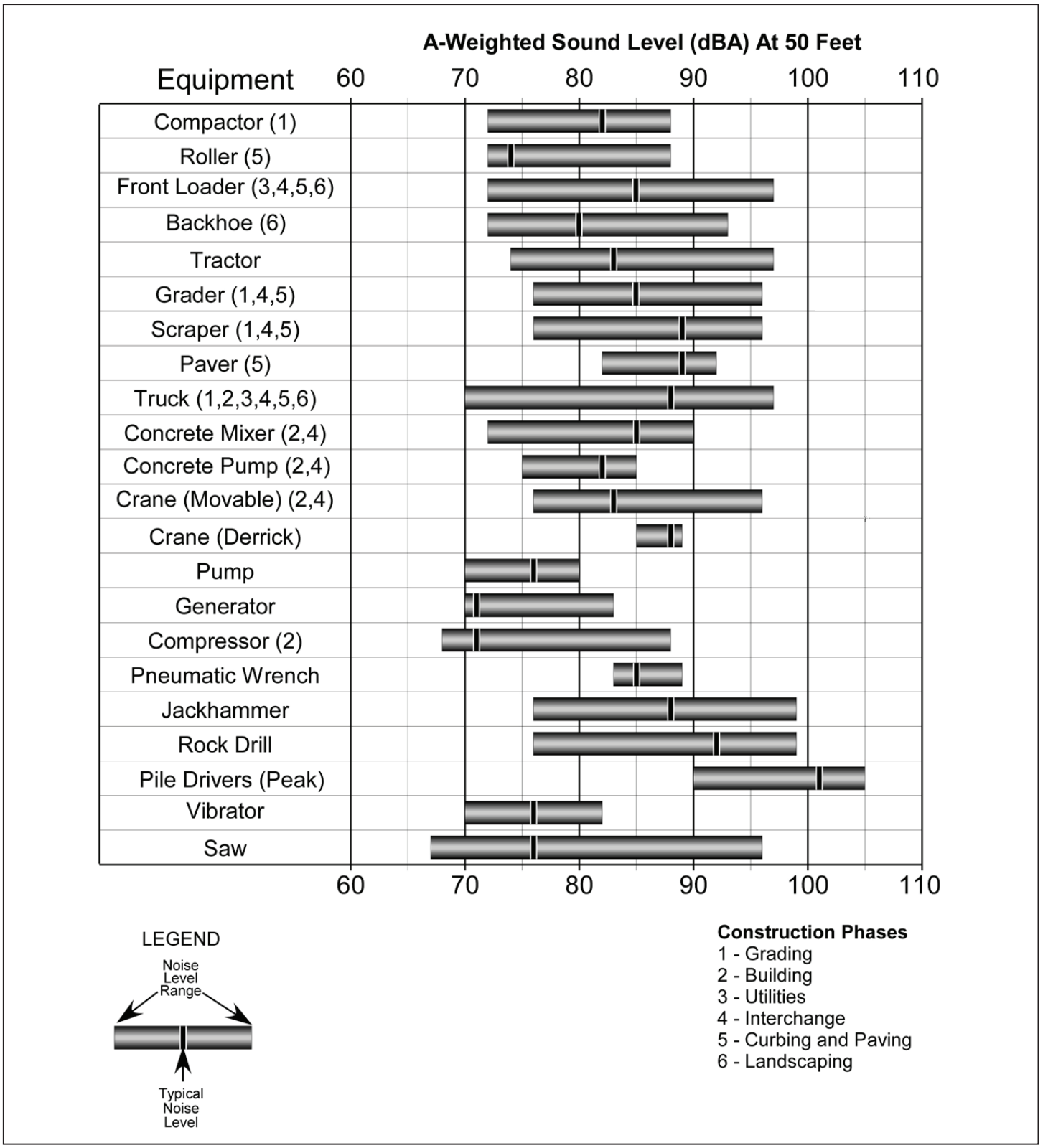

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FIGURE 4.12.8

World Logistics Center Project
Environmental Impact Report

Typical Construction Equipment Noise Levels

SOURCE: Mestre Greve Associates, 2012

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Based on these projections, anticipated worst-case construction noise levels would regularly be exceeded during daytime and nighttime hours at residences within the Specific Plan area. Based on an L_{eq} noise level of 90 dBA at 50 feet, an observer would need to be 1,580 feet from the construction to experience a noise level of 60 dBA (L_{eq}), or 2,800 feet for a noise level of 55 dBA (L_{eq}). Therefore, a residence within 1,580 feet during active construction during the daytime would be affected. Similarly, a residence within 2,800 feet during the nighttime would be affected by construction noise.

As set forth in Section 3.4.14 and as stated by the project applicant, construction could occur 24 hours per day, 7 days per week for these construction activities. Therefore, noise levels at the nearest residences would exceed the City's exterior noise standard of the 60 dBA[1] CNEL daytime standard and 55 dBA CNEL nighttime standard for residential uses. This is a significant impact requiring mitigation.

Off-site Construction. Construction activities associated with off-site construction include road improvements along Cactus Avenue and Redlands Boulevard, water and utility improvements, construction of a detention basin, debris basins, and interchange improvements. Roadway and interchange improvements are planned along Cactus Avenue, Redlands Boulevard, State Route 60, and Gilman Springs Road. Often the loudest pieces of equipment associated with this type of construction are the graders/scraper equipment. Peak noise levels at 50 feet can reach 96 dBA, with average noise levels (L_{eq}) in the 85 dBA range. Noise levels of 60 dBA (L_{eq}) could be exceeded for up to 900 feet from the construction area. Existing residences are located within 900 feet of the off-site construction areas and would be exposed to noise levels that would exceed of the Moreno Valley noise criteria for residential uses.

Other off-site construction improvements such as drainage, sewer, water, and utility features would also generate noise in close proximity to existing sensitive uses. However, these activities typically utilize less construction equipment, which results in lower noise levels. These construction activities may commonly employ a backhoe as the loudest piece of equipment. A backhoe may have a peak noise level that exceeds 90 dBA at 50 feet, but has an average noise level around 80 dBA (L_{eq}) at 50 feet. However, at this noise level one would need to be more than 500 feet away to experience a noise level (L_{eq}) of less than 60 dBA. This noise level would exceed the City's daytime criteria at the nearest existing residences and mitigation measures would be required.

Specific Plan Design Features. The WLCSP does not contain any design features that specifically address noise. Other features, such as perimeter setback requirements, will have the effect of reducing noise to certain residential areas.

Mitigation Measures. Construction of the proposed project would result in noise levels at the closest residences exceeding the maximum noise level allowed under the City's Municipal Code. The following measures[2] would reduce short-term construction-related noise impacts associated with the proposed WLC project:

4.12.6.1A Prior to issuance of any discretionary approvals for development in the WLCSP, the project applicant shall submit a Noise Reduction Compliance Plan (NRCP) to the City of Moreno Valley for review and approval. The NRCP shall show the limits of nighttime construction in relation to any then occupied residential dwellings. Conditions shall be added to any discretionary projects requiring that the limits of nighttime grading be shown on the NRCP and all grading plans submitted to the City.

[1] *Chapter 11.80.030 Table 11.80.030-2, City of Moreno Valley Municipal Code,* City of Moreno Valley.
[2] Measures 4.12.6.1B-F correspond to the noise study measures N-1 through N-5

The limits of construction allowed at night shall be clearly staked on site, and contractors will be provided with a copy of the plan showing the limits of nighttime construction.

4.12.6.1B During all project site grading, all construction equipment, fixed or mobile, shall be equipped with operating and maintained mufflers consistent with manufacturers' standards.

4.12.6.1C All discretionary approvals for development in the WLCSP shall prohibit construction vehicles from using Redlands Boulevard south of Fir Avenue during on-site construction for all phases of the Specific Plan.

4.12.6.1D All discretionary approvals for development in the WLCSP shall include conditions of approval stating that no nighttime grading shall occur within 2,800 feet of residences south of SR-60 (between 8 p.m. and 6 a.m. on weekends and 8 p.m. and 7 a.m. on weekends or holidays). These restrictions shall be included as part of the Noise Reduction Compliance Plan. As an alternative to this requirement, a temporary construction sound barrier may be used in lieu of the construction buffer, per Mitigation Measure 4.12.6.1E.

4.12.6.1E As an alternative to Mitigation Measure 4.12.6.1D, a 12-foot tall temporary construction sound barrier may be installed for residences within 1,580 feet of active nighttime construction areas. The temporary sound barrier shall be constructed of plywood with a total thickness of 1 to 1.5 inches, or a sound blanket wall may be used. If sound blankets are used, the curtains must have a Sound Transmission Class (STC) rating of 27. This shall be included as part of the Noise Reduction Compliance Plan required in Mitigation Measure 4.12.6.1A, which shall be reviewed and approved by the City prior to implementation.

4.12.6.1F As an alternative to Mitigation Measure 4.12.6.1D, actual noise measurements of construction areas may be taken by qualified personnel and recommend specific buffer distances between construction activities and existing residences based on actual noise levels. These measurements will be incorporated into the Noise Reduction Compliance Plan required in Mitigation Measure 4.12.6.1A, which shall be reviewed and approved by the City prior to implementation.

4.12.6.1G Any discretionary approvals for development that proposes grading within 1,580 feet of occupied residential units shall require that all grading equipment be equipped with residential grade mufflers (or better).

4.12.6.1H All material stockpiles in connection with any grading operations shall be located at least 1,200 feet from existing residences.

4.12.6.1I All project-related off-site construction shall be limited to 6 a.m. and 8 p.m. on weekdays only. Construction during City holidays shall not be permitted.

4.12.6.1J Prior to the issuance of grading permits for off-site construction activities in support of development in the WLCSP, the project developer shall provide evidence to the City that any off-site construction area adjacent to occupied residential units shall have a 12-foot temporary sound barrier installed for construction activities lasting more than one month.

Level of Significance after Mitigation. *On-site Construction*. Elimination of nighttime construction within 2,800 feet of residences would lower the noise levels to 55 dBA (L_{eq}) at the closest residences. The noise levels would just meet the 55 dBA (L_{eq}) nighttime criteria contained in the Moreno Valley Noise Ordinance resulting in a less than significant impact. With the implementation of **Mitigation Measures 4.12.6.1A** through **4.12.6.1J**, the loudest noise level that would be experienced at any

developed residential parcel would be less than the 55 dBA (L_{eq}) nighttime threshold and would be consistent with the limits established in the City's Noise Ordinance resulting in a less than significant impact. In addition, implementation of **Mitigation Measure 4.12.6.1H**, would reduce the noise experienced at existing residences, resulting in a less than significant impact.

As previously stated, construction within 1,580 feet of residential areas south of the freeway has the potential to exceed the daytime Moreno Valley Noise Ordinance criteria of 60 dBA (L_{eq}). With implementation of **Mitigation Measure 4.12.6.1E**, any existing residences within 1,580 feet of a construction area would be shielded from construction noise with a 12-foot temporary sound barrier. A sound barrier will reduce the noise levels by about 10 dB resulting in a reduction of noise below City thresholds at residences 500 feet or further from the construction area. Although the installation of the temporary sound barrier would reduce noise levels experienced at the closest residences, those residences that are located within 500 feet of a construction area would still be exposed to noise levels greater than 60 dBA (L_{eq}). Therefore, impacts associated with this issue would remain significant and unavoidable.

Off-site Construction. With the implementation of **Mitigation Measure 4.12.6.1I**, off-site construction activities would be limited to daytime hours while **Mitigation Measure 4.12.6.1J** would require the installation of a temporary sound barrier. With these mitigation measures in place, residences adjacent to construction activities (depending on the loudness of the construction equipment) could experience noise levels greater than 60 dBA (L_{eq}) for off-site construction projects lasting less than one month. These impacts would only occur during weekday, daytime hours. However, even with implementation of these mitigation measures, noise levels experienced at these residences would be above the City's threshold. Therefore, impacts would remain significant and unavoidable.

4.12.6.2 Long-Term Traffic Noise Impacts

Threshold	Would the project result in a substantial temporary, periodic, and/or permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

The noise analysis for the proposed project is based on the traffic volume data contained in the Traffic Impact Analysis (TIA) prepared for the project (contained in its entirety as EIR Appendix L). The TIA addressed the intersections of surface streets in Moreno Valley of a collector or higher classification street with another collector or higher classification street, at which the proposed project will add 50 or more peak hour trips. The study area also included the main travel routes between the project and the neighboring cities of Riverside, Perris, Beaumont, San Jacinto, and Redlands. The study area extended west to the nearest ramps on SR-91 and as far south as the I-215 ramps at Redlands Avenue in Perris. The study area for freeways was selected to cover the freeway routes radiating from the project site to the north, south, east, and west. The traffic analysis covered SR-60 from SR-62 in the east to SR-71 in the west, SR-91 from I-215 in the east to I-15 in the west, and I-215 from SR-210 in the north to the Scott Road interchange in the south.

Three hundred and thirty nine (339) roadway links and eighty (80) freeway segments were analyzed in the noise analysis. The change in noise level was calculated for all 419 roadway and freeway links with and without the project for the existing case (2012), 2017, 2022, and 2035 time horizons. Links with noise increases less than 1.5 dB would not have a substantial noise increase and were not presented in the main body of the noise report (i.e., the tables and figures). Similarly, any links that do not have sensitive receptors (e.g., residential uses) were also not presented in the main body of the noise report. Based on this filtering process, of the 419 links analyzed, 72 links have sensitive receptors and an increase of 1.5 dB for at least one time horizon and were therefore addressed in the analysis.

The projected future daily traffic volumes (Parsons Brinckerhoff, Inc., December, 2012) for roadway segments in the project vicinity were used in the traffic noise impact analysis. Modeled noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. As previously identified, the threshold for traffic noise is 65 dBA CNEL for sensitive receptors.

Operation of development that could occur within the proposed project area would generate traffic along roadways in the project vicinity. Table 4.12.H identifies existing with project roadway traffic noise levels with the project.

Table 4.12.H: Existing Year (2012) Plus Project Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet		
	Without Project	With Project	Change
Alessandro Boulevard (west of Redlands Boulevard)	60.5	61.5	1.0
Alessandro Road (Crescent Avenue to Sunset Drive)	63.3	65.1	1.8
Alessandro Road (Sunset Drive to San Timoteo Canyon Road)	63.3	65.4	2.1
Cactus Avenue (Oliver Street to Moreno Beach Drive)	58.2	59.8	1.6
Cactus Avenue (Redlands Boulevard to Street D)	50.2	65.6	15.4
Cactus Avenue (west of Redlands Boulevard)	57.5	59.2	1.7
Canyon Crest Drive (Alessandro Boulevard to Sandtrack Road)	41.8	41.9	0.1
Country Club Drive (Chicago Avenue to Canyon Crest Drive)	57.5	59.2	1.7
Crescent Avenue (west of Alessandro Boulevard)	57.1	59.7	2.6
Day Street (Cottonwood Avenue to Alessandro Boulevard)	57.7	57.9	0.2
Evans Road (Marbella Date to Ramon Expressway)	56.9	57.9	1.0
Evans Road (north of Harley Knox Boulevard)	0.0	0.0	0.0
Evans Road (Nuevo Road to San Jacinto Avenue)	0.0	0.0	0.0
Fir Avenue (Quincy Drive to Redlands Boulevard)	0.0	0.0	0.0
Gilman Springs Road (Bridge Street to Beaumont Avenue)	61.0	62.1	1.1
Gilman Springs Road (Bridge Street to SR-79 Southbound Ramps)	61.0	62.2	1.2
Gilman Springs Road (Eucalyptus Avenue to Street C)	46.1	53.5	7.4
Gilman Springs Road (Jack Rabbit Trail to Bridge Street)	62.7	63.9	1.2
Gilman Springs Road (south of Street C)	56.1	57.4	1.3
Gilman Springs Road (SR-79 Northbound Ramps to Record Road)	60.7	60.9	0.2
Iris Avenue (Kitching Street to Lasselle Street)	60.1	61.6	1.5
Iris Avenue (Lasselle Street to Nason Street)	57.0	59.4	2.4
Iris Avenue (Nason Street to Oliver Street)	60.0	63.0	3.0
Ironwood Avenue (Moreno Beach Drive to Redlands Boulevard)	55.6	55.7	0.1
Ironwood Avenue (Redlands Boulevard to Highland Boulevard)	46.3	57.1	10.8
John F Kennedy Drive (south of Cactus Avenue)	61.5	67.0	5.5
Kitching Street (Iris Avenue to Ivory Avenue)	61.1	62.1	1.0
Krameria Avenue (Perris Boulevard to Lasselle Street)	57.5	60.6	3.1
Lasselle Street (Cahuilla Drive to Krameria Avenue)	60.5	61.7	1.2
Lasselle Street (Krameria Avenue to Arroyo Park Drive)	56.4	59.0	2.6
Live Oak Canyon Road (San Timoteo Canyon Road to I-10)	56.5	58.6	2.1
Lochmoor Drive (Central Avenue to Fair Isle Drive)	52.1	53.7	1.6

Table 4.12.H: Existing Year (2012) Plus Project Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet		
	Without Project	With Project	Change
Locust Avenue (Moreno Beach Drive to Smiley Boulevard)	46.2	46.2	0.0
Locust Avenue (Moreno Beach Drive to Redlands Boulevard)	55.7	59.7	4.0
Moreno Beach Drive (John F Kennedy to Oliver Street)	55.2	58.8	3.6
Moreno Beach Drive (Locust Avenue to Ironwood Avenue)	55.3	57.8	2.5
Old 215 Frontage Road (Eucalyptus Avenue to Alessandro Boulevard)	61.4	61.4	0.0
Oliver Street (Alessandro Boulevard to Cactus Avenue)	54.1	56.5	2.3
Orange Avenue (Evans Road to Foothill Drive)	55.3	55.4	0.1
Perris Boulevard (Alessandro Boulevard to Cactus Avenue)	61.0	61.0	0.0
Perris Boulevard (Alessandro Boulevard to Cottonwood Avenue)	61.9	61.9	0.0
Perris Boulevard (Iris Avenue to Krameria Avenue)	60.8	61.5	0.7
Perris Boulevard (John F Kennedy Drive to Iris Avenue)	67.2	67.2	0.0
Perris Boulevard (Krameria Avenue to Harley Knox Boulevard)	60.7	61.8	1.1
Perris Boulevard (Krameria Avenue to Harley Knox Boulevard)	59.6	60.6	1.0
Placentia Avenue (Evans Road to El Nido Avenue)	0.0	0.0	0.0
Placentia Avenue (Water Avenue to Evans Road)	0.0	0.0	0.0
Quincy Drive (Alessandro Boulevard to Cactus Avenue)	0.0	0.0	0.0
Quincy Drive (Cottonwood Avenue to Alessandro Boulevard)	0.0	0.0	0.0
Ramona Expressway (Evans Road to Rider Street)	59.2	59.4	0.1
Reche Canyon Road (Keissel Road to Reche Vista)	62.7	62.9	0.2
Reche Canyon Road (Reche Vista Drive to High Country Drive)	48.9	48.9	0.0
Redlands Boulevard (Eucalyptus Avenue to Dracaea Avenue)	0.0	49.4	49.4
Redlands Boulevard (Ironwood Avenue to SR-60)	68.3	71.1	2.8
Redlands Boulevard (Ironwood Avenue to San Timoteo)	67.8	70.2	2.3
Redlands Boulevard (SR-60 to Eucalyptus Avenue)	58.8	64.9	6.1
San Timoteo Canyon Road (Alessandro Road to Live Oak Canyon Road)	62.0	65.2	3.2
San Timoteo Canyon Road (Live Oak Canyon Road to Redlands Boulevard)	62.7	65.8	3.2
Street A (Eucalyptus Avenue to Street F)	47.0	73.2	26.3
Street D (Street E to Cactus Avenue)	0.0	69.6	69.6
Street E (north of Alessandro Boulevard)	0.0	70.3	70.3
Street F (east of Street A)	0.0	68.4	68.4
Sunset Drive (Alessandro Road to Cameo Drive)	52.5	55.2	2.7
Sunset Drive (Crown Street to Alessandro Road)	49.0	51.4	2.3
Sycamore Canyon Boulevard (Central Avenue to College Boulevard)	62.8	63.2	0.4
Theodore Street (SR-60 to Highland Boulevard)	56.8	64.9	8.1
Freeways			
SR-60 (Pigeon Pass Road/Frederick Street to Heacock Street)	66.5	68.1	1.6
SR-60 (Heacock Street to Perris Boulevard)	65.2	66.9	1.7

Table 4.12.H: Existing Year (2012) Plus Project Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet		
	Without Project	With Project	Change
SR-60 (Perris Boulevard to Nason Street)	64.6	66.7	2.1
SR-60 (Nason Street to Moreno Beach Drive)	52.0	54.3	2.3
SR-60 (Moreno Beach Drive to Redlands Boulevard)	62.5	65.6	3.1
SR-60 (Redlands Boulevard to Theodore Street)	60.2	63.5	3.4

Source: Mestre Greve Associates, November 2012.

Year 2017 (Phase I) with and without project scenarios projected daily traffic volumes on roadway segments in the project vicinity were used to conduct the traffic noise modeling. The projected daily traffic volumes in the area were taken from the TIA prepared for the proposed project. Table 4.12.I identifies year 2017 without project and with project traffic noise levels.

Table 4.12.I: Phase I (2017) Plus Project Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet		
	Without Project	With Project	Change
Alessandro Boulevard (west of Redlands Boulevard)	61.4	61.3	-0.1
Alessandro Road (Crescent Avenue to Sunset Drive)	63.8	65.3	1.5
Alessandro Road (Sunset Drive to San Timoteo Canyon Road)	64.0	65.6	1.6
Cactus Avenue (Oliver Street to Moreno Beach Drive)	58.7	60.5	1.8
Cactus Avenue (Redlands Boulevard to Street D)	50.2	64.2	14.0
Cactus Avenue (west of Redlands Boulevard)	57.9	59.4	1.5
Canyon Crest Drive (Alessandro Boulevard to Sandtrack Road)	42.0	42.5	0.5
Country Club Drive (Chicago Avenue to Canyon Crest Drive)	57.5	58.0	0.5
Crescent Avenue (west of Alessandro Boulevard)	57.6	59.3	1.7
Day Street (Cottonwood Avenue to Alessandro Boulevard)	59.7	60.9	1.3
Evans Road (Marbella Date to Ramon Expressway)	57.3	58.6	1.2
Evans Road (north of Harley Knox Boulevard)	0.0	0.0	0.0
Evans Road (Nuevo Road to San Jacinto Avenue)	0.0	0.0	0.0
Fir Avenue (Quincy Drive to Redlands Boulevard)	0.0	0.0	0.0
Gilman Springs Road (Bridge Street to Beaumont Avenue)	62.1	63.3	1.2
Gilman Springs Road (Bridge Street to SR-79 Southbound Ramps)	62.1	63.4	1.3
Gilman Springs Road (Eucalyptus Avenue to Street C)	46.8	47.0	.02
Gilman Springs Road (Jack Rabbit Trail to Bridge Street)	63.9	65.4	1.5
Gilman Springs Road (south of Street C)	57.3	58.9	1.6
Gilman Springs Road (SR-79 Northbound Ramps to Record Road)	61.0	61.6	0.6
Iris Avenue (Kitching Street to Lasselle Street)	60.6	61.8	1.1
Iris Avenue (Lasselle Street to Nason Street)	60.2	62.3	2.1
Iris Avenue (Nason Street to Oliver Street)	62.8	65.2	2.3
Ironwood Avenue (Moreno Beach Drive to Redlands Boulevard)	56.0	56.8	0.8
Ironwood Avenue (Redlands Boulevard to Highland Boulevard)	49.2	57.6	8.4
John F Kennedy Drive (south of Cactus Avenue)	61.5	65.5	4.0

Table 4.12.I: Phase I (2017) Plus Project Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet		
	Without Project	With Project	Change
Kitching Street (Iris Avenue to Ivory Avenue)	61.7	62.7	1.0
Krameria Avenue (Perris Boulevard to Lasselle Street)	58.9	60.5	1.6
Lasselle Street (Cahuilla Drive to Krameria Avenue)	61.1	62.4	1.3
Lasselle Street (Krameria Avenue to Arroyo Park Drive)	57.6	59.7	2.2
Live Oak Canyon Road (San Timoteo Canyon Road to I-10)	57.3	58.1	0.8
Lochmoor Drive (Central Avenue to Fair Isle Drive)	55.2	56.8	1.6
Locust Avenue (Moreno Beach Drive to Smiley Boulevard)	46.2	46.8	0.6
Locust Avenue (Moreno Beach Drive to Redlands Boulevard)	59.2	61.9	2.7
Moreno Beach Drive (John F Kennedy to Oliver Street)	55.2	57.7	2.5
Moreno Beach Drive (Locust Avenue to Ironwood Avenue)	57.6	59.7	2.1
Old 215 Frontage Road (Eucalyptus Avenue to Alessandro Boulevard)	61.6	62.3	0.7
Oliver Street (Alessandro Boulevard to Cactus Avenue)	58.5	59.3	0.8
Orange Avenue (Evans Road to Foothill Drive)	55.3	55.9	0.6
Perris Boulevard (Alessandro Boulevard to Cactus Avenue)	62.0	63.0	1.0
Perris Boulevard (Alessandro Boulevard to Cottonwood Avenue)	62.6	63.4	0.9
Perris Boulevard (Iris Avenue to Krameria Avenue)	61.9	62.6	0.8
Perris Boulevard (John F Kennedy Drive to Iris Avenue)	68.8	69.9	1.0
Perris Boulevard (Krameria Avenue to Harley Knox Boulevard)	62.0	63.2	1.2
Perris Boulevard (Krameria Avenue to Harley Knox Boulevard)	60.6	61.5	0.9
Placentia Avenue (Evans Road to El Nido Avenue)	0.0	0.0	0.0
Placentia Avenue (Water Avenue to Evans Road)	0.0	0.0	0.0
Quincy Drive (Alessandro Boulevard to Cactus Avenue)	0.0	0.0	0.0
Quincy Drive (Cottonwood Avenue to Alessandro Boulevard)	0.0	0.0	0.0
Ramona Expressway (Evans Road to Rider Street)	59.5	59.9	0.4
Reche Canyon Road (Keissel Road to Reche Vista)	62.9	63.8	1.0
Reche Canyon Road (Reche Vista Drive to High Country Drive)	48.9	49.3	0.4
Redlands Boulevard (Eucalyptus Avenue to Dracaea Avenue)	0.0	0.0	0.0
Redlands Boulevard (Ironwood Avenue to SR-60)	68.5	69.4	1.0
Redlands Boulevard (Ironwood Avenue to San Timoteo Canyon Road)	68.2	69.5	1.3
Redlands Boulevard (SR-60 to Eucalyptus Avenue)	59.2	60.0	0.8
San Timoteo Canyon Road (Alessandro Road to Live Oak Canyon Road)	62.4	64.2	1.8
San Timoteo Canyon Road (Live Oak Canyon Road to Redlands Boulevard)	63.2	64.9	1.7
Street A (Eucalyptus Avenue to Street F)	51.8	71.2	19.4
Street D (Street E to Cactus Avenue)	0.0	68.3	68.3
Street E (north of Alessandro Boulevard)	0.0	65.5	65.5
Street F (east of Street A)	0.0	29.8	29.8
Sunset Drive (Alessandro Road to Cameo Drive)	53.8	55.8	2.0

Table 4.12.I: Phase I (2017) Plus Project Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet		
	Without Project	With Project	Change
Sunset Drive (Crown Street to Alessandro Road)	50.2	51.6	1.4
Sycamore Canyon Boulevard (Central Avenue to College Boulevard)	63.3	64.9	4.6
Theodore Street (SR-60 to Highland Boulevard)	56.8	64.1	7.4
Freeways			
SR-60 (Pigeon Pass Road/Frederick Street to Heacock Street)	67.2	67.9	0.7
SR-60 (Heacock Street to Perris Boulevard)	66.0	66.8	0.8
SR-60 (Perris Boulevard to Nason Street)	65.5	66.5	1.0
SR-60 (Nason Street to Moreno Beach Drive)	52.9	54.0	1.1
SR-60 (Moreno Beach Drive to Redlands Boulevard)	63.5	65.1	1.5
SR-60 (Redlands Boulevard to Theodore Street)	61.3	63.1	1.8

Source: Mestre Greve Associates, November 2012.

As identified in Table 4.12.I, implementation of the proposed WLC project would result in relatively minor changes in traffic noise levels in Year 2017 (Phase I). The largest project-related increase in traffic noise would be along Street D (Street E to Cactus Avenue) and Street E (north of Alessandro Boulevard), where increases of greater than 65 dBA are predicted for the 2017 With Project scenario over the Year 2017 without project scenario. The increase associated with these roadway segments is attributable in part to Streets D and E being new roads that will be constructed by the proposed project.

Future Year (2022) with and without project scenarios projected daily traffic volumes on roadway segments in the project vicinity were used to conduct the traffic noise modeling. The projected daily traffic volumes in the area were taken from the TIA prepared for the proposed project. Table 4.12.J identifies the future year (2022) without project and with project traffic noise levels.

Table 4.12.J: Future Year (2022) Plus Project Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet		
	Without Project	With Project	Change
Alessandro Boulevard (west of Redlands Boulevard)	61.5	63.4	1.9
Alessandro Road (Crescent Avenue to Sunset Drive)	64.6	65.9	1.3
Alessandro Road (Sunset Drive to San Timoteo Canyon Road)	65.0	66.3	1.3
Cactus Avenue (Oliver Street to Moreno Beach Drive)	58.9	60.7	1.8
Cactus Avenue (Redlands Boulevard to Street D)	50.2	65.7	15.5
Cactus Avenue (west of Redlands Boulevard.)	58.3	60.2	1.9
Canyon Crest Drive (Alessandro Boulevard to Sandtrack Road)	45.2	45.9	0.7
Country Club Drive (Chicago Avenue to Canyon Crest Drive)	58.9	59.1	0.2
Crescent Avenue (west of Alessandro Boulevard)	58.5	60.8	2.3
Day Street (Cottonwood Avenue to Alessandro Boulevard)	63.2	64.7	1.5
Evans Road (Marbella Date to Ramon Expressway)	58.1	59.2	1.1
Evans Road (north of Harley Knox Boulevard)	0.0	0.0	0.0
Evans Road (Nuevo Road to San Jacinto Avenue)	0.0	0.0	0.0

Table 4.12.J: Future Year (2022) Plus Project Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet		
	Without Project	With Project	Change
Fir Avenue (Quincy Drive to Redlands Boulevard)	0.0	0.0	0.0
Gilman Springs Road (Bridge Street to Beaumont Avenue)	61.2	63.1	2.0
Gilman Springs Road (Bridge Street to SR-79 Southbound Ramps)	61.2	63.2	2.0
Gilman Springs Road (Eucalyptus Avenue to Street C)	46.4	55.0	8.6
Gilman Springs Road (Jack Rabbit Trail to Bridge Street)	63.0	65.3	2.4
Gilman Springs Road (south of Street C)	56.5	58.8	2.3
Gilman Springs Road (SR-79 Northbound Ramps to Record Road)	62.3	62.6	0.2
Iris Avenue (Kitching Street to Lasselle Street)	61.0	62.4	1.4
Iris Avenue (Lasselle Street to Nason Street)	61.1	63.6	2.5
Iris Avenue (Nason Street to Oliver Street)	63.8	66.7	2.9
Ironwood Avenue (Moreno Beach Drive to Redlands Boulevard)	56.2	56.6	0.4
Ironwood Avenue (Redlands Boulevard to Highland Boulevard)	51.9	57.8	5.9
John F Kennedy Drive (south of Cactus Avenue)	62.8	67.2	4.3
Kitching Street (Iris Avenue to Ivory Avenue)	62.5	63.9	1.4
Krameria Avenue (Perris Boulevard to Lasselle Street)	60.5	62.2	1.8
Lasselle Street (Cahuilla Drive to Krameria Avenue)	61.9	63.3	1.4
Lasselle Street (Krameria Avenue to Arroyo Park Drive)	59.2	61.5	2.3
Live Oak Canyon Road (San Timoteo Canyon Road to I-10)	58.0	59.0	0.9
Lochmoor Drive (Central Avenue to Fair Isle Drive)	57.0	57.9	0.9
Locust Avenue (Moreno Beach Drive to Smiley Boulevard)	46.2	45.7	-0.5
Locust Avenue (Moreno Beach Drive to Redlands Boulevard)	60.7	63.3	2.6
Moreno Beach Drive (John F Kennedy to Oliver Street)	56.1	59.1	3.0
Moreno Beach Drive (Locust Avenue to Ironwood Avenue)	58.8	60.9	2.1
Old 215 Frontage Road (Eucalyptus Avenue to Alessandro Boulevard)	62.8	64.3	1.5
Oliver Street (Alessandro Boulevard to Cactus Avenue)	58.9	59.7	0.8
Orange Avenue (Evans Road to Foothill Drive)	55.3	55.7	0.4
Perris Boulevard (Alessandro Boulevard to Cactus Avenue)	62.7	63.4	0.7
Perris Boulevard (Alessandro Boulevard to Cottonwood Avenue)	63.2	63.7	0.5
Perris Boulevard (Iris Avenue to Krameria Avenue)	62.7	63.2	0.5
Perris Boulevard (John F Kennedy Drive to Iris Avenue)	69.7	70.5	0.8
Perris Boulevard (Krameria Avenue to Harley Knox Boulevard)	62.8	63.7	0.9
Perris Boulevard (Krameria Avenue to Harley Knox Boulevard)	61.5	62.0	0.5
Placentia Avenue (Evans Road to El Nido Avenue)	0.0	0.0	0.0
Placentia Avenue (Water Avenue to Evans Road)	0.0	0.0	0.0
Quincy Drive (Alessandro Boulevard to Cactus Avenue)	0.0	0.0	0.0
Quincy Drive (Cottonwood Avenue to Alessandro Boulevard)	0.0	0.0	0.0
Ramona Expressway (Evans Road to Rider Street)	59.4	60.2	0.8
Reche Canyon Road (Keissel Road to Reche Vista)	63.5	64.1	0.6
Reche Canyon Road (Reche Vista Drive to High Country Drive)	49.3	49.0	-0.3
Redlands Boulevard (Eucalyptus Avenue to Dracaea Avenue)	0.0	50.6	50.6

Table 4.12.J: Future Year (2022) Plus Project Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet		
	Without Project	With Project	Change
Redlands Boulevard (Ironwood Avenue to SR-60)	69.2	71.4	2.2
Redlands Boulevard (Ironwood Avenue to San Timoteo Canyon Road)	69.1	70.8	1.7
Redlands Boulevard (SR-60 to Eucalyptus Avenue)	60.5	66.1	5.6
San Timoteo Canyon Road (Alessandro Road to Live Oak Canyon Road)	63.4	65.8	2.4
San Timoteo Canyon Road (Live Oak Canyon Road to Redlands Boulevard)	64.2	66.4	2.2
Street A (Eucalyptus Avenue to Street F)	49.4	73.1	23.8
Street D (Street E to Cactus Avenue)	0.0	69.8	69.8
Street E (north of Alessandro Boulevard)	0.0	65.4	65.4
Street F (east of Street A)	0.0	68.4	68.4
Sunset Drive (Alessandro Road to Cameo Drive)	55.3	56.9	1.7
Sunset Drive (Crown Street to Alessandro Road)	49.0	49.0	0.0
Sycamore Canyon Boulevard (Central Avenue to College Boulevard)	65.1	65.2	0.1
Theodore Street (SR-60 to Highland Boulevard)	60.3	64.1	3.8
Freeways			
SR-60 (Pigeon Pass Road/Frederick Street to Heacock Street)	67.2	68.4	1.2
SR-60 (Heacock Street to Perris Boulevard)	66.1	67.4	1.3
SR-60 (Perris Boulevard to Nason Street)	65.6	67.2	1.6
SR-60 (Nason Street to Moreno Beach Drive)	53.1	54.9	1.8
SR-60 (Moreno Beach Drive to Redlands Boulevard)	63.8	66.2	2.4
SR-60 (Redlands Boulevard to Theodore Street)	61.7	64.1	2.4

Source: Mestre Greve Associates, November 2012.

As identified in Table 4.12.J, implementation of the proposed WLC project would result in relatively minor changes in traffic noise levels in Future Year 2022. The largest project-related increase in traffic noise would be along Street D (Street E to Cactus Avenue), Street E (north of Alessandro Boulevard), and Street F west (of Street A), where increases of greater than 65 dBA are predicted for the Future Year 2022 With Project scenario over the Future Year 2022 Without Project scenario. The increase associated with these roadway segments is attributable in part to Streets D, E, and F being new roads that will be constructed by the proposed project.

Operation of the proposed project would generate traffic along roadways in the surrounding area during the buildout year (2035) scenario. Buildout Year (2035) with and without project scenarios projected daily traffic volumes on roadway segments in the project vicinity were used to conduct the traffic noise modeling. The projected daily traffic volumes in the area were taken from the TIA prepared for the proposed project. Table 4.12.K identifies the Buildout Year (2035) without project and with project traffic noise levels.

Table 4.12.K: Buildout Year (2035) Plus Project Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet		
	Without Project	With Project	Change
Alessandro Boulevard (west of Redlands Boulevard)	65.6	66.5	0.9
Alessandro Road (Crescent Avenue to Sunset Drive)	64.5	64.9	0.4
Alessandro Road (Sunset Drive to San Timoteo Canyon Road)	65.0	65.5	0.5
Cactus Avenue (Oliver Street to Moreno Beach Drive)	60.4	62.3	1.9
Cactus Avenue (Redlands Boulevard to Street D)	50.1	66.3	16.3
Cactus Avenue (west of Redlands Boulevard.)	59.7	64.8	5.1
Canyon Crest Drive (Alessandro Boulevard to Sandtrack Road)	58.1	59.7	1.6
Country Club Drive (Chicago Avenue to Canyon Crest Drive)	62.4	64.9	2.5
Crescent Avenue (west of Alessandro Boulevard)	58.9	60.1	1.2
Day Street (Cottonwood Avenue to Alessandro Boulevard)	67.8	69.4	1.7
Evans Road (Marbella Date to Ramon Expressway)	61.3	62.7	1.5
Evans Road (north of Harley Knox Boulevard)	60.1	62.9	2.8
Evans Road (Nuevo Road to San Jacinto Avenue)	60.5	62.0	1.5
Fir Avenue (Quincy Drive to Redlands Boulevard)	61.6	68.3	6.7
Gilman Springs Road (Bridge Street to Beaumont Avenue)	63.5	65.5	2.0
Gilman Springs Road (Bridge Street to SR-79 Southbound Ramps)	63.7	65.5	1.8
Gilman Springs Road (Eucalyptus Avenue to Street C)	52.0	57.4	5.4
Gilman Springs Road (Jack Rabbit Trail to Bridge Street)	65.7	68.0	2.3
Gilman Springs Road (south of Street C)	61.9	63.6	1.7
Gilman Springs Road (SR-79 Northbound Ramps to Record Road)	62.6	64.8	2.2
Iris Avenue (Kitching Street to Lasselle Street)	63.2	65.1	1.9
Iris Avenue (Lasselle Street to Nason Street)	63.1	65.4	2.3
Iris Avenue (Nason Street to Oliver Street)	65.6	67.4	2.8
Ironwood Avenue (Moreno Beach Drive to Redlands Boulevard)	57.9	60.6	2.7
Ironwood Avenue (Redlands Boulevard to Highland Boulevard)	58.6	63.6	5.0
John F Kennedy Drive (south of Cactus Avenue)	64.3	67.9	3.6
Kitching Street (Iris Avenue to Ivory Avenue)	63.6	64.8	1.2
Krameria Avenue (Perris Boulevard to Lasselle Street)	57.5	59.4	1.9
Lasselle Street (Cahuilla Drive to Krameria Avenue)	62.1	63.3	1.2
Lasselle Street (Krameria Avenue to Arroyo Park Drive)	60.0	61.8	1.8
Live Oak Canyon Road (San Timoteo Canyon Road to I-10)	57.5	58.6	1.1
Lochmoor Drive (Central Avenue to Fair Isle Drive)	65.4	68.9	3.5
Locust Avenue (Moreno Beach Drive to Smiley Boulevard)	60.8	63.3	2.5
Locust Avenue (Moreno Beach Drive to Redlands Boulevard)	60.8	63.3	2.5
Moreno Beach Drive (John F Kennedy to Oliver Street)	56.8	60.4	3.6
Moreno Beach Drive (Locust Avenue to Ironwood Avenue)	63.3	66.6	3.3
Old 215 Frontage Road (Eucalyptus Avenue to Alessandro Boulevard)	32.2	63.5	1.2
Oliver Street (Alessandro Boulevard to Cactus Avenue)	54.1	54.4	0.3
Orange Avenue (Evans Road to Foothill Drive)	57.3	65.1	7.8
Perris Boulevard (Alessandro Boulevard to Cactus Avenue)	63.5	65.0	1.5

Table 4.12.K: Buildout Year (2035) Plus Project Traffic Noise Levels (dBA)

Roadway Segment	CNEL (dBA) at 100 feet		
	Without Project	With Project	Change
Perris Boulevard (Alessandro Boulevard to Cottonwood Avenue)	63.5	65.0	1.5
Perris Boulevard (Iris Avenue to Krameria Avenue)	64.4	66.0	1.5
Perris Boulevard (John F Kennedy Drive to Iris Avenue)	70.5	72.2	1.7
Perris Boulevard (Krameria Avenue to Harley Knox Boulevard)	64.0	65.5	1.5
Perris Boulevard (Krameria Avenue to Harley Knox Boulevard)	64.0	65.8	1.8
Placentia Avenue (Evans Road to El Nido Avenue)	54.0	68.2	14.3
Placentia Avenue (Water Avenue to Evans Road)	57.4	67.5	10.1
Quincy Drive (Alessandro Boulevard to Cactus Avenue)	31.1	54.5	23.4
Quincy Drive (Cottonwood Avenue to Alessandro Boulevard)	49.2	66.8	1.8
Ramona Expressway (Evans Road to Rider Street)	59.9	61.6	1.7
Reche Canyon Road (Keissel Road to Reche Vista)	65.1	66.9	1.8
Reche Canyon Road (Reche Vista Drive to High Country Drive)	64.2	67.5	3.3
Redlands Boulevard (Eucalyptus Avenue to Dracaea Avenue)	0.0	48.5	48.5
Redlands Boulevard (Ironwood Avenue to SR-60)	69.4	71.6	2.2
Redlands Boulevard (Ironwood Avenue to San Timoteo Canyon Road)	68.7	70.6	1.9
Redlands Boulevard (SR-60 to Eucalyptus Avenue)	61.3	67.3	6.0
San Timoteo Canyon Road (Alessandro Road to Live Oak Canyon Road)	63.5	66.4	2.8
San Timoteo Canyon Road (Live Oak Canyon Road to Redlands Boulevard)	64.1	66.4	2.3
Street A (Eucalyptus Avenue to Street F)	54.0	73.0	19.0
Street D (Street E to Cactus Avenue)	0.0	70.4	70.4
Street E (north of Alessandro Boulevard)	0.0	65.8	65.8
Street F (east of Street A)	0.0	69.2	69.2
Sunset Drive (Alessandro Road to Cameo Drive)	56.9	58.7	1.8
Sunset Drive (Crown Street to Alessandro Road)	50.7	51.7	1.1
Sycamore Canyon Boulevard (Central Avenue to College Boulevard)	65.1	66.5	1.3
Theodore Street (SR-60 to Highland Boulevard)	65.0	67.9	2.9
Freeways			
SR-60 (Pigeon Pass Road/Frederick Street to Heacock Street)	67.6	68.6	1.0
SR-60 (Heacock Street to Perris Boulevard)	66.6	67.7	1.1
SR-60 (Perris Boulevard to Nason Street)	66.5	67.8	1.3
SR-60 (Nason Street to Moreno Beach Drive)	54.2	55.6	1.3
SR-60 (Moreno Beach Drive to Redlands Boulevard)	65.5	67.1	1.6
SR-60 (Redlands Boulevard to Theodore Street)	63.7	65.1	1.4

Source: Mestre Greve Associates, November 2012.

Increases in noise levels associated with Buildout Year (2035) traffic conditions on area roadways range from 0.1 to 68.0 dBA. As identified in the Table 4.12.K, the greatest increase in noise levels would be along Street D (Street E to Cactus Avenue), Street E (north of Alessandro Boulevard), and

Street F west (of Street A), where increases of greater than 65 dBA are predicted for the Buildout Year 2035 With Project scenario over the Buildout Year 2035 Without Project scenario. The increase associated with these roadway segments is attributable in part to Streets D, E, and F being new roads that will be constructed by the proposed project.

Tables 4.12.H through 4.12.K identify the noise increases directly caused by the proposed project. These numbers represent the distance from the centerline of the road to the contour value shown. Note that the values given in Tables 4.12.H through 4.12.I do not take into account the effect of any existing noise attenuation in the form of barriers, soundwalls, or topography that may affect ambient noise levels.

For the reader's convenience, the significance threshold for a project-specific roadway noise impact as defined previously is:

- Project induced increase in noise levels by 5 dB or more where the no project noise level is less than 60 CNEL;
- Project induced increase in noise level by 3 dB or more where the no project noise level is 60 CNEL to 65 CNEL; or
- Project induced increase in noise levels by 1.5 dB or more where the no project noise level is greater than 65 CNEL.

For the reader's convenience, the significance threshold for a project's incremental contribution to a cumulative noise increase as defined previously is:

> A project increase of the ambient (cumulative without project) noise level by 1 dB or more, and the predicted future cumulative with project noise levels cause the following cumulative increases:
>
> - Increase noise levels by 5 dB or more where the existing noise level is less than 60 CNEL;
> - Increase noise levels by 3 dB or more where the existing noise level is 60 to 65 CNEL; or
> - Increase noise levels by 1.5 dB or more where the existing noise level is greater than 65 CNEL.

It should be noted that the same noise increase occurs at all locations along a roadway link. In other words, the same increase will occur at 50 feet from a roadway as it does at 100 feet. In addition, the noise contours cover a wider area around the local roadways than does the existing condition. State Route 60, however, continues to be the dominant noise source in the area.

In general, the project proposes logistics uses and will not be affected by these noise increases. However, there are a few scattered residences within the project area and adjacent to the WLCSP area that would be affected by the proposed logistics uses.

Within the Specific Plan Area. For locations within the WLCSP area, these include three groups of residences that may remain with the implementation of the proposed project. The Specific Plan would rezone the properties as Light Logistics, but it is anticipated that the residences may remain for some time. The Light Logistics use is not sensitive to noise. However, the existing residences, as long as they remain, must be considered sensitive land uses.

- *Redlands Boulevard (north of Brodiaea Avenue).* The first group of homes is located east of Redlands Boulevard north of the intersection with Brodiaea Avenue. The traffic on Redlands Boulevard will not increase significantly as a result of the project. Future Street E is proposed to be constructed west of these existing residences. However, as stated in the Noise Study

conducted for the Specific Plan, it is likely that there will be intervening buildings and that the distance from Street E will be so great that these homes will not experience significant noise from public roadways. Therefore, impacts are anticipated to be less than significant and no mitigation is required.

- *Street A/Theodore Street (Street B to Street F).* The second group of residences within the Specific Plan area is located on the east side of Street A (Theodore Street) midway between the future Street B and Street F. There are currently two residences in this area. These residences are anticipated to experience noise increases up to 18 dB due to the implementation of the Specific Plan. As a result, existing noise levels at these two residences will be changed significantly. The exact alignment of the roadway is yet to be determined, but the homes may be roughly 100 feet from the centerline on the roadway. As identified in Table 4.12.J, at this distance, the noise level by future year (2022) could be as high as 73.1 CNEL. This level of noise would be above the 65 CNEL threshold and would result in a greater than 1.5 dB noise increase when compared to without project conditions. This is a significant impact requiring mitigation.
- *Street F/Dracaea Avenue (east of Theodore Street).* The third area is a single residence located east of Theodore Street along what is currently Dracaea Avenue (future Street F). Existing conditions identify low levels of traffic noise on Dracaea Avenue. The 65 CNEL contour is projected to lie 84 feet from the centerline of Street F and it is likely that the one residence would lie within this zone. This level of noise would be above the 65 CNEL threshold and result in a greater than 1.5 dB noise increase when compared to without project conditions. Therefore, this is a significant impact requiring mitigation.

Off-Site Areas Adjacent to the Specific Plan Area. For areas adjacent to the Specific Plan area, 22 segments would experience a noise increase that would be greater than significance criteria specified previously. These seven areas are described below.

- *Cactus Avenue (Redlands Boulevard to Street D).* This area is occupied by a small group of single-family homes along Cactus Avenue between the future Street D and Redlands Boulevard. A significant noise increase is projected for all four time horizons. Currently, there is no soundwall along these homes. Therefore, this is a significant impact requiring mitigation.
- *Cactus Avenue (west of Redlands Boulevard).* As identified in the noise study, this area shows noise increases ranging from 1.5 dB to 5.1 dB depending on the time horizen. Only the 2035 case results in a significant noise increase.

  Existing residences are located along Redlands Boulevard with rear yards facing Cactus Avenue. Existing 6-foot high soundwalls are located along the residences and rear yard areas are approximately 60 feet from the centerline of the roadway. In buildout year (2035), the noise levels for 60 feet from the centerline of the roadway including the effects of the soundwall are projected to be 64.8 CNEL. This is below the City criteria of 65 CNEL and, therefore, a less than significant impact will occur and no mitigation is required.
- *Day Street (between Cottonwood Avenue and Alessandro Boulevard).* There are scattered single-family homes along this roadway that front onto Day Street. Only the 2035 time horizon results in a significant noise increase for this area. In 2035, the project is projected to increase noise levels by 1.7 dB, bringing the noise level up to 69.4 CNEL. Therefore, this is a significant impact requiring mitigation.
- *Fir Avenue (between Quincy Drive and Redlands Boulevard).* There is one single-family home along this roadway fronting Fir Avenue. Only the 2035 time horizon results in a significant noise increase for this area. In 2035, the project is projected to increase noise levels by 6.7 dB, bringing the noise level up to 68.3 CNEL. Therefore, this is a significant impact requiring mitigation.

- *Gilman Springs Road (between Eucalyptus Avenue and Street C, and between Jack Rabbit Trail and Bridge Street).* There are three single-family homes scattered along these roadway segments. All of the houses are set back from the roadway, but none has soundwalls. A significant noise increase is projected for at least one of these segments in three of the four case years. Therefore, this is a significant impact requiring mitigation.
- *Ironwood Avenue (between Redlands Boulevard and Highland Boulevard).* There are two single-family homes that front onto Ironwood Avenue. There are also two churches along this roadway. A significant noise increase is projected for all four study years. In 2035, the project is projected to increase noise levels by 5 dB, bringing the noise level to 63.6 CNEL. Therefore, this is a significant impact requiring mitigation.
- *John F. Kennedy Drive (south of Cactus Avenue).* The residences along John F. Kennedy Drive south of Cactus Avenue will experience significant noise increases in all four time horizons. Similar to the area along Cactus Avenue, this noise increase will be due to cars and light vehicles, and not heavy trucks. The residences along the west side of the roadway are generally depressed with respect to the road and have existing 6-foot soundwalls. Due to the presence of the existing soundwalls and slope conditions, noise levels would be reduced by 6 to 10 dB. This would result in noise levels being below the City threshold of 65 CNEL for residential uses. Therefore, residences on the west side of the street will not be affected. Impacts are considered to be less than significant and no mitigation is required.

  The residences on the east side of the roadway are elevated with respect to the roadway and do not have soundwalls. Rear yards areas on both sides of the street are approximately 60 to 90 feet from the centerline of the roadway and are bordered by wrought iron fencing. As identified in Tables 4.12.H through 4.12.K, the greatest noise levels that would be experienced at these residences would range up to 67.9 CNEL, which is above the City threshold of 65 CNEL. This is a significant impact requiring mitigation.
- *Locust Avenue (between Moreno Beach Drive and Smiley Boulevard).* There are three single-family homes along this roadway and they front onto the roadway. The 2035 time horizon results in a significant noise increase for this area. In 2035, the project will increase noise levels by 3.5 dB, bringing the noise level to 68.9 CNEL. This is a significant impact requiring mitigation.
- *Moreno Beach Drive (between Locust Avenue and Ironwood Avenue).* There are 18 single-family homes along this roadway. Some homes front onto the roadway, but most back up to the roadway. The 2035 time horizon results in a significant noise increase for this area. In 2035, the project will increase noise levels by 3.3 dB, bringing the noise level to 66.6 CNEL. This is a significant impact requiring mitigation.
- *Perris Boulevard (between John F. Kennedy Drive and Iris Avenue).* This is a mixed area in terms of residential land use. There are approximately 36 single-family homes along this roadway, some with a soundwall and some without. There is also a large multifamily development without a soundwall. Most of the homes either back up to the roadway or side-on to the roadway, making a soundwall feasible. Approximately half of the homes along this roadway do have a soundwall in place. The 2035 time horizon results in a significant noise increase for this area. In 2035, the project will increase noise levels by 1.7 dB, bringing the noise level up to 72.2 CNEL for areas without a soundwall. For the homes with a soundwall, there would not be a significant noise impact since the year 2035 the noise would increase by 1.7 dB and reaching up to 66.2 CNEL. For the homes on this roadway that do not have a soundwall, there would be a significant noise impact and mitigation is required.
- *Placentia Avenue (from El Nido Avenue to Evans Road, and on to Water Avenue).* There are scattered single-family homes along this roadway that front onto the roadway. The 2035 time horizon results in a significant noise increase for this area. In 2035, the project will increase noise levels by 10 to 14 dB, bringing the noise level up to 68 CNEL. This is a significant impact requiring mitigation.

- *Quincy Drive (from Cactus Avenue to Alessandro Boulevard, and on to Cottonwood Avenue).* The existing single-family homes along Quincy Drive have a soundwall. Quincy Drive currently only exists from Cottonwood to Bay Avenue, which is north of Alessandro Boulevard. The 2035 time horizon results in a significant noise increase. This is a significant impact requiring mitigation.
- *Reche Canyon Road (from Keissel Road to Reche Vista Drive, and on to High Country Drive).* There are roughly 22 single-family homes scattered along these two roadway segments. These homes are scattered along the roadway and front onto Reche Canyon Road. The 2035 time horizon results in a significant noise increase for this area. In 2035, the project will increase noise levels by 1.8 to 3.3 dB with resulting noise levels in the 67 to 68 CNEL range. This is a significant impact requiring mitigation.
- *Redlands Boulevard (from Dracaea Avenue to State Route 60).* There are scattered homes in this area that either face Redlands Boulevard (or Shubert Street) or are on Redlands Boulevard. The 2012, 2022, and 2035 time horizons result in a significant noise increase for this area. This is a significant impact requiring mitigation.
- *Redlands Boulevard (from State Route 60 to San Timoteo Canyon Road).* There are approximately 28 homes along this roadway that would be affected. The single-family homes are scattered and generally front the roadway. The 2012, 2022, and 2035 time horizons result in a significant noise increase for this area. The increases in noise are around 2 dB with a resultant noise level in the 71 to 72 CNEL range. This is a significant impact requiring mitigation.
- *San Timoteo Canyon Road (from Alessandro Road to Live Oak Canyon Road to Redlands Boulevard).* There are about four scattered residences along this roadway that would be affected. The existing baseline plus project time horizon results in a significant noise increase for this area. The noise increases by up to 3.3 dB with resultant noise levels in the 65 to 66 CNEL range. This is a significant impact requiring mitigation.
- *Theodore Street (State Route 60 to Highland Boulevard).* There are four existing homes on Theodore Street that front onto the roadway. Implementation of the Specific Plan would result in a 10.7 dB increase over baseline conditions (2012), a 7.4 dB increase in Opening Year (2017), and a 3.8 dB increase in future year (2022). By Buildout Year (2035), the noise increase associated with the proposed project is anticipated to be 2.9 dB, which would not be significant. In future year (2022), the 65 CNEL contour for this roadway link would lie approximately 138 feet from the centerline of the roadway. The four existing residences on Theodore Street are within 138 feet of the roadway. As a result, these existing residences could experience noise levels above the 65 CNEL threshold during all time horizens. This is a significant impact requiring mitigation.
- *Street D (from Street E to Cactus Avenue).* Street D, as shown in the Specific Plan, will come down the western side of the project parallel to Merwin Street. It then merges with Cactus Avenue traveling to the west until Redlands Boulevard. A specific alignment has not been determined for this roadway. There are approximately 14 homes that side-on to Merwin Street that could be affected by traffic on Street D. There are no soundwalls along these homes. There would be limited or no heavy trucks using this roadway. The 65 CNEL contour will lie 114 feet from the centerline of Street D. If the centerline of Street D is located closer than 114 feet to the residences, then a significant impact would occur. Outdoor living spaces for homes along Merwin Street would experience noise levels greater than 65 CNEL, and this would not be consistent with City criteria. This is a significant impact requiring mitigation.
- *State Route 60 (from Pigeon Pass Road to Perris Boulevard).* All residential areas along this stretch of freeway have soundwalls in place. The 2012 time horizon results in a significant noise increase for this area. The noise levels are projected to increase by 1.5 to 1.7 dB in this area with resultant noise levels in the 66.9 to 68.1 CNEL range. This is a significant impact requiring mitigation.
- *State Route 60 (from Perris Boulevard to Nason Street).* All residential areas along this stretch of freeway have soundwalls in place. The 2022 time horizon results in a significant noise increase

for this area. The noise level will go up by 1.6 dB with the project up to a level of 67.2 CNEL. This is a significant impact requiring mitigation.

- *State Route 60 (from Moreno Beach Drive to Redlands Boulevard).* There are soundwalls in place for all residences in this area. The existing 2012 and 2035 time horizons result in a significant noise increase for this area, reaching 67.1 CNEL by 2035. This is a significant impact requiring mitigation.
- *State Route 60 (from Redlands Boulevard to Theodore Street).* No soundwalls are present in this area. The residential area is set back from the freeway and is clustered along Redlands Boulevard north of the freeway. The existing 2012 time horizon results in a significant noise increase for this area. The resultant noise level will be 63.5 CNEL with an increase due to the project of 3.4 dB. This is a significant impact requiring mitigation.

Specific Plan Design Features. The WLCSP indicates there will be a 250-foot setback from existing housing along Redlands Boulevard. No additional design features to attenuate noise impacts are planned as part of the WLCSP.

Mitigation Measures. Construction of the proposed WLC project would result in noise levels at the closest residences within and adjacent to the WLCSP area exceeding the maximum noise level allowed under the City's Municipal Code. The following measures would reduce long-term traffic related noise impacts associated with the proposed project:

4.12.6.2A Within the WLCSP, Street D shall be designed such that exterior noise levels at existing residential areas shall not exceed 65 CNEL, which may require installation of a soundwall or other noise attenuation improvements. The design and calculations of such improvements shall be incorporated into a report that shall be submitted to the City for review and approval prior to the issuance of construction permits for Street D.

4.12.6.2B Prior to issuance of any discretionary approvals for development in the WLCSP, a WLC Noise Development Impact Fee study shall be submitted to the City for review and approval. The City shall require future development within the WLCSP to participate in a WLC Noise Development Impact Fee program to include soundwall attenuation to mitigate impacts from the proposed project based on the collection of fair-share fee payments from each increment of development and the implementation of each soundwall in accordance with Mitigation Measure 4.12.6.2C. The update to the DIF shall be based on a nexus study in conformance with State law (i.e., AB 1600). The Nexus study shall examine the soundwalls specified below, shall include detailed cost estimates for each soundwall, and shall establish a pro-rated fee to be paid per square foot by all development proposals within the WLCSP. The soundwalls to be included in this study include:

Cactus Avenue Soundwall from Redlands Boulevard to Street D. Construct an approximately 1,000-foot long, 6-foot high soundwall at the top of slope. The existing wrought-iron fencing will be removed and replaced with the soundwall (e.g., masonry wall, berming, glass barrier, or combinations of these barriers). The soundwall would need to measure 6 feet as measured from the rear yard of the residences.

John F. Kennedy Drive, east side, Soundwall from Cactus Avenue to Bay Hill Drive. Construct an approximately 5,000-foot long, 6-foot high soundwall at the top of slope for the existing residences that are on the east side of John F. Kennedy Drive. The existing wrought-iron fencing will be removed and replaced with the soundwall (e.g., masonry wall, berming, glass barrier, or combinations of these barriers). The

soundwall would need to measure 6 feet as measured from the rear yard of the residences.

Moreno Beach Drive Soundwall between Locust Avenue and Ironwood Avenue. Construct an approximately 2,000-foot long, 6-foot high soundwall at the top of slope for the existing residences that are on the east side of John F. Kennedy Drive. The soundwall would need to measure 6 feet as measured from the rear yard of the residences.

Perris Boulevard Soundwall between John F. Kennedy Drive and Iris Avenue. Construct an approximately 1,500-foot long, 6-foot high soundwall at the top of slope for the existing residences that are on the east side of John F. Kennedy Drive. The soundwall would need to measure 6 feet as measured from the rear yard of the residences.

State Route 60 Soundwall from Redlands Boulevard to Theodore Street. Construct an approximately 580-foot long, 6-foot high soundwall for the existing residences. The soundwall would need to measure 6 feet as measured from the rear yard of the residences.

Iris Avenue Soundwall from Nason Street to Oliver Street. Construct an approximately 3,000-foot long, 6-foot high soundwall along the property line for the existing residences.

Sycamore Canyon Boulevard Soundwall from College Boulevard and Central Avenue. Construct an approximately 1,000-foot long, 6-foot high soundwall at the top of slope for the existing residences. The soundwall would need to measure 6 feet as measured from the rear yard of the residences.

4.12.6.2C Prior to issuance of any building permits for development in the WLCSP, the City shall collect the Development Impact Fee (DIF) as modified in accordance with Mitigation Measure 4.12.6.2B. The City shall establish a schedule for installing the specific soundwalls listed in Mitigation Measure 4.12.6.2B consistent with the WLC Noise DIF program..

Level of Significance after Mitigation. *Within the WLC Specific Plan Area.* For areas within the WLCSP area, these include three groups of residences that may remain with the implementation of the proposed project. The level of significance after mitigation is provided for each of the two areas for which a significant impact has been identified.

- *Theodore Street/Street A (Street B to Street F).* There are two residences in this area. These residences are anticipated to experience noise increases up to 18 dB due to the implementation of the Specific Plan. As a result, existing noise levels at these two residences will be changed significantly. The exact alignment of the roadway is to be determined, but the homes may be roughly 100 feet from the centerline on the roadway. One residence fronts onto Street A (Theodore Street), and the driveway access would make a soundwall ineffective. The other residence is on to Street A. It is difficult to determine where an outdoor living area is for this residence. However, since it is a single residence, a soundwall would have a limited effectiveness. Since mitigation is not feasible, impacts remain significant and unavoidable.
- *Dracaea Avenue/Street F (east of Theodore Street).* There is one residence in this area fronting onto the future alignment of Street F (currently Dracaea Avenue). Existing conditions identify low levels of traffic noise on Dracaea Avenue. The 65 CNEL contour is projected to lie 84 feet from the centerline of Street F and it is likely that the one residence would lie within this zone. Installation of a soundwall would not be effective in reducing noise levels due to the opening for the driveway. Since mitigation is not feasible, impacts remain significant and unavoidable.

Off-Site Areas Adjacent to the Specific Plan Area. For areas adjacent to the WLCSP area, eight areas would experience noise increases that would be mitigated to a less than significant level with implementation of **Mitigation Measures 4.12.6.2A** through **4.12.6.2C**. These areas are as follows:

- Cactus Avenue from Redlands Boulevard to Street D;
- John F. Kennedy Drive, west side, from Cactus Avenue to Bay Hill Drive;
- Moreno Beach Drive between Locust Avenue and Ironwood Avenue (15 of 18 homes);
- Perris Boulevard between John F. Kennedy Drive and Iris Avenue;
- State Route 60 from Redlands Boulevard to Theodore Street;
- Iris Avenue from Nason Street to Oliver Street;
- Sycamore Canyon Boulevard from College Boulevard and Central Avenue; and
- Street D from Street E to Cactus Avenue (8).

For the remaining noise impact locations adjacent to the WLCSP area for which significant noise impacts have been identified, mitigation measures are not feasible or will not fully reduce the impact to less than significant levels. Each location that will remain significant and unavoidable with implementation of the proposed project is discussed below.

- *Cactus Avenue (west of Redlands Boulevard).* Existing soundwalls will reduce noise levels by an estimated 6 dB, lowering the ultimate noise levels to 64.8 CNEL in the rear yard areas along Cactus Avenue. This is below the City criteria of 65 CNEL. It is not feasible to modify the existing residential block wall to reduce the project increase in noise levels because the block walls are designed for the height that they are built. In addition, the projected noise levels in year 2035 are within the City's exterior noise level for residences. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.
- *Day Street (between Cottonwood Avenue and Alessandro Boulevard).* The scattered single-family homes along this roadway front onto Day Street. In 2035, the project is projected to increase noise levels by 1.7 dB, bringing the noise level up to 69.4 CNEL. Homes that are widely separated from other homes cannot be effectively mitigated with a soundwall. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.
- *Fir Avenue (between Quincy Drive and Redlands Boulevard).* There is one single-family home along this roadway fronting Fir Avenue. Only the 2035 time horizon results in a significant noise increase for this area. In 2035, the project is projected to increase noise levels by 6.7 dB, bringing the noise level up to 68.3 CNEL. A single home that fronts on a roadway cannot be effectively mitigated with a soundwall. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.
- *Gilman Springs Road (between Eucalyptus Avenue and Street C, and between Jack Rabbit Trail and Bridge Street).* There are three single-family homes scattered along these roadway segments. All of the houses are set back from the roadway, but none has soundwalls. A significant noise increase is projected for at least one of these segments in three of the four case years. Homes that are widely separated from other homes cannot be effectively mitigated with a soundwall. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.
- *Ironwood Avenue (between Redlands Boulevard and Highland Boulevard).* There are two single-family homes that front onto Ironwood Avenue. There are also two churches along this roadway. A significant noise increase is projected for all four study years. In 2035, the project is projected to increase noise levels by 5 dB, bringing the noise level to 63.6 CNEL. Land uses that are widely

separated from one another cannot be effectively mitigated with a soundwall. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.

- *Locust Avenue (between Moreno Beach Drive and Smiley Boulevard).* There are three single-family homes along this roadway and they front onto the roadway. The 2035 time horizon results in a significant noise increase for this area. In 2035, the project will increase noise levels by 3.5 dB, bringing the noise level to 68.9 CNEL. As discussed above, homes that are scattered and front onto a street cannot be effectively mitigated with a soundwall. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.
- *Moreno Beach Drive (between Locust Avenue and Ironwood Avenue.* There are 18 single-family homes along this roadway. Some homes front onto the roadway, but most back up to the roadway. The 2035 time horizon results in a significant noise increase for this area. In 2035, the project will increase noise levels by 3.3 dB, bringing the noise level to 66.6 CNEL. This is a significant impact requiring mitigation. Even with the soundwall that would be implemented as part of **Mitigation Measures 4.12.6.2A** through **4.12.6.2C**, sound levels at 3 of the 18 homes would exceed 65 CNEL. These homes front onto Moreno Beach Drive and cannot be effectively mitigated with a soundwall. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.
- *Placentia Avenue (from El Nido Avenue to Evans Road, and on to Water Avenue).* There are scattered single-family homes that front onto the roadway. The 2035 time horizon results in a significant noise increase for this area. In 2035, the project will increase noise levels by 10 to 14 dB, bringing the noise level up to 68 CNEL. As discussed above, homes that are scattered and front onto a street cannot be effectively mitigated with a soundwall. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.
- *Quincy Drive (from Cactus Avenue to Alessandro Boulevard, and on to Cottonwood Avenue).* The existing single-family homes along Quincy Drive have a soundwall. Quincy Drive currently only exists from Cottonwood to Bay Avenue, which is north of Alessandro Boulevard. The 2035 time horizon results in a significant noise increase. It is not feasible to modify the existing residential block walls to reduce the project increase in noise levels because the block walls are designed for the height that they are built. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.
- *Reche Canyon Road (from Keissel Road to Reche Vista Drive, and on to High Country Drive).* There are approximately 22 single-family homes scattered along these two roadway segments. These homes front onto Reche Canyon Road. The 2035 time horizon results in a significant noise increase for this area. In 2035, the project will increase noise levels by 1.8 to 3.3 dB with resulting noise levels in the 67 to 68 CNEL range. Homes that are scattered and front onto a street cannot be effectively mitigated with a soundwall. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.
- *Redlands Boulevard (Dracaea Avenue to State Route 60).* There are scattered homes in this area that either face Redlands Boulevard (or Shubert Street) or are on Redlands Boulevard. The 2012, 2022, and 2035 time horizons result in a significant noise increase for this area. Homes that are scattered and front onto a street cannot be effectively mitigated with a soundwall. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.
- *Redlands Boulevard (State Route 60 to San Timoteo Canyon Road).* There are approximately 28 homes along this roadway that would be affected. The single-family homes are scattered and generally front the roadway. The 2012, 2022, and 2035 time horizons result in a significant noise increase for this area. The increases in noise are around 2 dB with a resultant noise level in the 71 to 72 CNEL range. Homes that are scattered and front onto a street cannot be effectively mitigated with a soundwall. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.

- *San Timoteo Canyon Road (from Alessandro Road to Live Oak Canyon Road to Redlands Boulevard).* There are approximately four scattered residences along this roadway that would be affected. The existing baseline plus project time horizon results in a significant noise increase for this area. The noise increases by up to 3.3 dB with resultant noise levels in the 65 to 66 CNEL range. Homes that are scattered and front onto a street cannot be effectively mitigated with a soundwall. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.
- *Theodore Street (State Route 60 to Highland Boulevard).* There are four existing homes on Theodore Street that front onto the roadway. Implementation of the Specific Plan would result in a 10.7 dB increase over baseline conditions (2012), a 7.4 dB increase in Opening Year (2017), and a 3.8 dB increase in future year (2022). By Buildout Year (2035), the noise increase associated with the proposed project is anticipated to be 2.9 dB, which would not be significant. In future year (2022), the 65 CNEL contour for this roadway link would lie approximately 138 feet from the centerline of the roadway. The four existing residences on Theodore Street are within 138 feet of the roadway. As a result, these existing residences could experience noise levels above the 65 CNEL threshold for all time horizons. Homes that are scattered and front onto a street cannot be effectively mitigated with a soundwall. Therefore, the significant impact cannot be feasibly mitigated and it will remain significant and unavoidable.

4.12.6.3 Long-Term Operational Noise Impacts

Threshold	Would the project cause exposure of persons to or generation of noise levels in excess of standards established in the *City of Moreno Valley General Plan, Moreno Valley Municipal Code*, or applicable standards of other agencies?

Potential long-term stationary noise impacts would primarily be associated with operations at logistics facilities within the WLCSP area. Logistics facility uses would generate noise from truck delivery, loading/unloading activities at the loading areas, heating, ventilation, and air-conditioning (HVAC) equipment and other noise-producing activities within the parking lot (e.g., doors slamming, vehicle engine start-ups, and conversing in the parking lot). These activities are potential point sources of noise that could affect noise-sensitive receptors adjacent to the loading areas and parking lots. As noise spreads from a source, it loses energy; therefore, the farther away the noise receiver is from the noise source, the lower the perceived noise level would be.

Noise levels were measured at similar facilities to determine representative noise levels that might be generated by this type of activity. Noise measurements were made at two facilities; specifically, Lowes Distribution Center (3984 Indian Avenue, Perris, CA) and Ross Distribution Center (3404 Indian Avenue, Perris, CA). Based on these representative noise measurements, Table 4.12.L provides the noise levels for various distances from the warehouse property line with no noise barrier in place and with an assumed 12-foot noise barrier.

Table 4.12.L: Representative Noise Levels for Warehousing Activities

Distance from Facility (feet)	Noise Level (dBA L_{eq})	
	No Barrier	With 12-foot barrier
50	56.9	48.6
100	54.9	47.8
250	50.8	44.7
500	46.6	40.9

Source: Mestre Greve Associates, November 2012.

The City of Moreno Valley Noise Ordinance requires that noise levels remain below 55 dBA (L_{eq}) during nighttime hours. To achieve this noise level, the warehouse property line would only need to be 100 feet from the nearest residential property and no soundwall would need to be present.

Another consideration is whether the proposed activity levels will be substantially higher than current ambient conditions. No matter what is developed in the Specific Plan area, ambient conditions would be higher in future years due to higher levels of traffic and activity. Ambient noise levels were measured at seven sites that could border the World Logistics Center (i.e., Measurement Sites 3 through 9). The nighttime ambient noise levels (L_{eq}) ranged from 35.8 to 61.8 dBA with an average for the sites of 46.6 dBA. To keep the noise levels at nearby residential areas less than typical ambient conditions, the logistics property line should be located a minimum distance of 250 feet and a 12-foot soundwall should be located along the perimeter of the property that faces any residential areas. This would keep the logistic use noise to less than 45 dBA (L_{eq}) at the residences. The implementation of this buffer between logistics uses and noise sensitive uses has been included as **Mitigation Measure 4.12.6.3A**.

Specific Plan Design Features. The WLCSP indicates there will be a 250-foot building setback from residentially zoned property along Redlands Boulevard, Bay Avenue, and Merwin Street.

Mitigation Measures. Operation of the proposed WLC project would result in noise levels at the closest residences within and adjacent to the WLC Specific Plan area exceeding the maximum noise level allowed under the City's Municipal Code. The following measure would reduce long-term operational noise impacts associated with the proposed WLC project:

4.12.6.3A All discretionary approvals for development in the area of Redlands Boulevard, Bay Avenue, Merwin Street, and Cactus Avenue shall provide a minimum 250-foot setback between residentially zoned property and logistics buildings within the WLCSP. In addition, all such discretionary approvals shall provide sound attenuation improvements that will reduce expected noise levels from development to within City standards.

Level of Significance after Mitigation. Implementation of **Mitigation Measure 4.12.6.3A** would eliminate any noise impacts on residential areas due to the operation of logistic activities. Through the provision of a 250-foot buffer, berms, and/or soundwalls, noise levels at the nearest residences would be reduced to below the City's thresholds. Therefore, with adherence to the identified mitigation measure, impacts associated with this issue would be less than significant.

4.12.6.4 Long-Term Utility Noise Impacts

Threshold	Would the project cause exposure of persons to or generation of noise levels in excess of standards established in the *City of Moreno Valley General Plan, Moreno Valley Municipal Code*, or applicable standards of other agencies?

As illustrated in previously referenced Figure 4.12.3 and Figure 4.12.6, there is one existing SDG&E compressor station and two existing SCGC facilities located within the WLC Specific Plan area.

Based on preliminary calculations as illustrated in Figure 4.12.3, the worst-case compressor station operational characteristics will result in a maximum noise level just above 65 CNEL within the project area proposed for development (i.e., not open space). Typical commercial construction results in buildings that achieve at least a 20 dB reduction of outdoor noise levels. Therefore, an office use

exposed to the highest noise level from the compressor station will be just above 45 CNEL and below the 50 CNEL limit prescribed by the City's General Plan, resulting in a less than significant impact and no mitigation is required.

As illustrated in previously referenced Figure 4.12.4, the L_{eq} noise level generated by the compressor station does not exceed 60 dBA L_{eq} beyond the property lines of the facility. Therefore, the compressor station is not considered a noise disturbance based on City criteria. Operation of the compressor station would not result in any interior noise levels exceeding the limits established by the City in the General Plan. Therefore, noise impacts associated with the operation of the compressor station would be less than significant and no mitigation is required.

As identified in previously referenced Figure 4.12.5, the maximum noise level from a blow-down at the SDG&E compressor station within the WLCSP area proposed for development (i.e., the Logistics Development land use) is 100 dBA. A person would need to be exposed to this level for more than two hours in a day before permanent hearing loss would be expected. As discussed above, blow-down events at the SDG&E compressor station typically do not last longer than 90 seconds. Therefore, the SDG&E blow-down events will not result in a significant impact to the uses proposed within the WLCSP area, and no mitigation is required.

For SCGC blow-down events, noise generated could reach as high as 130 dBA just outside the fence line of the southern facility and in excess of 135 dB just outside the fence line of the northern facility. People within approximately 250 feet of the blow-down points would be exposed to noise levels greater than 115 dBA, which would likely cause permanent hearing damage regardless of the exposure time. The SCGC blow-downs could last as long as 90 minutes. It is anticipated that people exposed to noise levels greater than 102 dBA, within approximately 1,300 feet from the blow-down point could experience permanent hearing loss based on this event duration. Noise generated by SCGC blow-down events has the potential to cause permanent hearing loss in persons in the developed area of the project. This is a significant impact and mitigation is required.

SCGC blow-down events also have the potential to produce groundborne vibration. However, the effect of the blow-down groundbourne vigbration would be limted to within 100 feet of the equipment and would not be perceived beyond the facility fenceline, resulting in a less than significant impact and no mitigation is required.

Specific Plan Design Features. The WLCSP provides a setback of open space and a street between the SCGC facility and planned warehouse buildings in the WLCSP. However, the separation may not be sufficient to prevent significant noise impacts during blow-down events.

Mitigation Measures. Operation of the proposed WLC project could result in exposure of people to noise levels as high as 130 dBA or greater during SCGC blow-down events. The following measure would reduce long-term utility related noise impacts associated with the proposed WLC project:

4.12.6.4A Prior to the issuance of building permits for projects within 500 feet of the SCGC and SDG&E facilities, documentation shall be submitted to the City confirming that sound attenuation devices or improvements for the blow-down facilities providing at least a 40 dB reduction in noise levels during blow-down events area available and will be installed for all planned blow-down events. This measure shall be implemented to the satisfaction of the City Planning Official.

Level of Significance after Mitigation. The SCGC blow-down equipment does not currently include a permanent silencer system. A review of the literature of a leading manufacturer of specialty silencer

systems (Industrial Acoustics Company) determined that a specialty silencer system added to the blow-down equipment could reduce noise levels by about 40 dB. With a silencer system providing 40 dB of noise reduction, blow-down noise levels would be less than 102 dBA approximately 30 feet from the blow-down point, which is within the property line of these facilities. 102 dBA is the noise level that could be experienced for up to 90 minutes without causing permanent hearing loss. Therefore, while occupants within the WLCSP in close proximity to the SCGC facilities would be subject to high noise levels during these infrequent noise events, they would not be subject to any permanent hearing damage. With implementation of **Mitigation Measure 4.12.6.4A**, SCGC blow-down events would not result in noise levels that could cause permanent hearing loss and the project would not be significantly affected by noise from the SCGC facilities, resulting in a less than significant impact.

4.12.7 Cumulative Impacts

The cumulative area for noise impacts is the City of Moreno Valley. Implementation of the Specific Plan would result in the introduction of new noise sources and levels from on-site activities and from increased traffic volumes on vicinity roadway and freeways.

Construction crew commutes and the transport of construction equipment, and materials to the WLCSP area would incrementally increase noise levels on access roads leading to the site. Secondary sources of noise would include noise generated during excavation, grading, and building erection on the project site. The net increase in project site noise levels generated by these activities and other sources has been quantitatively estimated and compared to the applicable noise standards and thresholds of significance. Although it is not possible to predict if contiguous properties may be constructed at the same time and create cumulative noise impacts that would be greater than if developed at separate times, it is unlikely that adjacent properties will be developed at the same time as the Specific Plan area. However, in the unlikely event that adjacent properties are developed at the same time as the proposed WLC project, adherence to the City's Municipal Code provisions that regulate construction activities and other development standards would render the cumulative impacts of the proposed project to less than significant levels.

The noise analysis contained in this section also provides an assessment of on-site operational noise level impacts on adjacent sensitive uses, both existing and future. Additionally, on-site operational noises are individual noise occurrences and are not typically additive in nature. It is extremely unlikely that adjacent properties will generate noises that would be additive in nature because of two important reasons. First, the noise sources would have to be adjacent or in close proximity to one another in order for the noises to intermingle. Second, the sensitive receptor or receptors would also have to be adjacent to or in close proximity to the noise generators. Although it is not possible to predict if contiguous or proximate properties may generate noise at the same time that would be additive in nature and thus create a significant cumulative noise impact at sensitive receptors, adherence to the City's Municipal Code provisions that regulate nuisance noise from land uses and other development standards would render the cumulative impacts of the proposed project to less than significant levels.

Cumulative traffic volumes contained in the TIA were developed for the Future Year 2022 and Buildout 2035 analysis time horizons. Traffic volumes for each time horizon were developed utilizing a combination of various future traffic growth methods as follows. For Future Year 2022, traffic volumes were developed by interpolating year 2035 traffic volume projections from the Riverside County Transportation and Analysis Model (RivTAM) to year 2022 plus traffic from a list of past, present, and reasonably foreseeable projects. For Buildout Year 2035, traffic volumes were developed by utilizing the year 2035 traffic volume projections from the RivTAM plus traffic from a list of past, present, and reasonably foreseeable projects.

Cumulative noise impacts associated with roadway noise have been addressed based on the cumulative traffic volumes. Previously referenced Tables 4.12.J and 4.12.K provide a comparison of Future Year (2022) and Buildout Year (2035) without and with project noise levels, and if a significant impact (project-specific or cumulatively significant) occurs.

The project calls for improvements to several of the roadways around the project area in order to accommodate the projected increase in project traffic volumes. There are no new noise-sensitive land uses proposed to be constructed within the area of analysis. However the presence of residential uses occurs within the WLCSP project and nearby area. These roadway segments are analyzed against the thresholds for determining significant impacts defined previously in Section 4.12.6.2. As described previously in Section 4.12.4, the project's incremental contribution to a cumulative noise increase would be considered cumulatively considerable and significant when ambient noise levels affect noise-sensitive land uses and when the proposed project increases noise levels by 1 dB or more over pre-project conditions and the predicted future cumulative with project noise levels cause the following cumulative increases:

- Increase noise levels by 5 dB or more where the existing noise level is less than 60 CNEL;
- Increase noise levels by 3 dB or more where the existing noise level is 60 to 65 CNEL; or
- Increase noise levels by 1.5 dB or more where the existing noise level is greater than 65 CNEL.

Cumulative noise impacts associated with roadway noise have been addressed based on the 2022 and 2035 time horizons analyses contained in Section 4.12.6.2. As identified in the preceding analysis, Tables 4.12.J and 4.12.K show the Future Year 2022 and Buildout Year 2035 CNEL values without and with the proposed project and if a significant impact would be produced based on the project-specific significance criteria identified in Seciton 4.12.4 and the cumulatively significant significance criteria identified in Section 4.12.4 and repeated above. Traffic noise level increases from the existing baseline condition and the future (2022 and 2035) time horizons are attributable to the intermingled effects of both the cumulative (i.e., past, present, and reasonably foreseeable projects) development projects in the project vicinity and region as well as the proposed project. As indicated in Section 4.12.6.2, roadway noise impacts have been identified and **Mitigation Measures 4.12.6.2A** through **4.12.6.2C** have been presented to reduce roadway noise impacts to the greatest extent feasible. As disclosed in Section 4.12.6.2, there are numerous instances in which there is no feasible means to reduce roadway noise impacts because of the existing developed nature of the affected roadway segment and/or the scattered nature of the sensitive receptors (i.e., residences), which prohibits the effectiveness of a soundwall. Therefore, no significant cumulative noise impacts would occur after implementation of the proposed mitigation measures. For those segments at which there is a cumulatively considerable impact and there is no feasible means to provide mitigation, the significant cumulative impact will remain significant and unavoidable.

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4.13 POPULATION, HOUSING, AND EMPLOYMENT

This section identifies population and housing conditions within the City of Moreno Valley and addresses potential impacts that may result from the construction and operation of the proposed WLC project. The analysis is based in part on population and housing projections identified by the California Department of Finance (DOF), Southern California Association of Governments (SCAG), as well as information contained in the City's General Plan.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements, which affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

The analysis contained in this section is based in part on the following reference documents:

- *Fiscal and Economic Impact Study World Logistics Center Moreno Valley, California*, David Taussig & Associates, Inc., January 15, 2013.
- *Moreno Valley Economic Development Strategy,* John Husing, Ph.D., presentation to City Council January 18, 2012.
- *City of Moreno Valley Draft Housing Element 2008 – 2014,* City of Moreno Valley, February 2011.

4.13.1 Existing Setting

4.13.1.1 Population Characteristics

The U.S. Census as reported by the DOF estimates the City's current (2011) population at 195,216 persons.[1] SCAG projections estimate the population of the City, Riverside County, and southern California (SCAG) regions will continue to grow. The SCAG projects the City's population will grow to 213,700 persons by the year 2020 and 255,200 persons by the year 2035 (Table 4.13.A).

Table 4.13.A: Population, Housing, and Employment Forecasts

	2011	2020	2035
Population			
City of Moreno Valley	195,216	213,700	255,200
Riverside County	2,217,778	2,592,000	3,324,000
SCAG	18,163,664	19,663,000	22,091,000
Housing Units			
City of Moreno Valley	55,635	60,000	72,800
Riverside County	804,915	834,000	1,092,000
SCAG	6,348,741	6,458,000	7,325,000
Employment[1]			
City of Moreno Valley	25,120	48,000	64,400
Riverside County	551,492	939,000	1,243,000
SCAG	7,224,670	8,414,000	9,441,000

[1] 2011 Employment data for the City and County is based on the *Fiscal and Economic Impact Study World Logistics Center Moreno Valley, California*, October 11, 2012.

Source: *Draft 2012 RTP Growth Forecast*, Southern California Association of Governments, http://www.scag.ca.gov/forecast/index.htm, date accessed March 15, 2012

Table 2:City/County Population and Housing Estimates, 1/1/2011, State of California Department of Finance

Table 1: Population, Age and Sex Characteristics, April 1, 2010, Incorporated Cities and Census Designated Places (CDP) by County in California. State of California, Department of Finance, Sacramento, California, May 19, 2011.

4.13.1.2 Housing Characteristics

The number of housing units in the City has increased to accommodate the City's growing population (Table 4.13.B). Currently, the DOF identifies that over three-quarters of the existing housing units in the City are single-family detached units (Table 4.13.C). Multiple-unit dwellings comprise approximately 16 percent of the City's current housing stock.

Table 4.13.B: City of Moreno Valley Housing Units, 1990, 2000, and 2010

Year	Housing Units	Increase (%)
1990	37,945[1]	—
2000	41,462[2]	9.3
2010	51,592[3]	24.4

[1] City of Moreno Valley Draft Housing Element 2008 – 2014. City of Moreno Valley. February 2011.

[2] California Department of Finance: California State Data Center. Data derived from Housing Characteristics, 2000 Census of Population and Housing

[3] Draft 2012 RFP Growth Forecast, Southern California Association of Governments, http://www.scag.ca.gov/forecast/index.htm, date accessed March 15, 2012.

[1] E-5 Population and Housing Estimates, for Cities, Counties, and the State, 2010–2011, with 2010 Benchmark, State of California Department of Finance, http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/documents/E-5_2011_Internet_Version.xls, May 2011, website accessed March 22, 2012.

Table 4.13.C: Composition of the Housing Stock, 2010

Housing Type	City of Moreno Valley	
	Number of Units	Percentage
Single-Family, Detached	42,812	79.6%
Single-Family, Attached	1,105	2.0%
2- to 4-Unit Structure/ 5- or More Unit Structure	8,812	16.4
Mobile Home	1,043	2.0
Total	**53,772**	**100%**

Source: *State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, 2001–2010, with 2000 Benchmark. Sacramento, California, May 2010*.

4.13.1.3 Employment Characteristics

As identified in Table 4.13.A, approximately 25,120 jobs were located within the City in 2011. Based on available data from 2010 (SCAG 2010), the largest share of Moreno Valley's jobs were in the education and health care sector (40.2%). The top four employment sectors, education and health care (40.2%), retail trade (18.2%), leisure/hospitality (10.9%), and professional and management (6.1%) accounted for three-fourths of jobs in the City. Table 4.13.D provides a breakdown of the percentage by job type for the most recent available data (2010). The Husing Report presented to the City Council in January 2012 also indicated that medical services and logistics were two of the few employment categories to show significant growth during the economic downturn starting in 2008 (Husing 2012).

Table 4.13.D: City of Moreno Valley 2010 Employment Percentage by Sector

Job Sector	Percentage of Employees
Education and Health Care	40.2%
Retail Trade	18.2%
Leisure/Hospitality	10.9%
Professional and Management	6.1%
Public Administration	5.2%
Manufacturing	3.7%
Finance/Insurance/Real Estate	3.5%
Other Services	3.5%
Construction	3.3%
Transportation/Warehousing/Utilities	2.8%
Wholesale	1.6%
Information	0.7%
Agriculture	0.4%
TOTAL	100%

Source: *Profile of the City of Moreno Valley,* Southern California Association of Governments, *http://www.scag.ca.gov/resources/pdfs/2011LP/Riverside/MorenoValley.pdf,* date accessed March 22, 2012.

The jobs-to-housing ratio measures the extent to which job opportunities in a given geographic area are sufficient to meet the employment needs of area residents. This ratio identifies the number of jobs available in a given region compared to the number of housing units in the same region. For example, a region with a jobs-to-housing factor of 1.5 would indicate that 1.5 jobs exist for every housing unit within that region. The standard used for comparison is the jobs-to-housing ratio of the SCAG region, is currently 1.24 jobs for every household. This standard is used because most residents of the region

are employed somewhere in the SCAG region. A City or sub-region with a jobs-to-housing ratio lower than the overall standard would be considered a "jobs poor" area, indicating that many of the residents must commute to places of employment outside the sub-area. Table 4.13.E shows the current and potential jobs/housing ratios for the City, Riverside County, and SCAG.

Table 4.13.E: Projected Future Jobs/Housing Ratios

	2010 Jobs/Housing Ratio	2035 Jobs/Housing Ratio
City	0.45	0.88
Riverside County	0.73	1.14
SCAG	1.14	1.29

The 2010 estimated jobs-to-housing ratios for the City, County, and SCAG region are 0.45, 0.73, and 1.14, respectively. The 2035 future jobs-to-housing ratios for the City, County, and SCAG region are 0.88, 1.14, and 1.29, respectively. These ratios indicate that both Riverside County and the City of Moreno Valley are "jobs poor" because the jobs-to-housing ratios are below the Southern California region (as defined by SCAG). The Husing Report presented to the City Council in January 2012 indicated that the jobs to housing ratio for Southern California had actually declined from 1.25 to 1.04 from 2007 to 2010 as a result of the economic downturn (Slide 7, Husing 2012).

A low jobs/housing ratio results in longer distances that residents of Moreno Valley must drive to and from work. This factor may contribute to the City's property values which are currently about half of the regional average (Source: *Profile of the City of Moreno Valley*, SCAG, May 2011). For example, the median home sales price in Moreno Valley in 2010 was $155,000 compared to the regional average of $291,000. One result of a jobs/housing imbalance is a weaker or lower tax base with which to support public services. The City also experiences a large "leakage" of potential sales tax revenue due to the resident workers' absence during workdays, as well as the lack of business and industry taxes compared to other jurisdictions of similar size.

4.13.1.4 Economic Conditions

The *Fiscal and Economic Impact Study World Logistics Center Moreno Valley, California* (David Taussig & Associates, Inc., 2012) prepared for the proposed WLC project evaluates the likely fiscal and economic impacts of the proposed WLC project within the City. The purpose of the study is to estimate the net fiscal impacts of the proposed WLC project and construction of the project on the City's General Fund. The fiscal impacts identified in the study include recurring municipal revenues and costs to the City General Fund that result from the land use scenario analyzed. City General Fund revenues are generated from a variety of sources including property taxes, sales taxes, fees, and fines. Costs to the City's General Fund are associated with a variety of services, such as police protection, fire protection, public works maintenance, and general government services. The study also identifies the general economic impacts on the City that would occur and quantifies these impacts wherever possible. General economic impacts include additions to the City's employment, economic output, and earnings. The study also distinguishes between one-time impacts and permanent impacts. One-time impacts include benefits to the City that occur on a non-recurring basis as a result of construction activity, while permanent impacts refer to benefits that occur on a continuing basis, year after year. An examination of these conditions relative to potential population, housing and employment impacts is provided in Section 4.13.5.1, *Population Growth*.

4.13.1.5 NOP/Scoping Comments

A representative of a conservation group and several individuals said the EIR should address the loss or transfer of 7,700 housing units from the Moreno Highlands Specific Plan to other locations in the City. Some residents commented that fiscal commitments by the City on other local projects by this developer have resulted in expenditures of funds that could otherwise have been used for City services. It should be noted the analysis of this change was largely addressed in the updated (2011) Housing Element that recognized the Moreno Highlands Specific Plan would probably not be built.

4.13.2 Existing Policies and Regulations

4.13.2.1 Federal Regulations

The Federal Community Development Block Grant (CDBG) monies are part of Federal housing assistance programs at the local level. Housing and Urban Development (HUD) and CDGB monies are a function of the potential change in the jobs and housing mix (http://www.hud.gov/offices/cpd/about/conplan/). The HUD's Office of Community and Planning Development's (CPD's) Consolidated Plan is designed to help states and local jurisdictions to assess their affordable housing and community development needs and market conditions, and to make data-driven, place-based investment decisions. The consolidated planning process serves as the framework for a communitywide dialogue to identify housing and community development priorities that align and focus funding from the four CPD formula block grant programs: the CDBG, the HOME Investment Partnership (HOME), the Emergency Solutions Grant (ESG) program, and the Housing Opportunities for Persons with AIDS (HOPWA) program.

CPD Maps is an online data mapping tool for place-based planning. Grantees and the public can use CPD Maps to analyze and compare housing and economic conditions across their jurisdictions. The CPD Maps tool is publicly available, giving all community stakeholders access to the same data. The Consolidated Plan template allows grantees to insert maps and data tables from CPD Maps with ease, throughout their plans.

4.13.2.2 State Regulations

The Regional Housing Needs Assessment (RHNA) is mandated by State Housing Law as part of the periodic process of updating local housing elements of the General Plan. The RHNA quantifies the need for housing within each jurisdiction during specified planning periods. The most recently completed RHNA planning period is January 1, 2006, to June 30, 2014. Due to the requirements of SB 375, SCAG is preparing the next RHNA planning cycle, which will cover October 1, 2013, to September 30, 2021.

4.13.2.3 Regional and Local Regulations

County of Riverside Housing and Land Use Policies. The Housing Element is one of the seven General Plan elements mandated by the State of California as articulated in Sections 65580 and 65589.8 of the Government Code. Each city and county is required to discuss how it will meet its fair share of the housing need in the State.

The County of Riverside has a relevant policy in the Land Use Element of the County General Plan. To support future growth of the population and housing stock in the County of Riverside, the Land Use Element contains policies to ensure adequate utilities for new development (County of Riverside 2003). Specifically the policy LU 1.6 states…"Coordinate with local agencies, such as the Local Agency Formation Commission (LAFCo), service providers, and utilities to ensure adequate service provision for new development."

City of Moreno Valley General Plan. The City's General Plan Chapter 9 (Goals and Objectives) establishes goals and objectives to guide the development, redevelopment, and preservation of a balanced housing inventory within the City. Specific policies relevant to the proposed WLC project include:

Objective 2.5 Promote a mix of industrial uses which provides a sound and diversified economic base and ample employment opportunities for the citizens of Moreno Valley with the establishment of industrial activities that have good access to the regional transportation system, accommodate the personal needs of workers and business visitors; and which meets the service needs of local businesses.

Goal 2.2 An organized, well-designed, high quality, and functional balance of urban and rural land uses that will meet the needs of a diverse population, and promote the optimum degree of health, safety, well-being, and beauty for all areas of the community, while maintaining a sound economic base.

Goal 2.4 A supply of housing in sufficient numbers suitable to meet the diverse needs of future residents and to support healthy economic development without creating an oversupply of any particular type of housing.

4.13.3 Methodology

To determine the potential for impacts related to population and housing, the current uses, overall condition of the project site, historic and current population and housing characteristics, and future projections for population, housing, and employment were identified. This analysis is based on data published by the DOF and SCAG, as well as information presented in the City's General Plan and the County of Riverside General Plan.

As identified in the study prepared by David Taussig & Associates, Inc. (DTA), fiscal impacts arising from a land development project can be broadly categorized as one of two types: one-time and recurring impacts. Each of these broad types can be divided into a revenue component and a cost component. The study assumes that one-time revenues would directly offset one-time costs; therefore, the fiscal impacts considered focus on ongoing, or recurring, fiscal impacts of the proposed WLC project on the City's General Fund. Revenues generated outside of the City's General Fund (e.g., special district revenue) or costs incurred by the City outside of the General Fund (e.g., costs financed through a special district) are not included in this analysis.

This methodology involves calculating the average citywide revenues/costs per Persons Served,[1] utilizing the fiscal year 2012–2013 City budget, and applying these revenue/cost factors to the specific number of Persons Served projected for the proposed WLC project. For analysis purposes, all recurring revenues and costs are stated in constant (uninflated) 2012 dollars based on the assumption that the relative impacts of inflation in future years will be the same for both of these fiscal impact categories.

Direct economic impacts reflect the initial or first-round increases in jobs, earnings, and output, all of which occur directly on site. Indirect/induced economic impacts are the secondary and other additional rounds of economic activity that occur as a consequence of the direct impacts, and can occur elsewhere within the city. The indirect impacts represent the economic activity (buying and selling of goods and services) of suppliers to the proposed land uses. The induced impacts represent the economic activity that results from household spending by employees of all companies directly and indirectly affected by the construction and operation of the proposed WLC project. The study

[1] A service population comprising all residents and 50% of employees.

estimated the number of direct employees in the proposed WLC project based upon an average employee per square foot ratio for similar land uses in the region. Additionally, all economic impacts are stated in constant (uninflated) 2012 dollars, based on the assumption that the relative impacts of inflation in future years may be difficult to gauge.

4.13.4 Thresholds of Significance

The following thresholds of significance regarding potential impacts related to population and housing are based on *CEQA Guidelines* (2011). A project would have a significant impact on population and housing if it would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure) that may lead to fiscal or economic impacts;
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; and/or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

4.13.5 No Impact/Less Than Significant Impacts

4.13.5.1 Population Growth

Threshold	Would the proposed WLC project induce substantial population growth in an area, either directly (e.g., new homes and businesses) or indirectly (e.g., extension of roads and infrastructure)? Would the proposed WLC project induce substantial population growth in an area, either directly (e.g., new homes and businesses) or indirectly (e.g., extension of roads and infrastructure) that may lead to fiscal or economic impacts?

Growth-Related Impacts. CEQA requires a discussion of ways in which the proposed WLC project could be growth inducing (see also Section 5.0, *Other CEQA Topics*). The *CEQA Guidelines* identify a project as growth inducing if it fosters economic or population growth, or the construction of additional housing either directly or indirectly in the surrounding environment (*CEQA Guidelines* Section 15126.2[d]). New employees from commercial or industrial development and new population from residential development represent direct forms of growth. These direct forms of growth have a secondary effect of expanding the size of local markets and inducing additional economic activity in the area.

A project could indirectly induce growth by reducing or removing barriers to growth, or by creating a condition that attracts additional population or new economic activity. However, a project's potential to induce growth does not automatically result in growth. Growth can only happen through capital investment in new economic opportunities by the private or public sectors. Under CEQA, growth inducement is not considered necessarily detrimental, beneficial, or of little significance to the environment. Typically, the growth-inducing potential of a project would be considered substantial if it fosters growth or a concentration of population in excess of what is assumed in pertinent master plans, land use plans, or in projections made by regional planning agencies (e.g., SCAG). Substantial growth impacts could also occur if a project provides infrastructure or service capacity to

accommodate growth beyond the levels currently permitted by local or regional plans and policies. In general, growth induced by a project is considered a significant impact if it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth significantly affects the environment in some other way.

A project could indirectly induce growth at the local level by increasing the demand for additional goods and services associated with the increase in project population and thus reducing or removing the barriers to growth. This occurs in suburban or rural areas where population growth results in increased demand for service and commodity markets responding to the new population. This type of growth is, however, a regional phenomenon resulting from introduction of a major employment center or regionally significant housing project. Additional commercial uses may be drawn to the area by the increased number of residents in the area as a result of a project; however, it is expected that any such development would occur consistent with planned growth identified in the General Plan or applicable specific plans.

As shown in previously referenced Tables 4.13.A and 4.13.B, the City's population has grown steadily over the past decades. Population projections developed by SCAG estimate the City's population will reach approximately 213,700 persons by the year 2020 and approximately 255,200 persons by the year 2035.

The extent to which the new jobs created by a project are filled by existing residents is a factor that tends to reduce the growth-inducing effect of a project. Construction of the proposed WLC project will create short-term construction jobs. These short-term positions are anticipated to be filled by workers who, for the most part, reside in the project area; therefore, construction of the proposed WLC project will not generate a permanent increase in population within the project area. Development envisioned under the proposed WLCSP consists of approximately 41.6 million square feet of logistics warehouse and general warehouse facilities.

An economic study of the project prepared by DTA concluded that the proposed WLC project could generate up to 24,642 new on-site jobs within the City.[1] In addition to the projected on-site job creation, the DTA study estimates the proposed WLC project could generate new off-site jobs (i.e., indirect/induced employment) in all industries of the economy. The DTA study also estimated that an additional 7,583 indirect/induced jobs could be created in the County, of which 3,792 jobs were projected to be within the City as a result of project implementation. This estimate is derived from the Impact Analysis for Planning (IMPLAN) Input/Output Modeling System, which is a quantitative economic model that provides an approximate measure of the "multiplier effect" of a firm's spending on payroll and purchase of goods and services. While the specific location of the potential additional indirect/induced jobs created within the County cannot be specifically determined, it is reasonable to assume that a large percentage of these jobs will be support service jobs and are likely to be located in the proposed WLC project vicinity, and therefore the City.

The WLC project does not include a residential component. The proposed WLC project is located within an area that is currently largely vacant and planned for mix of residential, commercial, business park, and open space land uses in accordance with the General Plan Community Development Element. The proposed WLC project includes a General Plan Amendment to change the existing mix of land use designations to Logistics Development and Light Logistics.

If approved, the WLCSP would supplant the approved Moreno Highlands Specific Plan (MHSP) project that did have a residential component. The EIR for that project indicated it would have increased the City's population by 17,019 persons over 15 years (7,736 units × 2.2 persons/unit). However, because the City is considered housing rich (and jobs poor) by SCAG, the loss of that

[1] Fiscal and Economic Impact Study World Logistics Center Moreno Valley, California (David Taussig & Associates, Inc., October 11, 2012.

projected population growth is not considered a significant impact and, in fact, a number of State policies (e.g., SB 375) encourage the creation and development of jobs-producing development in areas with poor jobs/housing numbers such as that which exists in the City.

Most of the site has been used for dry farming since the early 1900s and much of the proposed WLC project site continues to be used for dry farming at the present time. Currently, there are seven single-family homes in various locations on the property along with associated ranch/farm buildings. Streets, water and sewer utilities, and municipal services would be extended to serve the proposed WLC project. The proposed WLC project may benefit other development projects in the project area by the installation of infrastructure (e.g., roads and utilities), but is not expected to induce substantial population growth into the area since there would be no large areas of vacant land left in the east end of the City (south of SR-60) that could be developed with residential uses.

Development of high-cube logistics warehouse and general warehouse facilities will create jobs in the local economy. However, it is difficult to predict exactly how many new jobs would be generated by the proposed WLCSP. One concern expressed during the NOP/scoping period was the amount of new employment that would actually be generated by the WLC project. Table 4.13.F provides several sources for estimating potential new employment for the proposed project, which could range from 13,714 to 24,642, depending on what data source is selected to predict future employment within the WLCSP.

Table 4.13.F: Employment Estimates for the WLCSP

Source/Project (Jurisdiction)	Source Ratio (jobs/ft^2)	Square Feet/ Employee	Square Feet of Building	Projected Jobs
World Logistics Center[1] Specific Plan (City of Moreno Valley)	0.5:1,000	2,000:1	41,620,000	24,642
WLCSP Traffic Study[2] (City of Moreno Valley)	500:1,000,000	2,000:1	41,600,000	20,800
Stratford Ranch[3] (City of Perris)	2,500:1	2,500:1	1,712,880	685
Skechers[4]	600:1,820,000	3,033:1	1,820,000	13,714
Husing Logistics Report[5] (City of Moreno Valley)	1,903:1	1,906:1	NA	NA
Vogel Industrial Project[6] (City of Moreno Valley)	2,500:1	2,500:1	1,616,133	646

[1] DTA Public Works Database; confirmed by "Employment Density Study," SCAG (2001), and "Logistics Trends and Specific Industries," NAIOP Research Foundation (March 20110).
[2] Extrapolation based on conversion of ITE square footage/land use rates into employment generation.
[3] Inland Empire Distribution Center Operations Profile, WCL Consulting, June 10, 2008. 2,500 square feet per employee is an average of the Inland Empire rates.
[4] Actual data from City of Moreno Valley Planning Department and Highland Fairview.
[5] From Husing report to the City Council in January 2012 based on 2003 study by U.S. Energy Information Agency shipping and distribution centers increase by 5% making it 1 employee/ 2,000 square feet.
[6] Inland Empire Distribution Center Operations Profile, WCL Consulting, June 10, 2008. 2,500 square feet per employee is an average of the Inland Empire rates.

It should be understood that the actual eventual number of employees generated by the project could vary from under 15,000 to almost 25,000 employees, depending on a variety of economic factors (e.g., actual companies that relocate and current hiring conditions). This estimate also does not take into account relocation of existing employees from other jurisdictions as a result of existing businesses relocating into the WLC project. However, these would be counted as "new" employees for the City of Moreno Valley. For the purposes of this analysis, the EIR will use 24,642 employees or one employee per 2,000 square feet as a "worst-case" estimate (in terms of environmental impacts) for future employment growth from WLCSP development. However, Table 4.13.F indicates that actual employment generated by the project may be as low as 13,714 employees, based on current

employment at the nearby Skechers facility. It should be noted the Skechers employment numbers may be low due to currently poor economic conditions in the region and higher employment numbers should also be seen as a positive in terms of benefits to the economy and City residents, in addition to representing a "worst-case" condition relative to environmental impacts. The DTA fiscal impact study prepared for the project also indicated WLC could also induce an additional 3,792 indirect and induced jobs into the community (in addition to the 24,642 direct jobs). In addition, Skechers is just one warehouse project, and the following information uses a variety of warehousing projects to estimate employment generation.

The new employment opportunities resulting from development of the proposed high-cube logistics warehouse and general warehouse uses will raise the City's current jobs-to-housing ratio by providing additional jobs to local residents. While the place of residence of the persons accepting employment provided by the proposed uses is uncertain, due to the City's projected jobs/housing ratio, it is reasonable to assume and therefore expect that a large percentage of these jobs would be filled by persons already living within the City or project area. Therefore, no significant increase in population of the City would result from the development or operation of the proposed WLC project, resulting in a less than significant impact associated with growth inducement and no mitigation is required.

The second threshold for significance is "Would the proposed WLC project induce substantial population growth in an area, either directly (e.g., new homes and businesses) or indirectly (e.g., extension of roads and infrastructure) that may lead to fiscal or economic impacts?" In that regard, the following provides an analysis of the projected fiscal effects of the proposed WLCSP project.

Indirect City Population Impacts Related to Fiscal and Economic Changes. If the MHSP project is not built, it could be argued the City may experience a financial impact from the loss of property tax, sales tax, and other revenues related to growth and development. The following analysis demonstrates that the City will benefit financially by employment and development of logistics warehousing as a result of the WLCSP project.

As detailed in the DTA study, recurring municipal revenues available to the City include those listed in Table 4.13.G. Total recurring revenues available to the City are estimated at approximately $11,608,939 per year. As shown in Table 4.13.G, the greatest percentage of revenue is attributed to the Property Tax In-Lieu of Vehicle License Fee (40.00%), followed by Secured Property Tax (28.9%), and Business Receipts Tax and Licenses (10.7%).

Table 4.13.G: Recurring Fiscal Revenues City of Moreno Valley (City General Fund)

Source	Amount	Percent[1]
Property Tax In-Lieu of Vehicle License Fee	$4,641,148	40.0%
Secured Property Tax	$3,360,168	28.9%
Business Receipts Tax & Licenses	$1,243,286	10.7%
Tax Revenues (UUT & TOT)	$623,936	5.4%
Indirect Sales Tax	$434,480	3.7%
Charges for Services	$397,401	3.4%
Unsecured Property Tax	$336,017	2.9%
Franchises	$258,644	2.2%
Property Transfer Tax	$103,070	0.9%
Intergovernmental Revenues	$62,550	0.5%
Licenses/Permits	$59,318	0.5%
Direct Sales Tax	$40,000	0.3%
Investment Income	$23,172	0.2%

Table 4.13.G: Recurring Fiscal Revenues City of Moreno Valley (City General Fund)

Source	Amount	Percent[1]
Other Revenues	$12,614	0.1%
Fines and Forfeitures	$6,672	0.1%
Transfers In	$3,857	0.0%
Use of Money & Property	$2,606	0.0%
Motor Vehicle Licensing Fees	$0	0.0%
Total	**$11,608,939**	**100.0%**

[1] Numbers may not sum correctly due to rounding to the nearest hundredth.
Source: Table 3A, Fiscal and Economic Impact Study World Logistics Center Moreno Valley, David Taussig and Associates, October 11, 2012.

Recurring municipal services costs to the City include those listed in Table 4.13.H. Total recurring costs to the City are estimated at approximately $5,568,409 per year. As shown in Table 4.13.H, the greatest percentage of cost is attributed to the Police Services (36.7%), followed by Infrastructure and Parks Maintenance Costs (32.6%), and Fire Services (13.6%).

Table 4.13.H: Recurring Fiscal Costs City of Moreno Valley (City General Fund)

Source	Amount	Percent[1]
Police	$2,045,385	36.7%
Infrastructure & Parks Maintenance Costs	$1,817,836	32.6%
Fire Services	$759,357	13.6%
General Government	$392,471	7.0%
Development Services	$217,570	3.9%
Public Works	$112,486	2.0%
Transfers Out	$65,469	1.2%
Other Uses	$65,365	1.2%
Animal Services	$48,998	0.9%
Community Development	$43,472	0.8%
Total	**$5,568,409**	**100.00%**

[1] Numbers may not sum correctly due to rounding to the nearest hundredth.
Source: Table 3B, Fiscal and Economic Impact Study World Logistics Center Moreno Valley, David Taussig and Associates October 11, 2012.

Table 4.13.I provides an overall summary of the fiscal impact to the City based on projected revenues generated by the proposed WLC project. As shown in Table 4.13.I, project recurring annual fiscal surplus that would be available to the City is estimated at $6,040,530, which is equal to 2.08 times the project annual City General Fund costs.

Table 4.13.I: Net Fiscal Impact City of Moreno Valley (City General Fund)

Category	Amount
Total Recurring Revenues	$11,608,939
Total Recurring Costs	$5,568,409
Annual Recurring Surplus/(Deficit)	**$6,040,530**
Total Annual Revenue/Cost Ratio	2.08

Source: Table 3B, Fiscal and Economic Impact Study World Logistics Center Moreno Valley, David Taussig and Associates October 11, 2012.

Table 4.13.J presents the project characteristics that are the basis for the fiscal impact assessment. The locations of the additional indirect jobs that will be created within the County cannot be specifically determined; however, a large percentage of these jobs will be support service jobs and are likely to be located in the general project vicinity. Based on experience with similar types of projects, DTA estimated that half of these indirect jobs would be located within the City. The study also considers Total Output (i.e., total expenditures including sales or gross receipts, or other operating income) based on the different types of development projected to occur. For gross receipts, the study considers the initial or first-round increase in output (e.g., total spending/gross receipts, including payroll), all of which would occur directly on site. Indirect impacts represent the economic activity of supplier and/or supporting businesses. Induced impacts represent the economic activity that results from household spending by employees that may result from direct and direct employment generation of the proposed WLC project.

4.13.J: Project-Related Economic Characteristics

Land Use Assumptions	**Square Feet**
Logistics	41,600,000
Employment Assumptions[1]	**Employees Per 1,000 Square Feet**
Logistics	0.50
Wage Assumptions[2]	**Annual $**
Warehousing/Transportation (Logistics)[3]	$42,341
Construction	$48,825
Riverside County Average (2010)	$40,602

[1] Source: DTA Public Works Database; confirmed by "Employment Density Study," SCAG (2001), and "Logistics Trends and Specific Industries," NAIOP Research Foundation (March 20110).
[2] Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics Reports (California, 2010) for Riverside-San Bernardino-Ontario Metropolitan Area and Riverside County; confirmed by Bureau of Labor Statistics (May 2010).
[3] Standard Warehousing/Transportation Salary ($41,229) plus a small salary increase for 10% of employees to account for presence of high-level management and related office personnel.
Source: Table 4A, Fiscal and Economic Impact Study World Logistics Center Moreno Valley, David Taussig and Associates October 11, 2012.

As previously noted, potential economic impacts that may occur with project implementation include permanent employment (direct on site and indirect/induced), permanent output (gross receipts; total direct output plus output produced by suppliers and employee spending), and one-time construction impacts. Table 4.13.K summarizes the permanent (recurring) employment, wage, and gross receipts values associated with the proposed WLC project.

Table 4.13.K: Project Permanent (Recurring) Employment, Wages ,and Gross Receipts

Recurring Impact	Direct	Indirect/Induced	Total
Employees			
Countywide	20,850	7,583	28,433
Within City	20,850	3,792	24,642
Employee Wages			
Countywide	$882 Million	$308 Million	$1.2 Billion
Within City	$882 Million	$154 Million	$1.0 Billion
Overall Output			
Countywide	$1.5 Billion	$893 Million	$2.4 Billion
Within City	$1.5 Billion	$447 Million	$2.0 Billion

Source: Tables 4B and 4C, Fiscal and Economic Impact Study World Logistics Center Moreno Valley, David Taussig and Associates October 11, 2012.

The DTA study indicates that the creation of new jobs to the City will lead to more consumer spending by employees in existing retail establishments within the City, as well as new retail development that will be attracted to the City as a result of this spending. Job creation also results in increased tax revenues to the City through increased property taxes and sales taxes associated with development of the proposed WLC project. However, it is important to note that because of the difference in timing of the development of the various phases of the proposed WLC project, the number of employees summarized above will not be realized at the same time.

Table 4.13.L summarizes the construction (one-time) employment, wages, and gross receipts values associated with the proposed WLC project.

Table 4.13.L: Project Construction (One-Time) Employment, Wages and Gross Receipts

Recurring Impact	Direct	Indirect/Induced	Total
Construction Employees			
Countywide	13,128	7,613	20,741
Within City	13,128	3,807	16,935
Construction Wages			
Countywide	$641 Million	$309 Million	$950 Million
Within City	$641 Million	$155 Million	$796 Million
Construction Wages			
Countywide	$1.7 Billion	$955 Million	$2.7 Billion
Within City	$1.7 Billion	$478 Million	$2.2 Billion

Source: Tables 4D and 4E Fiscal and Economic Impact Study World Logistics Center Moreno Valley, California, David Taussig and Associates, October 11, 2012.

As summarized in Table 4.13.L, development of the proposed WLC project is projected to create approximately 16,935 construction-related full-time equivalent (FTE) jobs within the City. Similar to recurring employment (i.e., permanent), it is likely that a large percentage of these jobs will be associated with support services and are likely to be located in the vicinity of the proposed WLC project and therefore within the City.

The proposed WLC project does not include a residential component, so it would not directly generate additional new housing. Employees of the project that choose to live in the City would likely utilize the existing supply of housing within the City.

Based on the potential increase in jobs (additional 24,642 direct jobs) within the City and no substantial increase in population as a result of the project, the City's jobs-to-housing ratio would improve from the existing (2010) ratio of 0.45 to 1.02, thus achieving a greater jobs-to-housing balance within the City. Similarly, the potential new County employees that may be generated by the proposed WLC project would increase the total County employment to 585,531 from 551,492 resulting in a ratio of 0.75 from 0.70.

As development of the proposed WLC project is expected to occur over the course of many years, the jobs-to-housing ratio will not significantly change immediately. The City's current jobs-to-housing ratio is exceptionally low when compared to SCAG standards; therefore, the need for employment is immediate. A balance between jobs and housing within the City would have a positive impact by decreasing costs associated with commuting and traffic congestion. It also provides savings to consumers in the operation and maintenance of automobiles, and saving to local public agencies in terms of the need to construct and maintain new road improvements.

Summary of Impacts. Based on the foregoing discussion and as evidenced in Tables 4.13.I, 4.13.K, and 4.13.L, implementation of the proposed WLC project would not result in a deficit in the City's General Fund. The estimated surplus is $6,040,530, which is equal to 2.08 times the projected annual City General Fund costs. Additionally, the proposed WLC project is expected to generate sizeable, substantial, and lasting employment, wages, output, and revenues for the City and region. Therefore, potential fiscal and economic changes that could affect the City's population or housing are considered to be less than significant, and no mitigation is required.

4.13.5.2 Displace Substantial Housing/People

Threshold	Would the proposed WLC project displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?

Displace Existing People/Housing. The WLC project site currently contains seven rural residences. At the City Council meeting on May 22, 2012, some of the existing residents stated that they did not want to be included in the Specific Plan. After deliberation, the Council decided to include the rural properties in the Specific Plan in the interest of comprehensive land planning for the WLC property. Upon approval of the Specific Plan, these properties can continue as non-conforming uses, and the WLC Specific Plan designates these properties as "Light Logistics" (LL), which allows for future industrial-related uses (vehicle storage, light assembly, etc.). In this way, the WLCSP will not remove or displace any of the existing residents or residences from the project site. As large warehouse buildings are developed near or adjacent to these residences, it may become less desirable to reside within the WLCSP area; however, the project itself does not cause housing displacement.

Therefore, impacts to the seven on-site residences would not be considered a significant housing impact. For these reasons, the WLCSP will not have significant population or housing impacts related to displacing substantial numbers of people or existing housing.

Displace Potential Future People/Housing. The City of Moreno Valley has been housing "rich" for many years, with much more housing stock than jobs according to data available from the SCAG. In addition, the recent economic downturn and related foreclosure/short sale conditions have left Moreno Valley, as with many housing rich communities, with an overabundance of housing stock. Section 4.10, *Land Use and Planning*, examines the potential environmental impacts related to the "loss" of 388 affordable housing units from the MHSP, as outlined in the City's 2011 Housing Element. The Element acknowledges that the MHSP property may have to be used for employment-generating uses, and that "land use changes with the Moreno Highlands Specific Plan area will not hinder the City's ability to meet its RHNA obligations."[1] The 2011 Housing Element therefore documents that the City has an abundant supply of housing and can meet its RHNA requirements without relying on any units from the MHSP.

During the NOP/scoping process, several residents commented that development of the proposed WLCSP would result in the loss of 7,700 housing units from the project site that would have to be "made up" elsewhere in the City. The 2006 City Housing Element identified a potential for 5,240 units of the potential 7,700 housing units in the Moreno Highlands Specific Plan. However, an updated Housing Element adopted by the City in February 2011 indicated the Moreno Highlands area would be rezoned to support employment-generating uses rather than housing. It also concluded that "pursuing any land use changes with the Moreno Highlands Specific Plan area will not hinder the City's ability to meet its RHNA obligations." The term RHNA refers to the Regional Housing Needs Allocation (affordable housing allocations) from the SCAG.

[1] Page 41, City of Moreno Valley Housing Element, February 2, 2011.

Table 8-19.5 in the 2011 Housing Element states that after removing sites south of SR 60 and east of Redlands Boulevard, the Amended Inventory throughout the City west of Redlands accommodates:

- 4,100 Low and Very Low Income units, which is 1.3 times the RHNA number (3,045) (deleting sites south of SR-60 and east of Redlands Boulevard has no effect on low and very low income housing opportunities);
- 2,600 Moderate Income units, which is 2.1 times the RHNA number (1,239);
- 7,828 Above Moderate Income units, which is 2.5 times the RHNA number (3,068); and
- 14,528 total identified units, which is 1.94 times the total RHNA number (7,474).

Therefore, removal of the 388 affordable units originally identified in the MHSP (Table 8-19, page 40 of the Housing Element), including 233 "Very Low" and 155 "Low" units, will not have a significant impact on the City's Housing Element or its ability to achieve its RHNA allocation.

The State Housing and Community Development Department (HCD) certified the City's Housing Element as compliant with State law on May 31, 2011. This State HCD certification reinforces the conclusion that approval of the proposed project will not impede the City's housing goals as set forth in the City's Housing Element.

In April 2011, the City adopted its Economic Development Action Plan, which also identified the eastern part of the City as a potential area for major job-producing land uses. The *Fiscal and Economic Impact Study World Logistics Center Moreno Valley, California* ("Study") prepared by DTA in 2012 concluded that the proposed WLC project would generate 24,642 direct jobs/employees to the City. Section 4.10.5.3 determined that the proposed WLC project is consistent with the 2011 Housing Element, and it will not displace substantial numbers of existing housing or necessitate the construction of replacement housing elsewhere. Therefore, no significant displacement impacts relative to people or housing are expected to occur, and no mitigation is required.

4.13.6 Significant Impacts

Based on the analysis in Section 4.13.5, the WLC project will not have any significant impacts relative to population, housing, or employment. Therefore, no mitigation is required.

4.13.7 Cumulative Impacts

The cumulative area for the discussion of population and housing impacts is the City of Moreno Valley. The proposed WLC project would require a General Plan Amendment and Zone Change to re-designate the site from a mix of land uses and zoning designations to Logistics Development and Public Utility land uses and a Specific Plan zoning designation. The project would not contribute to substantial population growth and therefore would not result in an increased demand on the current or future housing in the region. In addition, the Moreno Valley area is considered housing rich and jobs poor by SCAG, so the loss of population (and planned housing) would actually be a regional benefit according to the Regional Transportation Plan. The project may result in an influx of new workers who would need to locate temporarily or permanently in the area, but the City has an overabundance of existing housing stock due to current market conditions. Implementation of the proposed WLC project would actually benefit population and housing conditions relative to employment and jobs/housing ratio and, therefore, not result in cumulatively adverse impacts to population or housing. The WLC project would also not significantly induce growth into areas where growth was not previously anticipated since the WLC project area represents the last largest remaining vacant land in the City of Moreno Valley.

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4.14 PUBLIC SERVICES AND FACILITIES

This EIR discussion includes an evaluation of police and fire services, as well as schools and parks. The analysis considers these public services in the proposed project vicinity and evaluates the impacts to service providers that would result from the construction and operation of the proposed uses as described in the Specific Plan. The analysis contained in this section is based on the following reference documents:

- City of Moreno Valley General Plan, City of Moreno Valley, July 11, 2006;
- City of Moreno Valley General Plan Final EIR, City of Moreno Valley, July 2006;
- Letter from Joel Ontiveros, Moreno Valley Police Department Chief, July 10, 2012;
- Letter from City Fire Chief Abdul R. Ahmad dated June 27, 2012;
- Moreno Valley School District website information on Developer Impact School Fees; and
- San Jacinto Unified School District website May 2012.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements, which affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

This section describes the existing public services within the City of Moreno Valley. The project site consists of the lands within the project boundaries and the project vicinity. The project vicinity consists of areas adjacent to the project site. This section differs slightly from other sections in that it is organized by the public service provider so continuity is maintained. Police Service is found in Section

4.14.1, Fire Protection is found in Section 4.14.2, Schools are found in Section 4.14.3, Parks are found in Section 4.14.4, and Cumulative Impacts are found in Section 4.14.5.

4.14.1 Police Protection

4.14.1.1 Existing Setting

The City of Moreno Valley contracts with the Riverside County Sheriff's Department (RCSD) for police services. Through this contract, the RCSD staffs the Moreno Valley Police Department (MVPD). The MVPD Chief provided a letter on July 10, 2012, that provided the following information on police service in the City. The MVPD has a service area of 51.5 square miles and a service population of 196,495 people. The main police station is located in the City Public Safety Building (PSB) at 22850 Calle San Juan De Los Lagos in Moreno Valley. In addition, the MVPD operates four storefront substations throughout the City. The MVPD occupies 44,800 square feet or 98 percent of the 45,900-square foot PSB with the remainder used by the City Fire Department. The MVPD also utilizes 405 parking spaces in the PSB secured lot. The MVPD Chief has indicted the PSB and parking lot are already at or near full capacity at this time. The MVPD maintains five operational divisions: Patrol, Detective, Special Enforcement, Traffic, and Administrative.

The MVPD handles a service demand of more than 130,000 calls for service (CFS) each year. The MVPD has a current demand of 657 CFS per year per sworn officer, and each deputy on patrol averages 8 CFS per 10-hour shift. There are no set response time goals, but the current response times average 6.15 minutes for Priority 1 calls (emergency), 13.8 minutes for Priority 2 (service need) calls, and 32.4 minutes for Priority 3 (business) calls.

Police services are paid for out of the City of Moreno Valley General Fund. There are currently 255 employees working at the MVPD and 198 of them are sworn peace officers. The MVPD maintains 166 vehicles to support its operations but does not have any commercial vehicle enforcement equipment or personnel at this time.

According to the Federal Bureau of Investigation, Uniform Crime Reporting Program, the national average for police department staffing is 2.3 officers per 1,000 residents. By comparison, the nationwide average for cities of comparable size to Moreno Valley is 1.8 officers per 1,000 residents, while the average for "west coast" area cities of comparable size is 1.2 officers per 1,000 residents. The police service ratio within the City is 1.0 officer per 1,000 citizens, and the City has indicated a commitment to maintain that ratio.

The PSB is approximately 6.5 miles from the project site and would be the closest station to service the proposed project site. The WLC site is located within City Beat 46 (MV46) but there are few calls from the project site at present.

NOP/Scoping Comments. Several residents asked during the scoping process what the impact of the project would be on existing and future public services like police and fire.

4.14.1.2 Existing Policies and Regulations

The City of Moreno Valley has developed policies and regulations in order to direct future activities and decisions in order to achieve the goals and objectives set forth in the City's General Plan and Municipal Code.

Community Design Element Policies

2.13.1 Limit the amount of development to that which can be adequately served by public services and facilities, based upon current information concerning the capability of public services and facilities.

2.14.3 Review development projects for their impacts on public services and facilities including, but not necessarily limited to, roadways, water, sewer, fire, police, parks, and libraries and require public services or facilities to be provided at the standards outlined in the Moreno Valley General Plan and the standards of applicable service agencies.

Safety Element Policies

6.8.1 Explore the most effective and economical means of providing responsive and adequate law enforcement protection in the future.

6.9.2 Require well-lighted entrances, walkways and parking lots, street lighting in all commercial, industrial areas and multiple-family residential areas to facilitate nighttime surveillance and discourage crime.

6.9.3 Incorporate "defensible space" concepts into the design of dwellings and nonresidential structures, including, but not limited to configuration of lots, buildings, fences, walls and other features that facilitate surveillance and reinforce a sense of territorial control.

6.11.1 Respond to any disaster situation in the City to provide necessary initial response and providing for key support to major incidents.

6.12.1 Support mutual aid agreements and communication links with the County of Riverside and other local participating jurisdictions.

City of Moreno Valley Municipal Code. Pursuant to Moreno Valley Municipal Code Section 3.42.070, the proposed project is subject to Police Facilities Commercial and Industrial Development Impact Fees. These fees contribute to the police services facilities provided for in the Existing General Plan area and Capital Improvement Projects. The fees provide financing for the acquisition of land for police and fire facilities as well as design, construction, improvements, and maintenance to the extent permitted by law.

4.14.1.3 Methodology

Based on discussion with City staff and previous environmental documents prepared by the City, the evaluation of impacts associated with the proposed project on police services includes the following:

- Determine the existing police response time for the City based on RCSD goals;
- Determine the length of time for police services to arrive at the project site based on average travel time;
- Compare existing police response time and potential police response time; and
- Determine funding mechanism for future police services, staff, and facilities.

Police service funding impacts were evaluated by identifying compliance with local and RCSD goals and policies. Response time impacts were evaluated by comparing existing and anticipated average responses through RCSD response time goals.

4.14.1.4 Thresholds of Significance

Based on Appendix G of the *CEQA Guidelines,* police protection impacts would be considered significant if the following condition resulted from the construction or operation of the proposed project:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services.

4.14.1.5 Less Than Significant Impacts

Threshold	Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered law enforcement facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police services?

The development and operation of the proposed project would increase demand for police protection services. In addition, the MVPD Chief has indicated the department would not be able to maintain current service levels if the WLC project were built. Initially, crimes of grand theft and malicious mischief during construction would be the potential major crime issue. However, it is anticipated that private security would be utilized during the construction process, similar to other private security services that are utilized for other construction projects in the City. Typical operational police protection services involved with warehouse uses include after-hours patrol. Potential impacts would take the form of a need for expanded police protection services routinely associated with industrial growth, including routine patrols, responding to calls for service such as graffiti or vandalism, robbery, etc. In addition, commercial enforcement will be needed on surrounding streets. The number of additional service calls and call response times would slowly increase, and overall service levels would decrease incrementally as more warehouse buildings were built on the project site. The proposed warehouse uses would generate new employment opportunities. The new jobs that would be created by the proposed project would probably not induce substantial population growth within the City, because most of the new jobs would either be filled by residents of the City and surrounding areas or transfer from existing jobs to the project site for existing warehousing that relocates to the WLC project site.

In his July 10 letter, the City Police Chief concluded that buildout of the WLC project would create a need for 15 full-time sworn officers, 4 classified staff, 2,635 square feet of new police building area, 11 police vehicles, and 24 more secured parking spaces. The Chief also concluded buildout of the WLC project would generate a need for two additional commercial enforcement vehicles and all the related equipment, the addition of two full-time sworn commercial enforcement police officers, and training for those officers.

According to the 2004 City of Moreno Valley Community and Economic Profile, a majority of funding for police protection services is funded through sales tax revenue. In addition, the project will be subject to all applicable impact fees at the time specific development is proposed.

The City collects fees from developers to offset police-related service impacts associated with new development. These development impact fees (DIFs) are one-time charges applied to new development and are imposed to raise revenue for the construction or expansion of capital facilities. DIFs enable the City to collect fair-share fees from new development projects to fund new infrastructure and services. In the City, developers are also required to pay development fees per square foot of development to offset impacts associated with increased demand on law enforcement

services. DIFs are collected for specific infrastructure needs and are deposited into different accounts representing these requirements. The proposed project would be designed and operated per applicable standards required by the City for new development in regard to public safety. In addition, the project would be required to pay development fees used to fund capital costs associated with constructing new public safety structures and purchasing equipment for new public safety structures.

The proposed WLCSP project will result in an increased need for police services as the project builds out. Serving the WLCSP project would initially require additional patrol and service time from existing staff, but would require additional personnel and/or equipment as new development is added.

Building security is a critical component of contemporary logistics facility design. Site design features routinely include restricted vehicular and pedestrian access, perimeter fencing and walls, and full-coverage cameras and monitoring systems. Tenants typically employ full-time security personnel and sophisticated internal security and monitoring systems. Facilities that operate as "Free Trade Zones," as established by the U.S. Customs Service, are required to install and maintain extensive internal and external security facilities and systems.

General Plan and Municipal Code Consistency. Table 4.14.A evaluates whether the proposed project is consistent with the City's General Plan policies and Municipal Code requirements relative to police service

Table 4.14.A: Project Consistency with General Plan Policies and Municipal Code Requirements for Police Service

General Plan Policies		Project Consistency
Community Design Element Policies		
2.13.1	Limit the amount of development to that which can be adequately served by public services and facilities, based upon current information concerning the capability of public services and facilities.	**Consistent.** Initial project construction can be accommodated by existing police service. As development continues, additional police facilities, equipment, and services will be needed within the project, and the project will provide DIF and property tax revenues to support these future needs.
2.14.3	Review development projects for their impacts on public services and facilities including, but not necessarily limited to, roadways, water, sewer, fire, police, parks, and libraries and require public services or facilities to be provided at the standards outlined in the Moreno Valley General Plan and the standards of applicable service agencies.	**Consistent.** This EIR provides information on the potential impacts of the project on City services and facilities, including police. As development occurs within the project, additional police facilities, equipment, and services will be needed within the project, and the project will provide DIF and property tax revenues to support these future needs.
Safety Element Policies		
6.8.1	Explore the most effective and economical means of providing responsive and adequate law enforcement protection in the future.	**Consistent.** This EIR provides information on the potential impacts of the project on City services and facilities, including police. As development occurs within the project, additional police facilities, equipment, and services will be needed within the project, and the project will provide DIF and property tax revenues to support these future needs.

Table 4.14.A: Project Consistency with General Plan Policies and Municipal Code Requirements for Police Service

General Plan Policies		Project Consistency
6.9.2	Require well-lighted entrances, walkways and parking lots, street lighting in all commercial, industrial areas and multiple-family residential areas to facilitate nighttime surveillance and discourage crime.	**Consistent.** The Specific Plan provides site and building lighting guidelines for future development to discourage crime. In addition, many of the on-site uses will have gated access and private security, reducing the need for additional City police services.
6.9.3	Incorporate "defensible space" concepts into the design of dwellings and nonresidential structures, including, but not limited to configuration of lots, buildings, fences, walls and other features that facilitate surveillance and reinforce a sense of territorial control.	**Consistent.** The Specific Plan provides site and building design guidelines, including fencing and walls, lighting, security cameras, to discourage crime. In addition, many of the uses will have gated access and private security, reducing the need for additional City police services.
6.11.1	Respond to any disaster situation in the City to provide necessary initial response and providing for key support to major incidents.	**Consistent.** Development according to the Specific Plan will allow full emergency access to this portion of the City as new buildings are constructed.
6.12.1	Support mutual aid agreements and communication links with the County of Riverside and other local participating jurisdictions.	**Consistent.** Development according to the Specific Plan will allow regional emergency access to this portion of the City from SR-60 and Gilman Springs Road.
City of Moreno Valley Municipal Code		
Pursuant to Moreno Valley Municipal Code Section 3.42.070, the proposed project is subject to Police Facilities Commercial and Industrial Development Impact Fees. These fees contribute to the police services facilities provided for in the Existing General Plan area and Capital Improvement Projects. The fees provide financing for the acquisition of land for police and fire facilities as well as design, construction, improvements, and maintenance to the extent permitted by law.		**Consistent.** All development within the Specific Plan will pay applicable Development Impact Fees to the City.

The proposed project is consistent with the City General Plan policies and Municipal Code requirements relative to police services.

The WLCSP requires building and site design characteristics that specifically support police services by encouraging buildings that are safe and can be secured by design, fencing, security services, etc. The proposed WLCSP design guidelines are consistent with the goals of the General Plan relative to police protection and site design, as outlined in Section 4.14.1.2. In addition, future development within the WLCSP will be required to comply with the City's Development Impact Fee (DIF) requirements as new development is constructed. It is anticipated that DIF revenues will help fund additional equipment needs and increased property taxes would help fund increased service or staffing needs. Therefore, the project will have less than significant impacts relative to police service, and no mitigation is required.

4.14.1.6 Significant Impacts

Based on the analysis in Section 4.14.1.5, the project will have no significant impacts relative to police protection.

4.14.2 Fire Protection

4.14.2.1 Existing Setting

The following information is based in part on a letter from the City Fire Chief dated June 27, 2012. The City of Moreno Valley Fire Department (MVFD) contracts with the Riverside County Fire Department (RCFD) to provide fire protection, fire prevention, and emergency services. The RCFD is administered and operated by the California Department of Forestry and Fire Protection (CalFire). Within the City, the objective of the MVFD is to have an engine company arrive on the scene of a fire or emergency medical aid situation within four minutes of a notification (i.e., dispatch) 90 percent of the time and a complete first alarm assignment within eight minutes[1] 90 percent of the time. Moreno Valley is served by six fire stations and a one-minute preparation time plus a four-minute travel time to fire incidents and emergency medical aid calls (90% of the time) is considered to be the maximum time standard for serving urban and suburban uses in accordance with the National Fire Protection Association (NFPA) 1710 standard. The City requires any new developments to provide adequate fire suppression water flows. The MVFD responds to medical aid calls with advance life support services.

The MVFD participates in the Regionalized Cooperative Fire Protection Delivery System of Riverside County Fire/CalFire. This system ensures that the closest and most appropriate resources are dispatched to all requests for fire department emergency services regardless of jurisdiction.

The MVFD main office is located in the City PSB at 22850 Calle San Juan De Los Lagos in Moreno Valley. The MVFD occupies 1,100 square feet or 2 percent of the 45,900-square foot PSB, plus parking in the PSB secured lot. The City Police Chief has indicted the PSB and parking lot are already at or near full capacity at this time, so it is assumed this conclusion also applies to the Fire Department as well.

The City of Moreno Valley has six existing fire stations and one proposed fire station within the City limits as summarized in Table 4.14.B. Fire Station 58, Moreno Beach Station, is located at 28040 Eucalyptus Avenue and is the closest station to the project site. This station is approximately 1.25 miles northwest of the western limits of project site. The station is staffed on a 24/7 basis by three firefighters, one engine, one reserve aerial ladder truck, and a rescue squad.

Municipal Code Section 3.42.060 provides for the collection of Fire Facilities Commercial and Industrial DIFs and states that these fees shall be paid by applicants for commercial and industrial projects prior to the issuance of applicable building or occupancy permits.

NOP/Scoping Comments. During the NOP period, a comment was made about a future fire station planned at Redlands Boulevard/Brodiaea Avenue. Fire Chief Abdul R. Ahmad's letter (June 27, 2012) cites potential fire danger from the proposed project being within both a high fire risk category and a non-fire high hazard risk category from building types, from emergency incidents (both fire and non-fire) during construction of the various phases of the proposed project, and from being partially within a State-designated Very High Fire Hazard Severity Zone.

Table 4.14.B: Moreno Valley Fire Stations

Fire Station	Address	Personnel	Equipment
Station 2 (Sunnymead)	24935 Hemlock Avenue	7 Firefighters	1 Engine 1 Aerial Ladder Truck (100 foot) 1 Urban Search and Rescue Trailer

[1] Station assigned to respond after first responder assesses situation.

Table 4.14.B: Moreno Valley Fire Stations

Fire Station	Address	Personnel	Equipment
Station 6 (Towngate)	22250 Eucalyptus Avenue	3 Firefighters	1 Engine 1 Reserve Engine
Station 48 (Sunnymead Ranch)	10511 Village Road	3 Firefighters	1 Engine 1 Reserve Engine
Station 65 (Kennedy Park)	15111 Indian Street	3 Firefighters	1 Engine 1 Reserve Engine
Station 58 (Moreno Beach)	28040 Eucalyptus Avenue	3 Firefighters	1 Engine 1 Reserve Aerial Ladder Truck 1 Rescue Squad
Station 91 (College Park)	16110 Lasselle Street	7 Firefighters	1 Engine 1 Rescue Squad 1 Aerial Ladder Truck (75 foot)
Station 99 (Morrison Park) *Opened October 2012*	13400 Morrison Street	3 Firefighters	1 Engine

Source: Table 5.13-1 City of Moreno Valley General Plan Final EIR, July 2006; Moreno Valley Fire Department, 2012.

4.14.2.2 Existing Policies and Regulations

The City of Moreno Valley has developed policies and regulations in order to direct future activities and decisions in order to achieve the goals and objectives set forth in the City's General Plan and Municipal Code.

Community Design Element Policies

2.13.1 Limit the amount of development to that which can be adequately served by public services and facilities, based upon current information concerning the capability of public services and facilities.

2.14.3 Review development projects for their impacts on public services and facilities including, but not necessarily limited to, roadways, water, sewer, fire, police, parks, and libraries and require public services or facilities to be provided at the standards outlined in the Moreno Valley General Plan and the standards of applicable service agencies.

Safety Element Policies

6.11.1 Respond to any disaster situation in the City to provide necessary initial response and providing for key support to major incidents.

6.12.1 Support mutual aid agreements and communication links with the County of Riverside and other local participating jurisdictions.

6.13.1 Provide fire safety education to residents of appropriate age.

6.14.2 Relate the timing of fire station construction to the rise of service demand in surrounding areas.

6.15.1 Encourage programs to minimize the fire hazard, including but not limited to the prevention of fuel build-up where wildland areas are adjacent to urban development.

6.15.2 Tailor fire prevention measures implemented in wildland areas to both the aesthetic and functional needs of the natural environment.

6.16.1 Ensure that ordinances, resolutions and policies relating to urban development are consistent with the requirements of acceptable fire safety, including requirements for smoke detectors, emergency water supply and automatic fire sprinkler systems.

6.16.2 Encourage the systematic mitigation of existing fire hazards related to urban land development or patterns of urban development as they are identified and as resources permit.

6.16.3 Ensure that adequate emergency ingress and egress is provided for each development.

City of Moreno Valley Municipal Code. Municipal Code Section 3.42.060, provides for the collection of Fire Facilities and Commercial and Industrial Development Impact Fees and states that fees shall be paid by applicants for commercial and industrial projects prior to the issuance of applicable building or occupancy permits.

4.14.2.3 Methodology

Based on discussion with City staff and previous environmental documents prepared by the City, the evaluation of fire service impacts associated with the proposed project includes the following:

- Determine the existing fire response time for the City based on Moreno Valley Fire Department goals identified in the Moreno Valley Fire Department Strategic Plan 2012–2022;[1]
- Determine the length of time for fire services to arrive at the project site based on average travel time;
- Compare existing fire response time and potential fire response time; and
- Determine the funding mechanism for future fire services and facilities.

Fire service funding impacts were evaluated by estimating compliance with local and RCFD goals and policies as indicated in the Moreno Valley Fire Department Strategic Plan 2012–2022. Response time impacts were evaluated by comparing existing and anticipated average responses with MVFD response time goals.

4.14.2.4 Threshold of Significance

Based on Appendix G of the *CEQA Guidelines*, impacts to fire protection services would be considered significant if the following condition resulted from the construction or operation of the proposed project:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services.

4.14.2.5 Less Than Significant Impacts

Threshold	Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered fire-fighting facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services?

[1] *Moreno Valley Fire Department Strategic Plan 2012–2022*, Moreno Valley Fire Department, December 2011.

The majority of the project site is currently undeveloped. The development and operation of the proposed project would increase the demand for fire protection, prevention, and emergency medical services. Time is the critical component in fire/medical emergencies. Reductions in the emergency response time or the distance between fire/medical facilities and the site of an emergency would result in improved service and saved lives and property.

Construction materials for the proposed warehouse buildings would likely be reinforced concrete and steel. Although fire occurring during the construction period for such buildings is rare, when they do occur they tend to be catastrophic due to a lack of completed fire protection and detection systems and the presence of considerable amounts of combustible materials that are normally on site during the construction phases. California Fire Code Section 8704 establishes fire safety standards for sites during the construction phase. All on-site construction as well as the use and storage of construction materials is required to conform to fire prevention/protection standards established by the RCFD, MVFD, and/or the City, which mirror standards prescribed in the California Fire Code. Adherence to safety standards required for sites during the construction phase established by the MVFD and/or the City would ensure that potential impacts during construction remain less than significant. Since portions of the project site are located within a State-designated Very High Fire Hazard Severity Zone, development within these zones is required to implement special construction features set forth in Chapter 7A of the California Building Code (CBC). Adherence to these specific requirements would ensure that potential impacts during construction remain less than significant.

All new development within the proposed project would be required to pay DIFs to the City. These fees are determined by the City Council, in consultation with the Fire Prevention Bureau, based on an assessment of the activity occurring within the City as well as the needs of the City. Such fees would be used to fund capital costs associated with land acquisition, construction, purchasing equipment, and providing for additional staff.

The proposed project will require that fire services be extended to the project site. In consultation with the MVFD through a letter dated June 27, 2012, submitted by Fire Chief Ahmad, the MVFD has identified that the estimated travel time from Fire Station 58 (the closest station to the project site) to the middle of the project site would exceed the NFPA 1710 standard for fire response time in the event of an emergency incident. Additionally, the MVFD identifies that buildings under construction are susceptible to fire and are likely to have a high rate of fire spread due to the absence of fire protection systems, fire detection systems, and fire protection features. Buildings under construction also lack compartmentalization of the interior to slow the rate of fire spread. The MVFD letter also notes that Fire Station 99 is expected to open in October of 2012;[1] however, the opening of an additional fire station would still result in service levels at the project site being below the NFPA 1710 standard.

The proposed project would increase the need for fire services and would potentially affect the MVFD's ability to maintain current service levels within the City. Additional service would be needed in the form of new facilities, personnel, and/or equipment. The City of Moreno Valley does not set a ratio of personnel per population, nor does it set equipment and staffing levels; rather, additional personnel and equipment are based on assessment of the activity occurring in the City, including but not limited to, calls for service and response times in order to meet or exceed the NFPA 1710 standard, the California Fire Code, and City Municipal Code Amendments. According to the 2004 City of Moreno Valley Community and Economic Profile, a majority of funding for fire protection services is from sales tax revenue. The project will be subject to all applicable development impact fees.

In his June 27, 2012 letter, the Fire Chief indicated the Fire Department would require "construction of a fire station during the first phase of this project. The fire station shall be located on 1.5 acres of land and the facility shall be approximately 11,000 square feet in size. This location shall be identified by

[1] Fire Station 99 (Morrison Park) opened in October 2012.

the Fire Chief prior to the approval of the specific plan for the World Logistics Center. Initially, this station will require the purchase of an aerial ladder truck, which will be staffed daily by four Fire Department personnel for a total of twelve personnel to provide seven-day-a-week, twenty-four-hour-a-day coverage of the aerial ladder truck. During the final phase of construction, the Fire Department will require an additional fire apparatus to be purchased and staffed. This shall consist of a fire engine with a daily staffing of three Fire Department personnel for a total of nine personnel to provide seven-day-a-week, twenty-four-hour-a-day coverage."

As previously described, the proposed project would be designed, constructed, and operated per applicable fire prevention/protection standards established by the City. Such requirements include (but shall not be limited to) provisions for smoke alarms; sprinklers; building and emergency access; adequate emergency notification; and hydrant sizing, pressure, and siting. Due to the size and nature of the project and the potential for increased emergency incidents resulting from increased development and truck traffic will increase as development occurs, but payment of DIF fees and increased property taxes will offset increased service costs for this type of project. In addition, the Section 2.2.5 of the WLC Specific Plan indicates a future 1.5-acre urban fire station site will be dedicated to the City to help offset increased fire service needs. With these provisions, the proposed project will have a less than significant impact on fire services.

General Plan and Municipal Code Consistency. Table 4.14.C evaluates whether the proposed project is consistent with the City's General Plan policies and Municipal Code requirements relative to fire service.

Table 4.14.C: Project Consistency with General Plan Policies and Municipal Code Requirements for Fire Service

General Plan Policies		Project Consistency
Community Design Element Policies		
2.13.1	Limit the amount of development to that which can be adequately served by public services and facilities, based upon current information concerning the capability of public services and facilities.	**Consistent.** Initial project construction can be accommodated by existing fire protection service. As development continues, the WLCSP provides a future fire station site, and the project will provide DIF fees and increased property taxes to compensate for future fire service needs.
2.14.3	Review development projects for their impacts on public services and facilities including, but not necessarily limited to, roadways, water, sewer, fire, police, parks, and libraries and require public services or facilities to be provided at the standards outlined in the Moreno Valley General Plan and the standards of applicable service agencies.	**Consistent.** This EIR provides information on the potential impacts of the project on City services and facilities, including fire protection. As development occurs, the WLCSP provides a future fire station site, and the project will provide DIF fees and increased property taxes to compensate for future fire service needs.
Safety Element Policies		
6.11.1	Respond to any disaster situation in the City to provide necessary initial response and providing for key support to major incidents.	**Consistent.** Development according to the Specific Plan will allow emergency access to this portion of the City as new industrial warehouses are constructed.
6.12.1	Support mutual aid agreements and communication links with the County of Riverside and other local participating jurisdictions.	**Consistent.** Development according to the Specific Plan will allow regional emergency access to this portion of the City from SR-60 and Gilman Springs Road.

Table 4.14.C: Project Consistency with General Plan Policies and Municipal Code Requirements for Fire Service

General Plan Policies		Project Consistency
6.13.1	Provide fire safety education to residents of appropriate age.	**Consistent.** The project is for industrial warehouses and this policy generally applies to residential uses; however, warehouse operators will provide fire safety instruction and information to employees as encouraged by the Fire Department.
6.14.2	Relate the timing of fire station construction to the rise of service demand in surrounding areas.	**Consistent.** Initial project construction can be accommodated by existing fire protection service. As development continues, the WLCSP provides a future fire station site, and the project will provide DIF fees and increased property taxes to compensate for future fire service needs.
6.15.1	Encourage programs to minimize the fire hazard, including but not limited to the prevention of fuel build-up where wildland areas are adjacent to urban development.	**Consistent.** The Specific Plan provides site and building lighting guidelines for future development to discourage crime. Landscape palettes designed to reflect fuel modification criteria in wildland areas.
6.15.2	Tailor fire prevention measures implemented in wildland areas to both the aesthetic and functional needs of the natural environment.	**Consistent.** A portion of the project is in a High Fire Hazard Severity Zone and special construction features of the California Building Code will apply.
6.16.1	Ensure that ordinances, resolutions and policies relating to urban development are consistent with the requirements of acceptable fire safety, including requirements for smoke detectors, emergency water supply and automatic fire sprinkler systems.	**Consistent.** Future development will be required to comply with applicable fire protection requirements of the California Building Code.
6.16.2	Encourage the systematic mitigation of existing fire hazards related to urban land development or patterns of urban development as they are identified and as resources permit.	**Consistent.** Future warehouse development will have fire access lanes, building sprinkler systems and other fire suppression equipment and personnel to minimize fire-related risks.
6.16.3	Ensure that adequate emergency ingress and egress is provided for each development.	**Consistent.** Development according to the Specific Plan will allow emergency access to this portion of the City as new industrial warehouses and roadways are constructed.
City of Moreno Valley Municipal Code		
Pursuant to Moreno Valley Municipal Code section 3.42.060, Fire Facilities and Commercial and Industrial Development Impact Fees, states that fees shall be paid by applicants for commercial and industrial projects in the amounts adopted by the City Council by resolution from time to time. Neither building permit nor occupancy permit will be issued for any new commercial, industrial, or other non-residential building or structure unless the specified fees are paid.		**Consistent.** Future development within the Specific Plan will pay applicable Development Impact Fees to the City for fire-related services.

The proposed project is consistent with the City General Plan policies and Municipal Code requirements relative to fire protection services.

The WLCSP will dedicate a new 1.5-acre urban fire station site within its boundaries to allow for expansion of fire protection services as the project develops (see WLCSP Section 2.2.5). The WLCSP also requires building and site design characteristics that specifically support fire services by

encouraging buildings that are safe and can be secured by design, fencing, security services, etc. The proposed WLCSP design guidelines are consistent with the goals of the General Plan relative to fire protection and site design, as outlined in Section 4.14.2.2. Finally, future development within the WLCSP will be required to comply with the City's DIF requirements as new development is constructed. Therefore, the project will have less than significant impacts relative to fire protection service, and no mitigation is required.

4.14.2.6 Significant Impacts

Based on the analysis in Section 4.14.2.5, the project will have no significant impacts relative to fire protection.

4.14.3 Schools

4.14.3.1 Existing Setting

The project area is served by two school districts, the Moreno Valley Unified School District (MVUSD) and the San Jacinto Unified School District (SJUSD) and is home to the Moreno Valley campus of Riverside Community College (RCC). The MVUSD operates a total of 30 schools; 20 elementary, six middle, and four high schools. The SJUSD encompasses the far southeastern portion of the proposed project site (approximately 30 acres) and operates seven elementary schools, three middle schools, and two high schools.

NOP/Scoping Process. A number of residents were concerned about the WLC project only bringing in a small number of blue collar workers in a limited field (logistics warehousing), and that it would not help diversity or benefit to the workforce of the City (or their level of education) as a whole.

4.14.3.2 Existing Policies and Regulations

The City of Moreno Valley has developed policies and regulations in order to direct future activities and decisions in order to achieve the goals and objectives set forth in the City's General Plan and Municipal Code.

Community Design Element Policies

2.13.1 Limit the amount of development to that which can be adequately served by public services and facilities, based upon current information concerning the capability of public services and facilities.

2.14.3 Review development projects for their impacts on public services and facilities including, but not necessarily limited to, roadways, water, sewer, fire, police, parks, and libraries and require public services or facilities to be provided at the standards outlined in the Moreno Valley General Plan and the standards of applicable service agencies.

City of Moreno Valley Municipal Code. The proposed project will be located mainly within the MVUSD with a small part in SJUSD. These school districts currently impose fees of $0.51 and $0.47, respectively, per square foot on new industrial construction to offset the cost of providing new school facilities. The proposed project will be subject to these fees at the time of building permit issuance. However, no homes and no significant generation of school-aged children would be developed as part of the proposed project.

4.14.3.3 Methodology

Evaluation of school service impacts associated with the proposed project includes the following:

- Potential for student generation of the project in ways that would have direct or indirect impacts on local school districts;
- Cause other indirect educational impacts; and
- Cause negative impacts on existing or future school facilities or programs.

School impacts were evaluated by estimating compliance with local school district impact fee programs.

4.14.3.4 Thresholds of Significance

According to Appendix G of the *CEQA Guidelines*, a project would have a significant impact to schools if it would result in:

- Substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives.

4.14.3.5 Less Than Significant Impacts

Threshold	Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Section 4.13.5.1 indicates the project is expected to generate from 15,000 to 25,000 new jobs for the City and surrounding areas; however, it is speculative to estimate how many of those workers will actually live within the City and how many will commute from other areas. Although the exact number is speculative, any increase is not expected to be substantial and will not generate significant new demands related to need for new or altered school facilities. The project is an industrial project and not a residential project that would have a direct impact on school services by accommodating additional residents within the City. Construction of the proposed project will create short-term construction jobs. These short-term positions are anticipated to be filled by workers who, for the most part, reside in the project area; therefore, construction of the proposed project will not generate a permanent increase in population within the project area.

California Government Code (§65995[b]) establishes the base amount of allowable developer fees imposed by school districts. These base amounts are commonly referred to as “Level 1 fees” and are subject to inflation adjustment every two years. School districts are placed into a specific “level” based on school impact fee amounts that are imposed on the development.

Unlike residential development, where it is possible to ascertain impacts to a particular school or school district, because employees at a warehouse facility could reside in any number of school districts with their children attending a collection of schools, it is difficult to determine with any level of certainty what the potential impacts to a particular school or school district would be.

The project site is located within the jurisdictional boundaries of the MVUSD and SJUSD. The MVUSD imposes development fees of $0.51 per square foot of industrial development.[1] The SJUSD imposes development fees of $0.47 per square foot of industrial development. [2] These development fees are equal to the minimum fee established by the State (Level 1 fees). Per California Government Code (§ 65995[h]), "The payment or satisfaction of a fee, charge, or other requirement levied or imposed … are hereby deemed to be full and complete mitigation of the impacts … on the provision of adequate school facilities."
It is anticipated that most of the new employment opportunities generated by the proposed project will be filled by persons already residing in the community and surrounding areas. Because employees of the proposed on-site uses would be drawn from the local area, no substantial increase in population or corresponding increase in students attending local schools will occur. In addition, the project proponent would be required to pay these development fees in accordance with Government Code 65995 and Education Code 17620.

The proposed project contains no residential development, so it would not cause a significant increase in the local population that would increase the number of students attending local schools (see Section 4.13, *Population and Housing*). Since payment of the school impact fees is required of all projects within MVUSD and SJUSD boundaries, impacts to school services and facilities would not occur. The WLC project is also consistent with the applicable General Plan policies in Section 4.13.3.2 as it will assist in the provision of adequate school facilities by providing legally required DIFs. Accordingly, impacts to the environment resulting from new or expanded school facilities would not occur, resulting in a less than significant impact and no mitigation is required.

General Plan and Municipal Code Consistency. Table 4.14.D evaluates whether the proposed project is consistent with the City's General Plan policies and Municipal Code requirements relative to school services.

Table 4.14.D: Project Consistency with General Plan Policies and Municipal Code Requirements for School Services

General Plan Policies		Project Consistency
Community Design Element Policies		
2.13.1	Limit the amount of development to that which can be adequately served by public services and facilities, based upon current information concerning the capability of public services and facilities.	**Consistent.** The proposed project consists of logistics warehousing and supporting uses and does not propose any residential uses that would add housing units or substantial numbers of new students to local schools.
2.14.3	Review development projects for their impacts on public services and facilities including, but not necessarily limited to, roadways, water, sewer, fire, police, parks, and libraries and require public services or facilities to be provided at the standards outlined in the Moreno Valley General Plan and the standards of applicable service agencies.	**Consistent.** This EIR provides information on the potential impacts of the project on City services and facilities, including schools.

[1] *School Developer Impact Fees,* Moreno Unified School District, 2012. http://www.mvusd.net/apps/pages/index.jsp?uREC_ID=24969&type=d&pREC_ID=55535, accessed April 16, 2012.
[2] http://www.sanjacinto.k12.ca.us/districtPages/facilities/developerInfo.html, website accessed April 16, 2012.

Table 4.14.D: Project Consistency with General Plan Policies and Municipal Code Requirements for School Services

General Plan Policies	Project Consistency
City of Moreno Valley Municipal Code	
The proposed project will be located mainly within the MVUSD with a small part in SJUSD which currently impose fees of $0.51 and $0.47, respectively, per square foot on new industrial construction to offset the cost of providing new school facilities. The proposed project will be subject to these fees at the time of building permit issuance. However, no homes and no significant generation of school-aged children would be developed as part of the proposed project.	**Consistent.** Future development within the Specific Plan will pay applicable School Impact Fees for non-residential uses.

The proposed project is consistent with the City General Plan policies and Municipal Code requirements relative to school services. In addition, future development within the WLCSP will be required to comply with the City's DIF requirements as new development is constructed. Therefore, the project will have less than significant impacts relative to schools, and no mitigation is required.

4.14.3.6 Significant Impacts

Based on the analysis in Section 4.14.3.5, the proposed project will not produce any significant school-related impacts, so no mitigation is required.

4.14.4 Parks, Recreation, and Trails

4.14.4.1 Existing Setting

The Moreno Valley Parks and Community Services Department (Department) maintains over 358 acres of parks and park facilities, and 10 miles of trails. The Department also maintains and operates 39 parks and facilities; including senior recreation centers and conference centers as well as 20 lighted sports fields and lighted sports fields at three schools. The nearest park to the project site is Ridgecrest Park located on John F. Kennedy Drive less than a mile southwest of the project site.

Open space land can be classified into lands for preservation of natural resources (e.g., wildlife habitat), production of resources (e.g., farming), public health and safety (e.g., floodplains), low-density residential development, and outdoor recreation (e.g., parks). Open space for outdoor recreation includes public and private outdoor recreation facilities. Public recreation facilities in Moreno Valley include State, County, and City parks as well as public golf courses. Private outdoor recreation facilities include private golf courses, driving ranges, and other private outdoor recreation facilities. Two private outdoor recreation facilities are owned and operated by homeowner's associations in Sunnymead Ranch and Moreno Valley Ranch.

A large amount of the City's open space lands is managed for the preservation of natural resources. These areas include the Box Springs Mountain Reserve, the San Timoteo Canyon Park property, the Lake Perris State Recreation Area, and the San Jacinto Wildlife Area. These areas are also used for hiking, horseback riding, fishing, boating, and other uses.

The Box Springs Mountain Reserve and the San Timoteo Canyon Park property are owned and operated by Riverside County Regional Park and Open Space District. They are primarily mountainous natural open space parks. The Box Springs Mountain Reserve is located at the northwest corner of Moreno Valley. The Reserve consists of three noncontiguous land areas, two of which are within the City's Sphere of Influence. San Timoteo Canyon Park property is located east of the City's Sphere of Influence along the north side of SR-60. Approximately 1,100 acres of the

property, including the Badlands Landfill is jointly owned by the Regional Park and Open Space District and Riverside County Waste Management District.

Lake Perris State Recreation Area, located south of Moreno Valley, is approximately 8,000 acres. It contains a major reservoir, natural open space and facilities for boating and fishing, picnicking and camping. About 1,600 acres of the property were dedicated to the State of California as mitigation for loss of wildlife habitat due to development of the Moreno Valley Ranch Specific Plan. The Lake Perris State Recreation Area serves as one of several habitat reserves for the endangered Stephens' kangaroo rat (*Dipodomys stephensi*).

The San Jacinto Wildlife Area in the southeastern corner of the study area consists of gently sloping grasslands, sage scrub and natural and man-made wetlands that support migratory birds and resident wildlife. Bird watching and hunting are popular activities. Some of the adjoining property is owned by private organizations dedicated to hunting and wildlife conservation.

Several open space areas are located along soft-bottomed drainage courses within the planned communities of Sunnymead Ranch and Hidden Springs. The City also owns two natural open space areas. One open area is adjacent to the Moreno Valley Equestrian Center, located at the northeast corner of Redlands Boulevard and Locust Avenue. A second natural open space area is located north of Sunnymead Ranch Parkway, on the east side of Perris Boulevard.

Natural open space can also be found within the steeply sloping areas designated Rural Residential and Hillside Residential on the General Plan land use map. These areas contain wildlife habitat, watershed benefits and scenic values that can be conserved even as these areas are developed. Natural open space can be conserved because these areas are planned for low-density residential development. Low-density development requires a minimal amount of land disturbance.

The City's General Plan also discusses trail facilities. The City owns and maintains about 10 miles of developed trails. Multiuse trails are popular with the equestrian community. The Moreno Valley Equestrian Center, dedicated in 2003, provides additional facilities of interest to equestrians. This 45-acre park is located at the northeast corner of Redlands Boulevard and Locust Avenue. The park features equestrian facilities, including an arena, with bleachers, a water trough, night lighting and parking for horse trailers.

Multiuse trails should be designed with considerations for safety, accessibility, proper design and construction, signage and relative location. The City's trail network should also connect to the County and State regional trail systems.

There is one existing multiuse trail adjacent to the project limits, located along Redlands Boulevard and Cottonwood Avenue. There are several proposed trails shown on the current General Plan within the project area along Redlands Boulevard, Cottonwood Avenue, Brodiaea Avenue, Dracaea Avenue, Theodore Street, Fir Avenue, Sinclair Street, and Davis Road.

NOP/Scoping Comments. One written comment was received specifically about park impacts. The State requested that the WLCSP project not have any adverse impacts on the Lake Perris Recreational Area. In addition, at least one resident urged the City to provide an integrated network of trails that would connect to other trails planned in the region (e.g., Juan Bautista de Anza trail).

4.14.4.2 Policies and Regulations

a. State Regulations

Quimby Act (California Government Code 66477). This State policy requires the dedication of land and/or imposes a requirement of fees for park and recreational purposes as a condition of approval of tentative map or parcel map.

b. Local Regulations, City of Moreno Valley General Plan

Parks, Recreation and Open Space Element Policies

4.2.7 The City level of service standard is 3 acres of developed parkland for every 1,000 new residents. Exceptions from this ratio may be made in exchange for extraordinary amenities of comparable economic value. Land not suitable for active recreation purposes may not be counted toward fulfilling parkland dedication requirements.

4.2.8 Encourage the development of recreational facilities within private developments, with appropriate mechanisms to ensure that such facilities are properly maintained and that they remain available to residents in perpetuity.

4.2.17 Require new development to contribute to the park needs of the City.

4.3.1 The City's network of multiuse trails, including regional trails, community trails, and local feeder trails, shall (1) be integrated with recreational, residential and commercial areas, schools and equestrian centers; (2) provide access to community resources and facilities, and (3) connect urban populations with passage to hillsides, ridgelines, and other scenic areas.

4.3.3 All new development approvals shall be contingent on trail right-of-way dedication and improvement in accordance with the Master Plan of Trails.

4.3.4 In conjunction with all development review, the City shall consider multiuse trail access and traditional travel routes through the property.

4.3.5 In conjunction with the review and approval of non-residential developments, the City should consider the use of multiuse trail amenities such as hitching posts, benches, rest areas, and drinking facilities.

4.3.7 Trail design and construction should take into consideration the safety and convenience of all trail users as the primary concern.

4.3.8 The City should facilitate the development of a multiuse regional trail system.

4.3.9 Unless otherwise specified due to fire department requirements, access or as established by a specific plan, city trails along roadways shall be ten (10) feet wide and shall be constructed with decomposed granite or equal material and shall provide appropriate fencing or other devices where needed to delineate trails from vehicular rights-of-way.

4.3.10 Where firefighting access is required, trails shall be 20' wide to meet the needs of the Fire Department and its equipment. Fire Department requirements shall be met in all conditions where access is required.

4.3.11 In unusual situations where legal or topographical barriers exist (e.g., excessive slope, the configuration of right-of-way, existing vegetation, etc.), the City shall have the discretion to amend the trail requirement as needed to accomplish the goals of this General Plan.

4.3.14 Where feasible, use drainage courses, utility rights-of-way and other such opportunities to incorporate trail and open space elements in the design of major development projects.

4.14.4.3 Methodology

The potential impacts of the proposed project on recreation and park resources were evaluated based on whether implementation of the proposed project could result in increased use of existing recreation and park resources, or whether implementation of the proposed project could necessitate the construction or expansion of recreation and park facilities.

4.14.4.4 Thresholds of Significance

The following thresholds of significance regarding potential impacts to recreational facilities and resources are based on questions contained in Appendix G of the *CEQA Guidelines*. The proposed project would result in a significant impact on recreation resources if any of the following occurs:

- The project increases the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; and/or
- The project includes recreational facilities or requires the construction or expansion of recreational facilities that have an adverse physical effect on the environment.

4.14.4.5 Less Than Significant Impacts

Threshold	Would the project result in increased use of existing neighborhood and regional parks or other recreational facilities (e.g., trails) where substantial physical deterioration would occur or be accelerated?

The WLC project proposes the development of a master-planned logistics center; no residential development is proposed. There is a potential for the proposed project to indirectly generate new residents in the City, although predicting the exact number would be too speculative. Increases in the City's population from future residential development will help fund new parks and trails through dedications of land and the payment of Development Impact Fees.

The WLCSP project proposes a General Plan Amendment to the Master Plan of Trails to reduce the extent of trail systems in the area to reflect the change from a residential neighborhood (Moreno Highlands) to a non-residential neighborhood (World Logistics Center). Trail linkages are provided in the WLC project to extend existing trail routes from the western edge of the project to the east, providing for future linkages to Gilman Springs Road, to the Lake Perris State Recreation Area, and to the San Jacinto Wildlife Area.

Implementation of these new trails and the General Plan Amendment (i.e., revised Master Plan of Trails) will allow the project to be consistent with the General Plan policies relative to trails (4.3.1 and 4.3.8).

General Plan and Municipal Code Consistency. Table 4.14.E evaluates whether the proposed project is consistent with the City's General Plan policies and Municipal Code requirements relative to parks, recreation, and open space:

Table 4.14.E: Project Consistency with General Plan Policies and Municipal Code Requirements for Parks, Recreation and Open Spaces

General Plan Policies		Project Consistency
Parks, Recreation and Open Space Element Policies		
4.2.7	The City level of service standard is 3 acres of developed parkland for every 1,000 new residents. Exceptions from this ratio may be made in exchange for extraordinary amenities of comparable economic value. Land not suitable for active recreation purposes may not be counted toward fulfilling parkland dedication requirements.	**Not Applicable.** The proposed project consists of logistics warehousing and supporting uses, and does not propose any residential uses that would add new housing units or residents who would use local parks.
4.2.8	Encourage the development of recreational facilities within private developments, with appropriate mechanisms to ensure that such facilities are properly maintained and that they remain available to residents in perpetuity.	**Not Applicable.** The proposed project does not generate a need for new active recreational facilities, so no maintenance costs will be involved. However, the project does provide 75 acres of Open Space in the southwestern corner of the site adjacent to Mount Russell to be dedicated to the City of Moreno Valley.
4.2.17	Require new development to contribute to the park needs of the City.	**Not Applicable.** The proposed project consists of logistics warehousing and supporting uses, and does not propose any residential uses that would add new housing units or residents who would use local parks. However, the project does provide 75 acres of Open Space in the southwestern corner of the site adjacent to Mount Russell.
4.3.1	The City's network of multiuse trails, including regional trails, community trails, and local feeder trails, shall (1) be integrated with recreational, residential and commercial areas, schools and equestrian centers; (2) provide access to community resources and facilities, and (3) connect urban populations with passage to hillsides, ridgelines, and other scenic areas.	**Consistent.** The Specific Plan proposes a trail along the southwestern portion of the site to tie into an existing trail along the west side of Redlands Boulevard and an existing trail west along Cactus Avenue. The project will also provide a trail connection from the southwest corner of the project around the Open Space area and a trailhead that will allow a future connection to the SJWA property that would be installed and maintained by the CDFW.
4.3.3	All new development approvals shall be contingent on trail right-of-way dedication and improvement in accordance with the Master Plan of Trails.	**Consistent.** The new trail and related improvements will be consistent with the City's requirements in this regard. The project entails a General Plan Amendment to modify the Master Plan of Trails consistent with the proposed Specific Plan trails.
4.3.4	In conjunction with all development review, the City shall consider multiuse trail access and traditional travel routes through the property.	**Consistent.** See discussion under Policy 4.3.1 above.
4.3.5	In conjunction with the review and approval of non-residential developments, the City should consider the use of multiuse trail amenities such as hitching posts, benches, rest areas, and drinking facilities.	**Consistent.** The new trail and related improvements will be consistent with the City's requirements in this regard.
4.3.7	Trail design and construction should take into consideration the safety and convenience of all trail users as the primary concern.	**Consistent.** The new trail and related improvements will be consistent with the City's requirements in this regard.
4.3.8	The City should facilitate the development of a multiuse regional trail system.	**Consistent.** The proposed trail connections within the Specific Plan would connect to existing regional trails to the west and future regional trails to the southeast through the SJWA property.

Table 4.14.E: Project Consistency with General Plan Policies and Municipal Code Requirements for Parks, Recreation and Open Spaces

General Plan Policies		Project Consistency
4.3.9	Unless otherwise specified due to fire department requirements, access or as established by a specific plan, city trails along roadways shall be ten (10) feet wide and shall be constructed with decomposed granite or equal material and shall provide appropriate fencing or other devices where needed to delineate trails from vehicular rights-of-way.	**Consistent.** The new trail and related improvements will be consistent with the City's requirements in this regard.
4.3.10	Where firefighting access is required, trails shall be 20' wide to meet the needs of the Fire Department and its equipment. Fire Department requirements shall be met in all conditions where access is required.	**Consistent.** The new trail and related improvements will be consistent with the City's requirements in this regard.
4.3.11	In unusual situations where legal or topographical barriers exist (e.g., excessive slope, the configuration of right-of-way, existing vegetation, etc.), the City shall have the discretion to amend the trail requirement as needed to accomplish the goals of this General Plan.	**Consistent.** The new trail and related improvements will be consistent with the City's requirements in this regard.
4.3.14	Where feasible, use drainage courses, utility rights-of-way and other such opportunities to incorporate trail and open space elements in the design of major development projects.	**Consistent.** The proposed trails will allow for connections to existing and future trails as outlined in Policy 4.3.1 above.

The proposed project is consistent with the City General Plan policies relative to parks, recreation, and trails.

The WLCSP will provide connections to existing trails to the west and southwest, and a connection to and trailhead for a future planned trail in the San Jacinto Wildlife Area south of the site, as outlined in Section 3.4.2, *Multi-Use Trails*, and as shown on Figure 3-11 of the Specific Plan. In addition, future development within the WLCSP will pay applicable DIFs to offset any potential impacts to parks or recreational services. Based on this, the proposed project will not create significant impacts on parks, recreation, or trails.

Threshold	Would the project result in construction or expansion of recreational facilities that would have an adverse physical effect on the environment?

The WLC project proposes development of up to approximately 41.6 million square feet of high-cube logistics warehouse facilities. It does not include the construction or expansion of a recreational facility since it would not create any substantial demands on recreational facilities. Section 4.13.5 concluded that the project would have a less than significant impact on population or housing; therefore, no new demand on existing park facilities would occur, and no expansion of existing parks or the construction of new parks would be required.

As noted in the Specific Plan, the project includes an Open Space (OS) designation covering 75 acres on the lower elevations of Mount Russell in the southwestern portion of the WLCSP project site.

4.14.4.6 Significant Impacts

The analysis in Section 4.14.4.5 determined that all impacts of the WLC project relative to parks and recreation are less than significant, therefore, no mitigation is required.

4.14.5 Cumulative Impacts

The cumulative areas for police and fire protection services are the service areas for the RCSD and RCFD. The need for the public services and associated facilities is measured by service area population, or the number of residents and workers within the City's service area. Service population, as well as the type and density of development, determines the need for new or expanded police and services. Utilizing statistical information, local planning policies, and by interacting with other agencies, fire and police service providers can delineate past patterns, emerging trends, and future issues of concern. Once identified, service providers can redeploy resources to meet future needs.

Sections 4.14.1.6 and 4.14.2.6 identified the possible need for new fire station within the WLC project. Payment of DIFs and provision of a new fire station site within the WLCSP is expected to fully mitigate potential impacts of the WLC project relative to fire services. In addition, payment of DIFs is expected to fully mitigate potential impacts of the WLC project relative to police services.

As additional development occurs in the City of Moreno Valley and region, there may be an overall increase in the demand for law enforcement and fire protection services, including personnel, equipment, and/or facilities. Increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas of the RCSD and RCFD would be required to adhere to conditions established by fire and police service providers, and pay applicable DIFs to ensure adequate staffing and equipment levels. Therefore, there would be no cumulative impact on police and fire services in the City. Accordingly, cumulative impacts to the environment resulting from new or expanded police and fire protection facilities would not occur, resulting in a less than significant impact and no mitigation is required.

The cumulative area for school-related issues encompasses the two school district(s) that provide school services/facilities in the project area. While no significant population increase is anticipated to result from the construction and operation of the proposed project, future development (particularly residential development) forecast in the City's General Plan will increase the demand for school facilities and services. New school facilities are currently being constructed to accommodate the growth in the local student population. Additionally, school districts are engaged in planning new facilities in anticipation of future local and regional growth. Each district requires the payment of development fees to provide for new school services and/or facilities. As every new development is mandated to provide the fees applicable to the school district affected, there would be no cumulative impact on school services in the City. Accordingly, cumulative impacts to the environment resulting from new or expanded school facilities would not occur, resulting in a less than significant impact and no mitigation is required.

Implementation of the proposed project will not increase the use of existing parks and recreation facilities. As future residential development is proposed, the City will require developers to provide the appropriate amount of parkland or payment of in-lieu fees, which will contribute to future recreational facilities. Payment of these fees and/or implementation of facilities on a project-by-project basis would offset cumulative parkland impacts by providing funding for new and/or renovated parks equipment and facilities. As such, the cumulative impact of buildout associated with the implementation of the proposed project, when considered with cumulative projects in the area, would be less than significant with implementation of the WLC project.

4.15 TRAFFIC AND CIRCULATION

This section of the EIR assesses traffic impacts by examining the proposed project's impacts on Existing Baseline 2012, Opening Year 2017, Future Year 2022, and General Plan Buildout Year 2035 traffic analysis time horizons. The impact of the entire proposed project has been assessed in the Baseline 2012, Future Year 2022, and Buildout Year 2035 for time horizons, while the Opening Year 2017 analysis assesses impacts of Phase 1 of the proposed project.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements, which affect several separate, adjacent and related properties. The following information is summarized from Section 3.0, *Project Description*. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

The analysis contained in this section is based on the following technical studies prepared for the proposed project:

- *Traffic Impact Analysis Report for the World Logistics Center*, Parsons Brinckerhoff, January 2013. (Appendix L-1 of this EIR).
- *Trip Generation Analysis for High-Cube Warehouse Distribution Center Land Use for the NAIOP Inland Empire*, Kunzman Associates, Inc., December 20, 2011 (Appendix L-2 of this EIR).
- *Assessment of Available High-Cube Trip Generation Rates*, Memorandum from Aric Evatt, Urban Crossroads, Inc., to Ahmad Ansari, City of Moreno Valley, February 1, 2012 (Appendix L-3 of this EIR).
- Letter from George Rhyner, Crain & Associates, to Mr. Robert Evans, NAIOP Inland Empire, regarding Response to the South Coast Air Quality Management District White Paper, dated December 1, 2011 (Appendix L-4 of this EIR).

In addition to these technical studies, the analysis contained in this section is also based on the following reference documents:

- Moreno Valley General Plan Circulation Element, adopted July 2006.

The TIA for the proposed project has been prepared in accordance with accepted standards and practices of the traffic engineering industry as summarized in a scoping agreement with the City of Moreno Valley. The TIA analyzes roadway segments, intersections, freeway mainline segments, freeway weaving areas, and freeway ramp merge/diverge locations and complies with the TIA Guidelines of the City and Caltrans. Figures 4.15.1 and 4.15.2 illustrate the location of analysis roadway segments, intersections, freeway mainline segments, freeway weaving segments, and freeway ramp merge/diverge locations.

The study area for surface streets covered all intersections in Moreno Valley of a collector or higher classification street with another collector or higher classification street, at which the proposed project would add 50 or more peak hour trips. The study area also included the main routes between the project and the neighboring cities of Riverside, Perris, Beaumont, San Jacinto, and Redlands. The study area also extended west to the nearest ramps to State Route (SR-91) and as far south as the I-215 ramps at Redlands Avenue in Perris. Figures 4.15.1, 4.15.2, and 4.15.3 show the study area for road segments, intersections, and freeway locations, respectively.

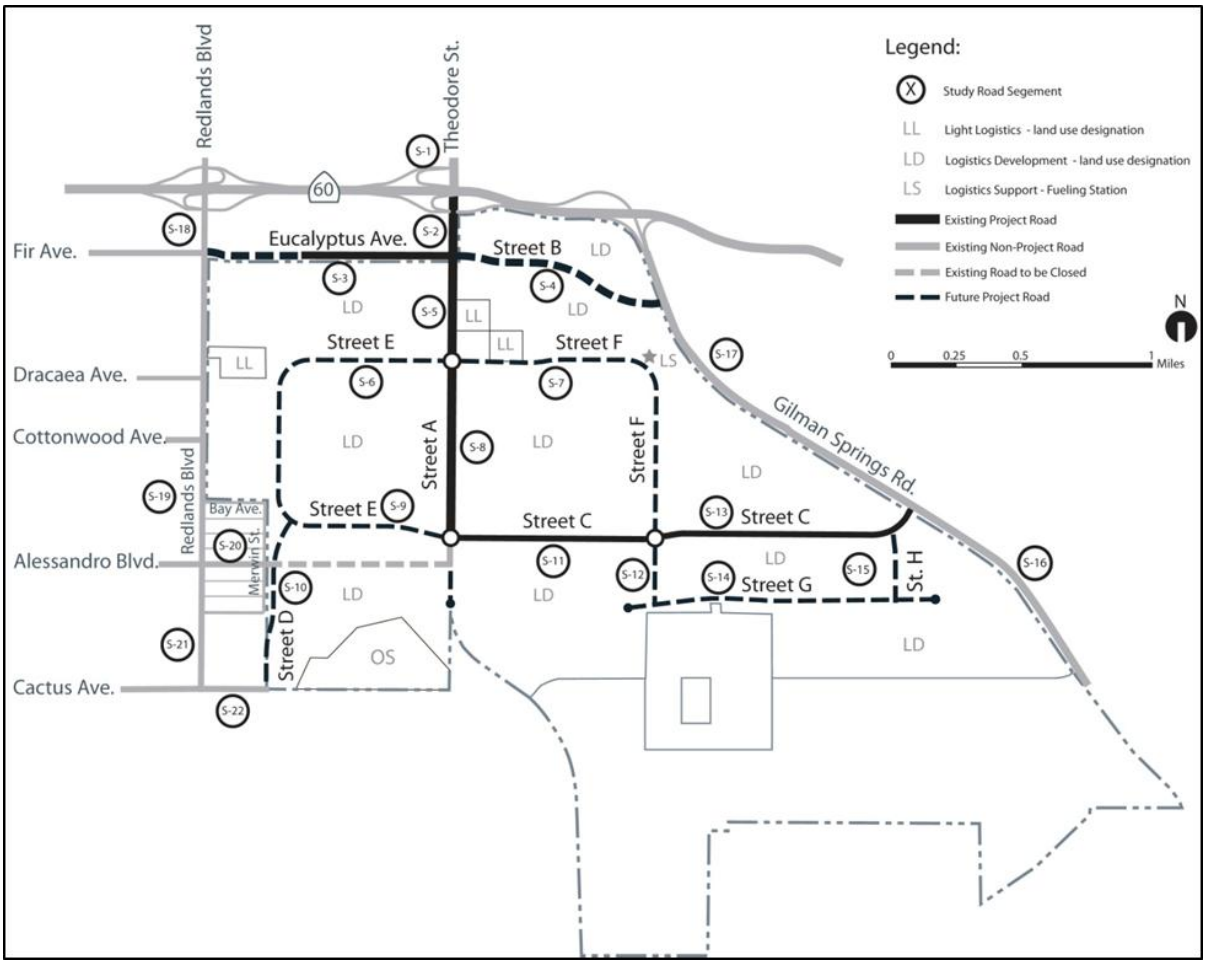

Figure 4.15.1: Study Roadway Segment Locations
Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

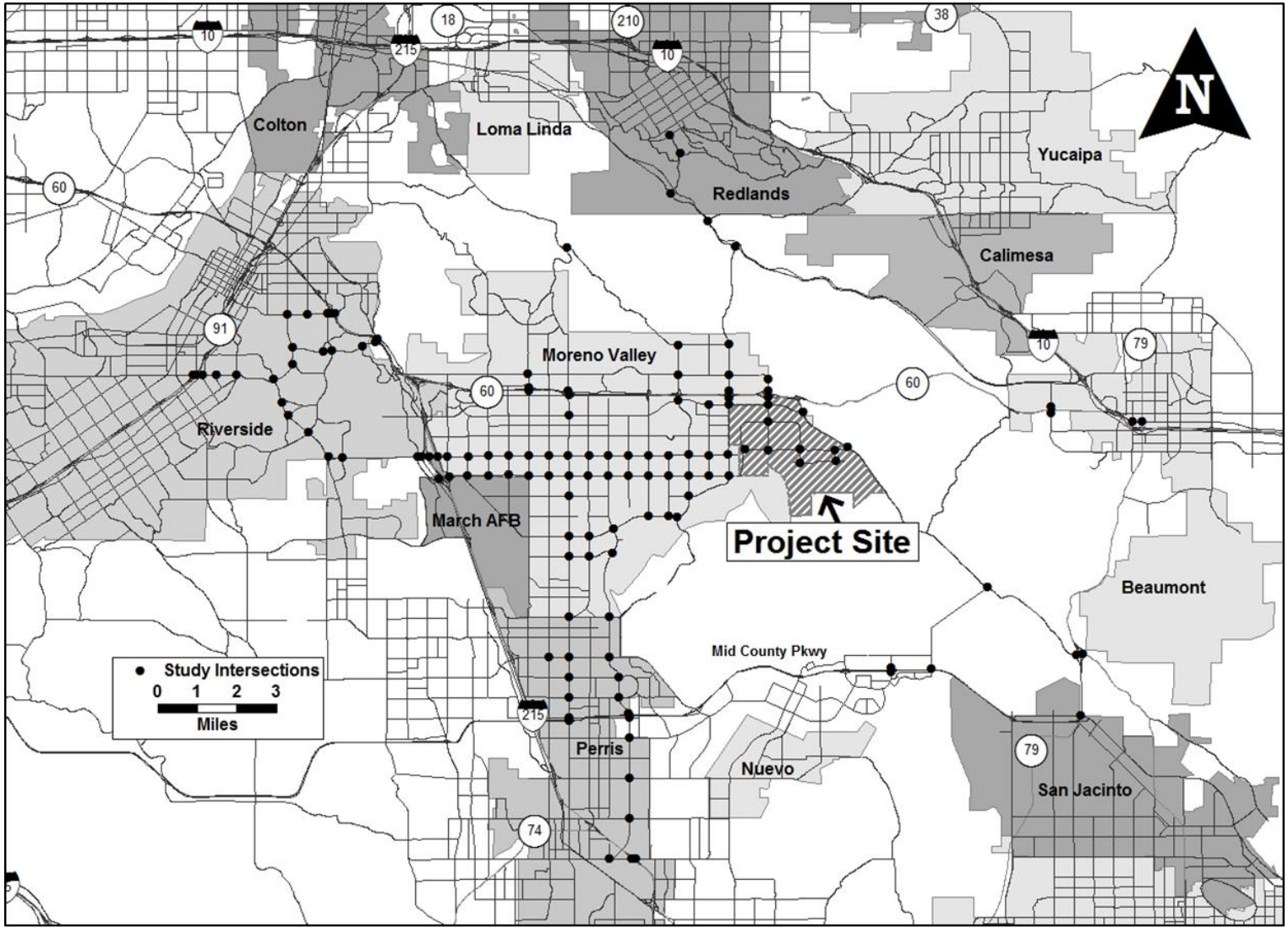

Figure 4.15.2: Study Intersection Locations

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

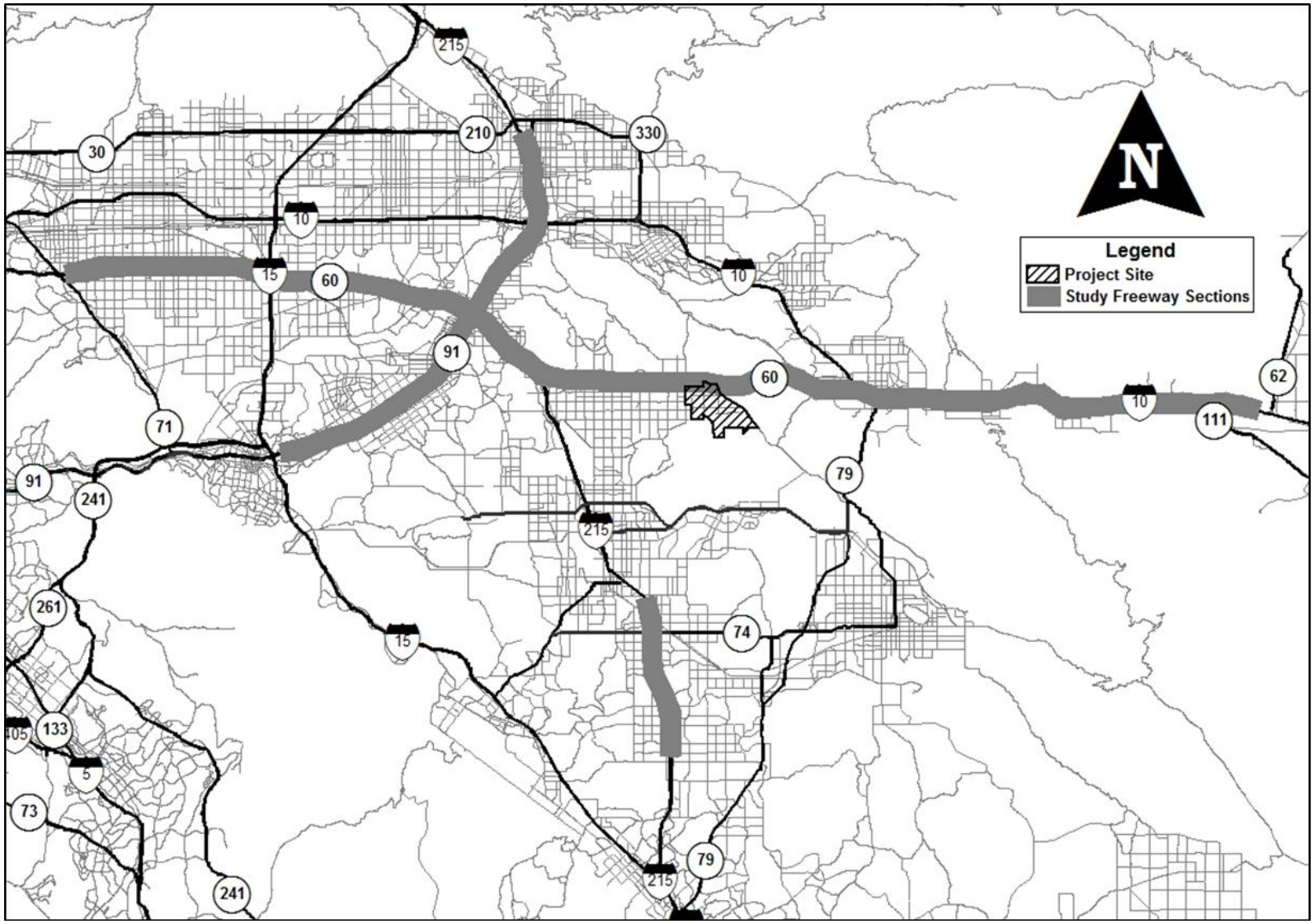

Figure 4.15.3: Freeway Segment Locations

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

4.15.1 Existing Setting

4.15.1.1 Traffic Level of Service Definitions

Level of Service (LOS) is an expression of a transportation facility's operations and is dictated by the relationship between capacity and traffic volumes. LOS is generally defined using the letter grades A through F (Table 4.15.A). These levels reflect the reality that conditions rapidly deteriorate as traffic approaches the absolute capacity of a thoroughfare.

Table 4.15.A: Traffic Level of Service Definitions

Level of Service	Description
A	No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.
F	This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero.

Source: *Highway Capacity Manual, Special Report 209,* Transportation Research Board, Washington, D.C., 2000.

Roadway Segment Level of Service Methodology. LOS criteria for roadway segments is based on daily traffic volumes as shown in Table 4.15.B.

Table 4.15.B: City of Moreno Valley Level of Service Criteria for Roadway Segments

Roadway Classification	Level of Service*				
	A	B	C	D	E
6-Lane Divided Arterial	33,900	39,400	45,000	50,600	56,300
4-Lane Divided Arterial	22,500	26,300	30,000	33,800	37,500
4-Lane Undivided Arterial	15,000	17,500	20,000	22,500	25,000
2-Lane Industrial Collector	7,500	8,800	10,000	11,300	12,500
2-Lane Undivided Residential	N/A	N/A	N/A	N/A	2,000

*Maximum Average Daily Traffic (ADT)

Source: City of Moreno Valley *Traffic Impact Analysis Preparation Guide*, 2007

Intersection Level of Service Methodologies. LOS criteria for signalized intersections are identified in Table 4.15.C. Levels of service at signalized intersections were calculated using the methodology

described in Chapter 16 of the *Highway Capacity Manual* (HCM) and generated by the Synchro analysis software. Signalized intersection LOS are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections, LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 4.15.C.

Table 4.15.C: Level of Service Criteria for Unsignalized and Signalized Intersections

Level of Service	Unsignalized Intersection and Roundabouts Average Delay per Vehicle (sec.)	Signalized Intersection Average Delay per Vehicle (sec.)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

Source: *Highway Capacity Manual,* Transportation Research Board, Washington, DC, 2000.

LOS criteria for unsignalized intersections are also identified in Table 4.15.C. The City of Moreno Valley requires unsignalized intersection analysis based on the methodology described in Chapter 17 of the HCM.

Freeway Level of Service Methodology. Caltrans LOS criteria for freeway mainline segments, freeway weave segments, and freeway ramp merge/diverge locations are expressed in terms of density (passenger cars/mile/lane). Table 4.15.D shows the correlation between density and LOS for freeway segments and ramps.

Table 4.15.D: Level of Service Criteria for Freeway Segments

Level of Service	Freeway Segment Density (passenger cars/mile/lane)	Freeway Weaving Segment Density (pc/ni/lane)	Freeway Ramp Density (passenger cars/mile/lane)
A	0 - 11.0	≤ 10.0	≤ 10.0
B	11.0 - 18.0	> 10.0 and ≤ 20.0	> 10.0 and ≤ 20.0
C	18.0 - 26.0	> 20.0 and ≤ 28.0	> 20.0 and ≤ 28.0
D	26.0 - 35.0	> 28.0 and ≤ 35.0	> 28.0 and ≤ 35.0
E	35.0 - 45.0	>35.0 and ≤ 43.0	>35
F	> 45.0	>43.0	Exceeds Capacity

Source: (Table 11, PB 2013) *Highway Capacity Manual,* Transportation Research Board, Washington, DC, 2000.

4.15.1.2 Baseline Conditions

The project is located within the eastern portion of the City of Moreno Valley. The project site is located south of SR-60, and west of Gilman Springs Road. Previously referenced Figure 4.15.2 illustrates the existing street network (number of through lanes and intersection controls). LOS and volumes are discussed below for existing (2012) without project conditions (otherwise known as the "baseline" condition).

Baseline Levels of Service. Existing (2012) traffic operations have been evaluated for study area intersections. The analysis was performed for the a.m. and p.m. peak hours, as approved in the scoping agreement for the project. Existing traffic volumes at study area intersections are based on peak hour

intersection turn movement counts. An intersection level of service analysis was conducted to determine current intersection performance for existing baseline conditions. The levels of service for existing baseline conditions at study area intersections are summarized in Table 4.15.E, which shows the following 12 study intersections currently operate at an unsatisfactory level of service during either the a.m. and p.m. peak hour:

- Redlands Boulevard/Locust Avenue (a.m. and p.m.);
- Redlands Boulevard/SR-60 Westbound ramps (a.m. and p.m.);
- Oliver Street/Alessandro Boulevard (a.m.);
- Moreno Beach Drive/SR-60 Eastbound Ramps (p.m.);
- Kitching Street/Cactus Avenue (a.m.);
- Lasselle Street/Cactus Avenue (a.m. and p.m.);
- Alessandro Boulevard/Chicago Avenue. (p.m.);
- Gilman Springs Road/Bridge Street (a.m.);
- SR-79 (Sanderson Avenue) Northbound/Gilman Springs Road. (a.m. and p.m.);
- SR-79 (Sanderson Avenue) Southbound/Gilman Springs Road. (a.m. and p.m.);
- San Timoteo Canyon Road/Alessandro Road. (a.m. and p.m.);
- San Timoteo Canyon Road/Live Oak Canyon Road. (a.m. and p.m.); and
- Redlands Boulevard/San Timoteo Canyon Road (a.m. and p.m.).

A roadway segment volume to capacity ratio (V/C ratio) analysis was conducted to determine current roadway system performance for existing baseline conditions. Roadway segment operations have been evaluated using the City of Moreno Valley Daily Roadway Capacity Values provided in the City of Moreno Valley General Plan Circulation Element and summarized in previously referenced Table 4.15.C. The roadway segment V/C ratios are summarized in Table 4.15.F. A V/C ratio of over 1.0 indicates that the daily volume exceeds the design capacity of the road (i.e., congestion will be higher than the target set in the General Plan). The following two roadway segments currently exceed the threshold of significance established in the General Plan.

Gilman Springs Road:

- Between Alessandro Boulevard and Bridge Street; and
- Between SR-60 and Alessandro Boulevard.

A freeway analysis was conducted for existing baseline conditions to determine current freeway performance on SR-60, SR-91, I-215, and I-10 basic freeway segments where the project would add 100 or more peak-hour trips. A freeway weaving analysis was conducted on freeway segments where an on-ramp is closely followed by an off-ramp, and the two are joined by an auxiliary lane. Existing baseline freeway mainline and weaving section levels of service are summarized in Tables 4.15.G and 4.15.H, which show the following 20 freeway segments are currently operating at an unsatisfactory level of service during either the a.m. or p.m. peak hour:

- SR-60, South Reservoir Road to Ramona Avenue (Westbound a.m.);
- SR-60, Ramona Avenue to Central Avenue (Westbound a.m., Eastbound p.m.);
- SR-60, Central Avenue to Mountain Avenue (Eastbound p.m.);
- SR-60, Euclid Avenue to Grove Avenue (Eastbound p.m.);

Table 4.15.E: Existing (2012) Intersection Levels of Service

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
1	Theodore St/Street F	D	N/A	Non-Existent		Non-Existent	
2	Street D/Street E	D	N/A	Non-Existent		Non-Existent	
3	Theodore Ave/Alessandro (Str A/Str C/Str E)	D	CSS	9.7	A	10.1	B
4	Street C/Street F	D	N/A	Non-Existent		Non-Existent	
5	Street C/Street H	D	N/A	Non-Existent		Non-Existent	
6	Alessandro Blvd (Street C)/Gilman Springs Rd	D	CSS	10.3	B	15.7	C
7	Street F/Street G	D	N/A	Non-Existent		Non-Existent	
8	Alessandro Blvd (Street G)/Street H	D	N/A	Non-Existent		Non-Existent	
9	Gilman Springs Rd/Eucalytpus Ave	D	N/A	Non-Existent		Non-Existent	
10	Redlands Blvd/Locust Ave	C	CSS	26.7	**D**	42.8	**E**
11	Redlands Blvd/Ironwood Ave	D	SIGNAL	40.9	D	37.3	D
12	Theodore Street/Ironwood Avenue	D	CSS	9.7	A	9.8	A
13	Redlands Blvd/SR-60 WB ramps	D	CSS	42.2	**E**	54.0	**F**
14	Redlands Blvd/SR-60 EB ramps	D	SIGNAL	9.6	A	14.4	B
15	Theodore Str/SR-60 WB ramps	D	CSS	9.0	A	9.6	A
16	Theodore Str/SR-60 EB ramps	D	CSS	9.2	A	9.4	A
17	Quincy Str/Fir Ave		N/A	Non-Existent		Non-Existent	
18	Redlands Blvd/Eucalyptus Ave (Fir)	D	N/A	Non-Existent		Non-Existent	
19	Theodore Ave/Fir Ave (Eucalyptus)	D	CSS	9.2	A	9.8	A
20	Oliver Str/Alessandro Blvd	C	CSS	25.9	**D**	14.7	B
21	Moreno Beach Dr/Alessandro Blvd	D	SIGNAL	24.0	C	28.2	C
22	Quincy Str/Alessandro Blvd		N/A	Non-Existent		Non-Existent	
23	Redlands Blvd/Alessandro Blvd	C	AWS	20.5	C	13.8	B
24	Oliver Str/Cactus Ave	D	SIGNAL	23.8	C	17.3	B
25	Moreno Beach Dr/Cactus Ave	C	SIGNAL	16.0	B	17.0	B
26	Quincy Str/Cactus Ave		N/A	Non-Existent		Non-Existent	
27	Redlands Blvd/Cactus Ave	C	AWS	11.4	B	8.2	A
28	Moreno Beach Dr/John Kennedy Dr	D	SIGNAL	16.2	B	13.8	B
29	Heacock Str/Ironwood Ave	D	SIGNAL	29.6	C	31.9	C
30	Heacock Str/SR-60 WB Ramps	D	SIGNAL	22.6	C	21.5	C
31	Heacock St/SR-60 EB Ramps	D	SIGNAL	12.5	B	15.9	B
32	Sunnymead Blvd & Perris Blvd	D	SIGNAL	29.4	C	36.0	D
33	Perris Blvd/SR-60 WB Ramps	D	SIGNAL	22.0	C	19.7	B
34	Perris Blvd/Eucalyptus Ave	D	SIGNAL	22.8	C	23.4	C
35	Moreno Beach Dr/Locust Ave	C	CSS	8.6	A	8.6	A
36	Moreno Beach Drive & Ironwood Avenue	D	SIGNAL	50.3	D	40.0	D
37	Moreno Beach Dr/SR-60 EB Ramps	D	SIGNAL	38.0	D	76.6	**E**
38	Perris Blvd/John F. Kennedy Dr	D	SIGNAL	37.0	D	31.2	C
39	Iris Ave/Perris Blvd	D	SIGNAL	41.5	D	36.5	D
40	Kitching St/Iris Ave	C	SIGNAL	23.4	C	17.5	B
41	Lasselle Str/Iris Ave	D	SIGNAL	25.4	C	26.6	C
42	Nason Str/Iris Ave		N/A	Non-Existent		Non-Existent	
43	Oliver Str/Iris Ave	D	SIGNAL	22.1	C	15.8	B
44	Via Dell Lago/Iris Ave	C	SIGNAL	6.7	A	6.5	A

Table 4.15.E: Existing (2012) Intersection Levels of Service

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
45	Krameria Ave/Perris Blvd	D	SIGNAL	34.6	C	29.3	C
46	Kitching Str/Krameria Ave	D	SIGNAL	21.7	C	19.4	B
47	Lasselle Str/Krameria Ave	D	SIGNAL	37.9	D	13.5	B
48	Kitching Str/Alessandro Blvd	D	SIGNAL	28.8	C	24.7	C
49	Lasselle Str/Alessandro Blvd	D	SIGNAL	31.7	C	26.6	C
50	Morrison Str/Alessandro Blvd	D	SIGNAL	8.8	A	7.8	A
51	Nason Str/Alessandro Blvd	D	SIGNAL	20.5	C	16.9	B
52	Kitching Str/Cactus Ave	C	SIGNAL	33.3	C	22.6	C
53	Lasselle Str/Cactus Ave	C	SIGNAL	47.2	**D**	38.6	**D**
54	Morrison Str/Cactus Ave		N/A	Non-Existent		Non-Existent	
55	Nason Str/Cactus Ave	D	SIGNAL	22.5	C	21.0	C
56	Frederick Str/Alessandro Blvd	D	SIGNAL	19.5	B	25.6	C
57	Graham Str/Alessandro Blvd	D	SIGNAL	19.8	B	24.2	C
58	Heacock Str/Alessandro Blvd	D	SIGNAL	25.8	C	23.6	C
59	Indian Str/Alessandro Blvd	D	SIGNAL	17.6	B	27.9	C
60	Perris Blvd/Alessandro Blvd	D	SIGNAL	32.4	C	42.3	D
61	Frederick Str/Cactus Ave	D	SIGNAL	9.8	A	11.7	B
62	Graham Str/Cactus Ave	D	SIGNAL	12.9	B	17.4	B
63	Heacock Str/Cactus Ave	D	SIGNAL	30.1	C	20.3	C
64	Indian Str/Cactus Ave	C	SIGNAL	24.4	C	19.6	B
65	Perris Blvd/Cactus Ave	D	SIGNAL	26.9	C	30.7	C
66	Alessandro Blvd/Sycamore Canyon Blvd	D	SIGNAL	25.8	C	18.0	B
67	I-215 SB Ramps/Alessandro Blvd	D	SIGNAL	6.4	A	12.6	B
68	I-215 NB Ramps/Alessandro Blvd	D	SIGNAL	19.4	B	24.1	C
69	Old 215 Frontage Rd/Alessandro Blvd	D	SIGNAL	18.2	B	18.6	B
70	Day Str/Alessandro Blvd	D	SIGNAL	4.6	A	8.2	A
71	Elsworth Str/Alessandro Blvd	D	SIGNAL	19.2	B	27.6	C
72	I-215 SB Ramps/Cactus Ave	D	SIGNAL	12.1	B	19.7	B
73	I-215 NB Ramps/Cactus Ave	D	SIGNAL	11.1	B	3.7	A
74	Elsworth Str/Cactus Ave	D	SIGNAL	26.7	C	29.5	C
75	Central Ave/Lochmoor Dr.	D	SIGNAL	10.9	B	6.7	A
76	Sycamore Canyon Blvd/Central Ave	D	SIGNAL	22.2	C	17.6	B
77	SR-60 EB Ramps/Central Ave	D	SIGNAL	7.3	A	10.3	B
78	SR-60 WB Ramps/Central Ave	D	SIGNAL	6.8	A	8.2	A
79	Alessandro Blvd/Trautwein Rd.	D	SIGNAL	28.4	C	14.8	B
80	Alessandro Blvd/Mission Grove Pkwy	D	SIGNAL	18.8	B	34.9	C
81	Martin Luther King Blvd/Chicago Ave	D	SIGNAL	43.2	D	36.5	D
82	Martin Luther King Blvd/Iowa Ave	D	SIGNAL	9.0	A	13.0	B
83	Martin Luther King Blvd/Canyon Crest Dr	D	SIGNAL	43.2	D	28.0	C
84	Martin Luther King Blvd/I-215 SB Ramps	D	SIGNAL	8.6	A	4.7	A

Table 4.15.E: Existing (2012) Intersection Levels of Service

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
85	Martin Luther King Blvd/I-215 NB Ramps	D	AWS	24.3	C	12.2	B
86	Central Ave/Chicago Ave	D	SIGNAL	23.4	C	23.1	C
87	Central Ave/El Cerrito Dr	D	SIGNAL	11.7	B	12.0	B
88	Central Ave/Canyon Crest Dr	D	SIGNAL	27.8	C	35.2	D
89	Chicago Ave/Country Club Dr	D	SIGNAL	6.3	A	4.9	A
90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	SIGNAL	31.3	C	30.7	C
91	Arlington Ave/Indiana Ave/SR-91 NB Ramps	D	SIGNAL	21.0	C	20.8	C
92	Arlington Ave/Maude St	D	SIGNAL	13.8	B	11.1	B
93	Horace St/Arlington Ave	D	SIGNAL	12.3	B	7.2	A
94	Arlington Ave/Victoria Ave	D	SIGNAL	54.8	D	30.9	C
95	Alessandro Blvd/Chicago Ave	D	SIGNAL	40.7	D	65.9	**E**
96	Alessandro Blvd/Century Ave	D	SIGNAL	16.7	B	7.6	A
97	Alessandro Blvd/Via Vista Dr	D	SIGNAL	30.7	C	18.9	B
98	Alessandro Blvd/Canyon Crest Dr	D	SIGNAL	20.4	C	17.9	B
99	Harley Knox Blvd/Perris Blvd	D	SIGNAL	15.4	B	15.1	B
100	Harley Knox Blvd/Evan Rd		N/A	Non-Existent		Non-Existent	
101	Ramona Expy/Indian St	E	SIGNAL	3.9	A	7.8	A
102	Ramona Expy/Perris Blvd	E	SIGNAL	31.7	C	34.7	C
103	Ramona Expy/Evans Rd	E	SIGNAL	54.5	D	28.8	C
104	Perris Blvd/Morgan St	D	SIGNAL	11.9	B	6.7	A
105	Evans Rd/Morgan St	C	SIGNAL	32.5	C	20.6	C
106	Perris Blvd/Rider St	C	SIGNAL	23.8	C	23.0	C
107	Evans Rd/Rider St	C	SIGNAL	34.9	C	28.3	C
108	Perris Blvd/Mid-County Pkwy WB Ramps		N/A	Non-Existent		Non-Existent	
109	Perris Blvd/Mid-County Pkwy EB Ramps		N/A	Non-Existent		Non-Existent	
110	Evans Rd/Mid-County Pkwy WB Ramps		N/A	Non-Existent		Non-Existent	
111	Evans Rd/Mid-County Pkwy EB Ramps		N/A	Non-Existent		Non-Existent	
112	Placentia Ave/Perris Blvd	D	SIGNAL	30.1	C	14.0	B
113	Evans Rd/Placentia Ave		N/A	Non-Existent		Non-Existent	
114	Evans Rd/Orange Ave	C	AWS	12.5	B	10.1	B
115	Evans Rd/Nuevo Rd	C	SIGNAL	23.3	C	22.6	C
116	Evans Rd/Ellis Ave		N/A	Non-Existent		Non-Existent	
117	Ellis Ave/I-215 SB Ramps		N/A	Non-Existent		Non-Existent	
118	Ellis Ave/SR-215 NB Ramps		N/A	Non-Existent		Non-Existent	
119	Evans Rd/San Jacinto Ave		N/A	Non-Existent		Non-Existent	
120	Park Center Blvd/Ramona Expy WB Ramps		N/A	Non-Existent		Non-Existent	
121	Park Center Blvd/Ramona Expy EB Ramps		N/A	Non-Existent		Non-Existent	
122	Bridge St/Ramona Expy	C	AWS	22.4	C	20.6	C
123	Gilman Springs Rd/Bridge Str	C	CSS	26.6	**D**	20.8	C

Table 4.15.E: Existing (2012) Intersection Levels of Service

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	C	CSS	34.7	**D**	30.7	**D**
125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	C	CSS	29.2	**D**	48.2	**E**
126	Ramona Expy/Sanderson Ave	D	SIGNAL	27.1	C	20.8	C
127	Potrero Blvd/SR-60 WB Ramps		N/A	Non-Existent		Non-Existent	
128	Potrero Blvd/SR-60 EB Ramps		N/A	Non-Existent		Non-Existent	
129	W 6th St/California Ave	C	AWS	13.5	B	18.0	C
130	W 6th St/Beaumont Ave	C	SIGNAL	13.2	B	12.8	B
131	Reche Canyon Rd/Reche Vista Dr	C	SIGNAL	9.4	A	5.6	A
132	San Timoteo Canyon Rd/Alessandro Rd	D	AWS	> 50	**F**	23.9	C
133	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	**F**	> 50	**F**
134	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	**F**	> 50	**F**
135	W Crescent Ave/Alessandro Rd	D	CSS	14.0	B	11.5	B
136	W Sunset Dr/Alessandro Rd	D	AWS	8.9	A	9.0	A

denotes LOS exceeding the target threshold

"CSS" means cross-street is stop-controlled
"AWS" means all-way stop
"RABT" means roundabout
"NB" and "SB" denote northbound and southbound respectively
"EB" and "WB" denote eastbound and westbound respectively
"LT" and "RT" denote left turn and right turn respectively

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.F: Existing (2012) Roadway Segment Levels of Service

Roadway		From	To	Roadway Section*	Design Capacity	Daily Volume	LOS
S-1	Theodore Street (A)	SR-60 WB Ramps	Ironwood Avenue	2U	11,300	650	A
S-2	Theodore Street (A)	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	2U	11,300	2,018	A
S-3	Fir (Eucalyptus) Ave.	Redlands Blvd	Theodore Street (A)	2U**	11,300	1,841	A
S-4	Eucalyptus Ave (B)	Theodore Street (A)	Gilman Springs Rd	Future Road			
S-5	Theodore Street (A)	Fir (Eucalyptus) Ave.	Street E	2U	11,300	337	A
S-6	Street E	Theodore Street (A)	Street D	Future Road			
S-7	Street F	Theodore Street (A)	Alessandro Blvd (Street C)	Future Road			
S-8	Theodore Street (A)	Fir (Eucalyptus) Ave.	Alessandro Blvd (Street C)	2U	11,300	396	A
S-9	Alessandro Blvd (Street E)	Merwin Street	Theodore Street (A)	2U	11,300	1,487	A
S-10	Street D	Alessandro Blvd (Street E)	Cactus Ave.	Future Road			
S-11	Alessandro Blvd (Street C)	Theodore Street (A)	Street F	2U	11,300	2,561	A
S-12	Street F	Street C	Street G	Future Road			
S-13	Alessandro Blvd (Street C)	Street F	Gilman Springs Rd	2U	11,300	2,561	A
S-14	Street G	Street F	Street H	Future Road			
S-15	Street H	Street G	Alessandro Blvd (Street C)	Future Road			
S-16	Gilman Springs Rd	Alessandro Blvd (Street C)	Bridge Street	2U	11,300	13,134	**E**
S-17	Gilman Springs Rd	SR-60	Alessandro Blvd (Street C)	2U	11,300	11,973	**E**
S-18	Redlands Blvd	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	2U	11,300	7,338	A
S-19	Redlands Blvd	Fir (Eucalyptus) Ave.	Alessandro Blvd	2U	*10,000*	7,588	B
S-20	Alessandro Blvd	Redlands Blvd	Merwin Street	2U	*10,000*	2,537	B
S-21	Redlands Blvd	Alessandro Blvd	Cactus Ave.	2U	*10,000*	6,537	B
S-22	Cactus Ave.	Redlands Blvd	Street D	2U**	*10,000*	343	B

* Section is the number of lanes, with "U" for "undivided" and "D" for "Divided" roadways

** Road currently has 2 lanes in one direction and 1 lane in the other. The capacity shown is based on the narrower direction.

*** LOS Standard is "C" in residential areas and "D" for roads in employment-generating areas or near freeways

Indicates LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.G: Existing (2012) Freeway Segment Levels of Service

			Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-2	SR-60	S Reservoir Rd to Ramona Ave	6,024	24.5	C	7,822	33.0	D	8,762	41.4	**E**	6,381	25.6	C
F-3	SR-60	Ramona Ave to Central Ave	5,687	22.8	C	9,400	47.3	**F**	8,283	37.1	**E**	5,925	23.4	C
F-4	SR-60	Central Ave to Mountain Ave	6,339	26.1	D	9,338	46.5	**F**	6,336	24.7	C	6,076	24.1	C
F-5	SR-60	Mountain Ave to Euclid Ave	6,205	25.4	C	6,664	26.1	D	6,259	24.4	C	6,495	26.3	D
F-6	SR-60	Euclid Ave to Grove Ave	7,650	34.7	D	9,091	43.8	**E**	6,461	25.4	C	6,302	25.2	C
F-7	SR-60	Grove Ave to Vineyard Ave	6,923	29.6	D	9,400	47.3	**F**	6,274	24.3	C	6,699	27.4	D
F-8	SR-60	Vineyard Ave to Archibald Ave	6,823	28.7	D	9,400	47.3	**F**	7,658	32.1	D	6,245	25.0	C
F-9	SR-60	Archibald Ave to Haven Ave	6,268	25.6	C	6,471	25.1	C	See Weaving Analysis			See Weaving Analysis		
F-10	SR-60	Haven Ave to Miliken Ave	6,096	19.1	C	6,864	20.6	C	5,804	17.4	B	5,698	17.5	B
F-11	SR-60	Miliken Ave to I-15	4,234	16.5	B	4,529	16.9	B	5,456	20.5	C	5,111	19.5	C
F-12	SR-60	I-15 to Etiwanda Ave	2,593	10.2	A	2,910	10.8	A	4,490	13.4	B	4,275	13.0	B
F-13	SR-60	Etiwanda Ave to Mission Blvd/ Country Village Rd	3,026	11.9	B	3,968	14.8	B	4,220	15.7	B	3,881	14.8	B
F-14	SR-60	Mission Blvd/Country Village Rd to Pedley Rd	2,596	10.2	A	3,061	11.4	B	4,172	15.5	B	3,963	15.1	B
F-15	SR-60	Pedley Rd to Pyrite St	2,813	11.1	B	3,334	12.4	B	3,216	12.0	B	3,068	11.7	B
F-16	SR-60	Pyrite St to Valley Way	3,348	13.2	B	3,642	13.6	B	2,653	9.9	A	2,567	9.8	A

Table 4.15.G: Existing (2012) Freeway Segment Levels of Service

			Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-17	SR-60	Valley Way to Rubidoux Blvd	4,398	23.7	C	4,252	21.4	C	4,532	23.1	C	4,725	24.9	C
F-18	SR-60	Rubidoux Blvd to Market St	4,943	27.6	D	4,706	24.3	C	3,568	17.7	B	3,868	19.7	C
F-19	SR-60	Market St to Main St	4,498	24.4	C	7,050	47.8	**F**	5,631	30.9	D	5,109	27.6	D
F-20	SR-60	Main to SR-91	See Weaving Analysis			See Weaving Analysis			5,248	27.9	D	4,720	24.9	C
F-24	SR-60	Martin Luther King Blvd to Central Ave	5,865	24.6	C	8,976	45.7	**F**	7,050	30.6	D	5,800	24.1	C
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	4,332	16.9	B	6,795	26.6	D	7,461	31.1	D	6,376	25.6	C
F-27	SR-60	I-215 to Day St.	See Weaving Analysis			See Weaving Analysis			7,050	47.9	**F**	3,093	15.9	B
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	2,702	21.6	C	3,713	30.1	D	3,013	23.1	C	3,254	26.5	D
F-30	SR-60	Heacock St to Perris Blvd	2,349	18.5	C	3,355	26.1	D	2,638	19.9	C	2,671	20.8	C
F-31	SR-60	Perris Blvd to Nason St	1,812	14.3	B	2,344	17.4	B	1,910	14.3	B	2,045	15.8	B
F-32	SR-60	Nason St to Moreno Beach Dr	1,619	12.8	B	2,038	15.1	B	See Weaving Analysis			See Weaving Analysis		
F-33	SR-60	Moreno Beach Dr to Redlands Blvd	1,326	10.5	A	1,397	10.3	A	988	7.4	A	1,336	10.3	A
F-34	SR-60	Redlands Blvd to Theodore St	1,614	12.7	B	1,920	14.2	B	1,193	8.9	A	1,498	11.6	B
F-35	SR-60	Theodore St to Gilman Springs Rd	1,521	12.0	B	1,915	14.2	B	1,183	8.9	A	1,393	10.7	A
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	1,213	11.2	B	1,484	12.3	B	837	7.0	A	1,002	9.1	A

Table 4.15.G: Existing (2012) Freeway Segment Levels of Service

ID	Freeway	Segment	Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	1,215	9.6	A	1,482	11.0	A	837	6.3	A	1,002	7.7	A
F-38	SR-60	Potrero Blvd to I-10	1,215	9.6	A	1,482	11.0	A	837	6.3	A	1,002	7.7	A
F-39	SR-91	I-15 to McKinley St	5,914	22.6	C	9,400	53.3	**F**	6,402	25.1	C	5,971	24.1	C
F-40	SR-91	McKinley St to Pierce St	5,382	29.1	D	5,427	31.4	D	4,788	25.0	C	5,183	29.3	D
F-41	SR-91	Pierce St to Magnolia Ave	4,888	25.5	C	4,922	27.2	D	4,629	23.9	C	7,050	53.3	**F**
F-42	SR-91	Magnolia Ave to La Sierra Ave	See Weaving Analysis			See Weaving Analysis			4,894	25.7	C	7,050	53.3	**F**
F-43	SR-91	La Sierra Ave to Tyler St	4,585	23.5	C	4,939	27.3	D	4,467	22.9	C	5,167	29.2	D
F-44	SR-91	Tyler St to Van Buren Blvd	5,704	21.7	C	5,851	23.5	C	5,769	22.1	C	6,661	27.8	D
F-45	SR-91	Van Buren Blvd to Adam St	5,841	22.3	C	4,999	19.6	C	5,342	20.2	C	6,401	26.3	D
F-46	SR-91	Adam St to Madison St	6,531	26.1	D	4,742	18.7	C	4,939	18.6	C	5,453	21.5	C
F-47	SR-91	Madison St to Indiana Ave/Arlington Ave	5,879	22.8	C	4,530	17.9	B	4,218	21.4	C	4,711	25.5	C
F-49	SR-91	Central Ave to 14th St	6,021	34.8	D	5,391	30.8	D	4,737	24.7	C	4,940	27.2	D
F-51	SR-91	University Ave to Spruce St (off-ramp)	7,244	22.1	C	6,394	20.0	C	See Weaving Analysis			See Weaving Analysis		
F-52	I-10	SR-60 to Beaumont Ave	3,037	11.9	B	4,252	16.4	B	4,288	18.1	C	3,675	13.8	B
F-53	I-10	Beaumont Ave to Pennsylvania Ave	3,087	12.1	B	4,322	16.7	B	4,358	18.4	C	3,736	14.0	B

Table 4.15.G: Existing (2012) Freeway Segment Levels of Service

			Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-54	I-10	Pennsylvania Ave to Highland Springs Ave	3,236	12.6	B	4,531	17.5	B	4,569	19.4	C	3,916	14.7	B
F-55	I-10	Highland Springs Ave to Sunset Ave	3,112	12.2	B	4,357	16.8	B	4,393	18.6	C	3,766	14.1	B
F-56	I-10	Sunset Ave to 22nd St	3,037	11.9	B	4,252	16.4	B	4,288	18.1	C	3,675	13.8	B
F-57	I-10	22nd St to S 8th St	2,987	11.7	B	4,182	16.2	B	4,218	17.8	B	3,615	13.5	B
F-58	I-10	S 8th St to S Hargrave St	2,987	11.7	B	4,182	16.2	B	4,218	17.8	B	3,615	13.5	B
F-59	I-10	S Hargrave St to Field Rd	2,689	10.5	A	3,764	14.5	B	3,796	16.0	B	3,254	12.2	B
F-60	I-10	Field Rd to Main St (Cabazon)	2,564	10.0	A	3,590	13.9	B	3,620	15.3	B	3,103	11.6	B
F-61	I-10	Main St (Cabazon) to Main St	2,265	8.8	A	3,172	12.3	B	3,198	13.5	B	2,741	10.3	A
F-62	I-10	Main St to Haugen-Lehmann Way	2,265	8.8	A	3,172	12.3	B	3,198	13.5	B	2,741	10.3	A
F-64	I-10	SR-111 to Tipton Rd	1,967	7.7	A	2,753	10.6	A	2,777	11.7	B	2,380	8.9	A
F-65	I-10	Tipton Rd to SR-62	1,967	7.7	A	2,753	10.6	A	2,777	11.7	B	2,380	8.9	A
F-66	I-215	Scott Rd to Newport Rd	2,739	22.0	C	3,285	25.8	C	2,294	17.2	B	2,318	17.2	B
F-68	I-215	Newport Rd to MacCall Blvd	1,900	15.0	B	2,047	15.3	B	2,528	19.0	C	3,111	23.7	C
F-69	I-215	MacCall Blvd to Ethanac Rd	2,457	19.5	C	3,293	25.8	C	3,069	23.6	C	2,539	18.9	C
F-70	I-215	Ethanac Rd to SR-74	3,787	34.5	D	3,150	24.4	C	2,882	21.9	C	3,854	31.9	D

Table 4.15.G: Existing (2012) Freeway Segment Levels of Service

ID	Freeway	Segment	Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-71	I-215	SR-74/Case Rd to Redlands Blvd	3,350	28.4	D	4,181	37.4	**E**	4,569	44.2	**E**	3,710	30.1	D
F-74	I-215	Columbia Ave to Center St	5,587	33.5	D	5,150	27.3	D	5,191	27.6	D	4,917	25.4	C
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	5,474	32.4	D	5,034	26.5	D	5,541	30.4	D	5,235	27.6	D
F-76	I-215	Iowa Ave to Barton Rd	5,341	31.2	D	5,164	27.4	D	5,414	29.4	D	5,196	27.3	D
F-77	I-215	Barton Rd to Mt Vernon Ave	5,738	35.1	**E**	5,533	30.3	D	5,435	29.5	D	5,256	27.7	D
F-78	I-215	Mt Vernon Ave to I-10	5,582	22.5	C	5,420	20.5	C	5,776	22.0	C	5,606	21.0	C
F-80	I-215	Auto Plaza Dr to Mill St	4,319	17.1	B	4,533	17.0	B	4,022	15.1	B	4,090	15.2	B
F-83	I-215	Baseline Rd to Highland Ave	3,023	24.8	C	3,355	26.5	D	4,537	44.1	**E**	4,700	46.7	**F**

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

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Table 4.15.H: Existing (2012) Freeway Weaving Segment Levels of Service

ID	Freeway	Weaving Segment	Northbound / Eastbound												Southbound / Westbound											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS
			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F		
W-1	SR-60	SR-71/S Garey Ave to S Reservoir Rd	4,568	167	301	949	24.0	C	6,963	195	351	1,107	35.6	**E**	4,643	66	1,040	376	21.4	C	4,590	63	885	354	20.8	C
W-9	SR-60	Haven Ave to Archibald Ave	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						5,276	26	485	501	23.5	C	4,889	39	399	744	23.5	C
W-20	SR-60	Main St to SR-91	4,381	65	608	366	25.8	C	5,997	48	736	269	33.6	D	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-21	SR-60	SR-91 to W Blaine St/3rd St	2,364	201	183	1,137	14.9	B	7,625	234	214	1,327	39.0	**E**	6,154	105	877	593	28.6	D	5,677	122	720	692	27.3	C
W-22	SR-60	W Blaine St/3rd St to University Ave	3,300	17	290	314	18.7	B	5,747	50	307	946	37.4	**E**	5,104	6	498	106	20.1	C	5,460	16	416	312	23.0	C
W-23	SR-60	University Ave to Martin Luther King Blvd	3,875	12	406	235	20.4	C	4,803	46	208	875	25.7	C	4,237	39	584	741	28.0	C	5,101	13	521	241	28.0	C
W-25	SR-60	Central Ave to Fair Isle Dr/Box Springs Rd	3,110	18	392	336	14.5	B	6,525	45	409	861	32.4	D	5,515	61	323	1,151	37.0	**E**	5,043	29	410	544	29.3	D
W-27	SR-60	I-215 to Day St	2,314	18	552	104	11.0	B	3,899	25	640	140	16.7	B	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-28	SR-60	Day St to Pigeon Pass Rd/Frederick St	1,720	10	1,070	195	12.8	B	3,033	24	1,236	456	20.7	C	3,287	39	626	748	31.0	D	3,050	30	540	577	27.2	C
W-32	SR-60	Moreno Beach Dr to Nason St.	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						864	36	30	679	9.2	A	1,089	28	99	537	10.2	B
W-42	SR-91	Magnolia Ave to La Sierra Ave	4,020	34	746	645	24.6	C	3,889	47	863	885	27.4	C	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-48	SR-91	Arlington Ave to Central Ave	6,022	23	577	428	35.3	**E**	3,104	14	686	269	19.6	B	3,893	15	454	280	21.1	C	4,485	12	390	231	23.8	C
W-50	SR-91	14th St to University Ave	3,700	15	645	283	21.8	C	3,339	18	753	333	21.9	C	4,397	8	622	152	24.1	C	6,202	16	524	308	35.5	**E**
W-51	SR-91	SR-60 to Mission Inn Ave/University Ave (off-ramp)	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						2,904	147	343	835	14.5	B	6,201	126	294	716	26.9	C
W-63	I-10	Haugen-Lehmann Way to SR-111	1,305	13	876	71	7.5	A	2,431	10	677	54	10.5	B	2,787	19	23	369	11.8	B	1,370	67	33	1,271	10.3	B
W-73	I-215	SR-60 to Columbia Ave	4,137	300	120	1,703	34.6	D	3,759	252	108	1,429	27.9	C	4,131	72	1,266	408	26.4	C	3,458	84	1,477	476	24.6	C
W-79	I-215	I-10 to Auto Plaza Dr/Orange Show Rd	3,226	62	765	349	16.3	B	2,954	86	622	485	14.5	B	3,616	34	1,050	190	16.8	B	3,379	69	752	391	16.4	B
W-81	I-215	Mill St to 2nd St	3,969	18	717	340	23.0	C	4,035	23	607	430	22.5	C	3,546	28	332	536	19.6	B	3,335	33	387	625	19.4	B
W-82	I-215	5th St to Baseline Rd	2,956	14	518	266	16.5	B	2,906	12	444	228	14.9	B	2,689	30	318	570	15.6	B	2,410	35	371	665	15.1	B

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

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- SR-60, Grove Avenue to Vineyard Avenue (Eastbound p.m.);
- SR-60, Vineyard Avenue to Archibald Avenue (Eastbound p.m.);
- SR-60, Market Street to Main Street (Eastbound p.m.);
- SR-60, Martin Luther King Boulevard to Central Avenue (Eastbound p.m.);
- SR-60, I-215 to Day Street (Westbound a.m.);
- SR-91, I-15 to McKinley Street (Eastbound p.m.);
- SR-91, Pierce Street to Magnolia Avenue (Westbound p.m.);
- SR-91, Magnolia Avenue to La Sierra Avenue (Westbound p.m.);
- I-215, SR-74/Case Road to Redlands Boulevard (Westbound a.m., Eastbound p.m.);
- I-215, Barton Road to Mt. Vernon Avenue/Washington Street (Northbound a.m.);
- I-215, Baseline Road to Highland Avenue/SR-210 (Southbound a.m., Southbound p.m.);
- SR-60, SR-71/S. Garey Avenue to South Reservoir Road (Eastbound p.m.);
- SR-60, SR-91 to W. Blaine Street/3rd Street (Eastbound p.m.);
- SR-60, W. Blaine Street/3rd Street to University Avenue (Eastbound p.m.);
- SR-60, Central Avenue to Fair Isle Drive/Box Springs Road (Westbound a.m.);
- SR-91, Arlington Avenue to Central Avenue (Eastbound a.m.); and
- SR-91, 14th Street to University Avenue (Westbound p.m.).

Freeway ramp merge and diverge operations were also evaluated for existing baseline conditions. The results of this analysis are presented in Table 4.15.I, which shows all ramp merge and diverge areas analyzed are currently operating at satisfactory LOS D or better with the exception of the SR-60 Eastbound On-Ramp from Central Avenue in the p.m. peak hour.

4.15.1.3 Responses to NOP Comments

During the NOP comment period, the City received comments on the project. The comments pertaining to traffic and circulation and responses to those comments are provided below:

Caltrans Comment Letter Dated February 29, 2012 (DEIR Appendix B)

A Traffic Impact Study (TIS) is necessary to determine this proposed project's near-term and long-term impacts to the State facilities and to propose appropriate mitigation measures. The study should be based on Caltrans' *Guide for the Preparation of Traffic Impact Studies (TIS),* which is located at http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf. Minimum contents of the traffic impact study are listed in Appendix "A" of the TIS guide.

Response

1) A traffic impact assessment (TIA) has been performed for the project. The study has been prepared to cover the subjects required under Caltrans' TIS guidelines.

Bush Letter Dated March 13, 2012 (Scoping Meeting Cards 2, DEIR Appendix B)

1) The adequacy of Alessandro Boulevard and Gilman Springs Road to accommodate project-related traffic has been studied as part of the TIA.

Table 4.15.I: Existing (2012) Freeway Ramp Levels of Service

ID	Freeway / Direction	Ramp Segment	Ramp No. of Lanes	AM Peak Hour				PM Peak Hour			
				Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS
R-1	SR-60 EB	On-Ramp from Martin Luther King Blvd	1	4,110	242	17.0	B	5,678	906	26.6	C
R-2	SR-60 EB	On-Ramp from Central Ave	1	5,796	349	18.5	B	8,868	904	31.8	**F**
R-3	SR-60 EB	Off-Ramp to Redlands Blvd	1	1,326	119	3.3	A	1,397	30	3.2	A
R-4	SR-60 EB	Loop On-Ramp from Redlands Blvd	1	1,207	26	14.5	B	1,367	25	15.1	B
R-5	SR-60 EB	Direct On-Ramp from Redlands Blvd	0	Does not Exist in this Scenario				Does not Exist in this Scenario			
R-6	SR-60 EB	Off-Ramp to Theodore St	1	1,614	207	17.3	B	1,920	434	19.1	B
R-7	SR-60 EB	Loop On-Ramp from Theodore St	1	1,407	70	16.5	B	1,486	71	16.5	B
R-8	SR-60 EB	Direct On-Ramp from Theodore St	1	Does not Exist in this Scenario				Does not Exist in this Scenario			
R-9	SR-60 EB	Off-Ramp to Gilman Spring Rd	1	1,521	330	16.8	B	1,915	385	19.5	B
R-10	SR-60 EB	On-Ramp from Gilman Spring Rd	1	1,191	7	14.5	B	1,530	8	16.6	B
R-11	SR-60 WB	Off-Ramp to Gilman Spring Rd	1	837	11	10.0	B	1,002	9	11.7	B
R-12	SR-60 WB	On-Ramp from Gilman Spring Rd	1	826	357	13.8	B	993	306	14.9	B
R-13	SR-60 WB	Off-Ramp to Theodore St	1	1,183	24	12.7	B	1,393	26	14.9	B
R-14	SR-60 WB	On-Ramp from Theodore St	1	1,159	34	11.8	B	1,367	131	14.5	B

Table 4.15.I: Existing (2012) Freeway Ramp Levels of Service

ID	Freeway / Direction	Ramp Segment	Ramp No. of Lanes	AM Peak Hour				PM Peak Hour			
				Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS
R-15	SR-60 WB	Off-Ramp to Redlands Blvd	1	1,193	49	12.8	B	1,498	38	15.9	B
R-16	SR-60 WB	Loop On-Ramp from Redlands Blvd	1	1,144	329	15.8	B	1,460	361	19.0	B
R-17	SR-60 WB	Direct On-Ramp from Redlands Blvd	0	Does not Exist in this Scenario				Does not Exist in this Scenario			
R-18	SR-60 WB	Off-Ramp to Central Ave	2	7,050	384	32.6	D	6,026	439	28.5	D
R-19	SR-60 WB	Off-Ramp to Martin Luther King Blvd	1	7,050	474	31.8	D	5,800	337	26.7	C

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

2) Moreno Valley's current General Plan calls for a realignment of Alessandro Boulevard and the relocation of its intersection with Gilman Springs Road. This has been studied as part of the TIA. It should be noted that the project proposes to move the Alessandro Boulevard access from Gilman Springs Road, which could potentially improve the operation of Alessandro Boulevard/Gilman Springs Road.

3) Any existing inadequacies of freeways and roads cannot be attributed to this proposed project, but are considered in the TIA. While it is true that a portion of the City near Interstate 215 (I-215) has been designated for industrial development, it is also true that much of the project site was designated for business park development in the current General Plan. Initial studies suggest that the traffic attributable to the proposed project will be substantially less than the traffic generated by the site under the uses proposed in the General Plan. The adequacy of the Theodore Street interchange to accommodate future traffic has been studied as part of the TIA.

4) Any existing inadequacies of freeways and roads cannot be attributed to this proposed project. The proposed project does not include any land north of State Route 60 (SR-60), so the need for schools, fire stations, hospitals, and other public facilities north of SR-60 would need to be addressed through some mechanism other than this project. The need for the on-site road system to accommodate through traffic has been studied as part of the TIA.

5) One goal of the WLCSP Circulation Plan is to separate project-related trucks from passenger vehicle traffic on surrounding local streets. Much of the project traffic will access SR-60 via a new interchange at Theodore Street, and project truck traffic will be prohibited on Redlands Boulevard south of Eucalyptus and on Street D to Cactus Avenue southwest of the project.

6) The adequacy of the new proposed Theodore Street interchange to accommodate future (cumulative) traffic has been studied as part of the TIA.

7) The TIA takes into consideration known projects in neighboring jurisdictions to examine cumulative traffic impacts.

8) The TIA studied the cross-section needed for roads that are significantly affected by the project. The cross-section needed will depend on a combination of traffic volume and anticipated turning movements, which will differ by location.

4.15.2 Existing Policies and Regulations

The City of Moreno Valley's current General Plan was approved in July 2006. Goals and policies extracted from the Circulation Element are included in the current General Plan. The specific policies and recommendations of implementation of the General Plan that are relevant to the proposed project are as follows:

Community Development

Policy 2.2.17 Discourage nonresidential uses on local residential streets that generate traffic, noise, or other characteristics that would adversely affect nearby residents.

Circulation Element

Objective 5.1 Create a safe, efficient, and neighborhood-friendly street system.

Policy 5.1.1 Plan access and circulation of each development project to accommodate vehicles (including emergency vehicles and trash trucks), pedestrians, and bicycles.

Policy 5.1.2 Plan the circulation system to reduce conflicts between vehicular, pedestrian and bicycle traffic.

Policy 5.1.3 Require adequate off-street parking for all developments.

Policy 5.1.4 Driveway placement shall be designed for safety and to enhance circulation wherever possible.

Policy 5.1.5 Incorporate American Disability Act (ADA) and Title 24 requirements in roadway improvements as appropriate.

Policy 5.1.6 Design new developments to provide opportunity for access and circulation to future adjacent developments.

Objective 5.2 Implement access management policies

Policy 5.2.1 Locate residential units with access from local streets. Minimize direct residential access from collectors. Prohibit direct single-family driveway access on arterials and higher classification roadways.

Policy 5.2.2 Feed short local street into collectors.

Policy 5.2.3 Encourage the incorporation of traffic calming design into local and collector streets to promote safe vehicle speeds.

Objective 5.3 Wherever possible, maintain Level of Service (LOS) C on roadway links, and LOS D in the vicinity of SR 60 and high employment centers.

Policy 5.3.1 Obtain right-of-way and construct roadways in accordance with the designation shown on the General Plan Circulation Element Map and the City street improvement standards.

Policy 5.3.5 Ensure that new development pays a fair-share cost to provide local and regional transportation improvements and to mitigate cumulative traffic impacts. For this purpose, require new developments to participate in Transportation Uniform Mitigation Fee (TUMF), the Development Impact Fee Program (DIF), and any other applicable transportation fee programs and benefit assessment districts.

Policy 5.3.6 Where new developments would increase traffic flows beyond the LOS C (or LOS D, where applicable), require appropriate and feasible mitigation measures as a condition of approval. Such measures may include extra right-of-way and improvements to accommodate left-turn and right-turn lanes at intersections, or other improvements.

Policy 5.3.7 Provide consideration to projects that have overriding regional or local benefits that would be desirable even though the LOS standards cannot be met. These projects would be required to analyze traffic impacts and mitigate such impacts to the extent that it is deemed feasible.

Objective 5.4 Maximize efficiency of the regional circulation system through close coordination with State and regional agencies and implementation of regional transportation policies.

Policy 5.4.1 Coordinate with Caltrans and the Riverside County Transportation Commission (RCTC) to identify and protect ultimate rights-of-way, including those for freeways, regional arterial projects, transit, bikeways, and interchange expansion.

Policy 5.4.2 Coordinate with Caltrans and RCTC regarding the integration of Intelligent Transportation Systems (ITS) consistent with the principles and recommendations of the Inland Empire Regional ITS Architecture Project.

Objective 5.5 Maximize efficiency of the local circulation system by using appropriate policies and standards to design, locate, and size roadways.

Policy 5.5.3	Prohibit points of access from conflicting with other existing or planned access points. Require points of access to roadways to be separated sufficiently to maintain capacity, efficiency, and safety of the traffic flow.
Policy 5.5.4	Wherever possible, minimize the frequency of access points along streets by the consolidation of access points between adjacent properties on all circulation element streets, excluding collectors.
Policy 5.5.5	Design streets and intersections in accordance with the Moreno Valley Municipal Code.
Policy 5.5.8	Whenever possible, require private and public land developments to provide on-site and off-site improvements necessary to mitigate any development-generated circulation impacts. A review of each proposed land development project shall be undertaken to identify project impacts to the circulation system. The City may require developers to provide traffic impact studies prepared by qualified professionals to identify the impacts of a development.
Policy 5.5.9	Design curves and grades to permit safe movement of vehicular traffic per applicable Caltrans and Moreno Valley standards.
Policy 5.5.10	Provide adequate sight distances for safe vehicular movement at all intersections and driveways.
Objective 5.8	Encourage development of an efficient public transportation system for the entire community.
Policy 5.8.1	Support the development of high-speed transit linkages, or express routes, that would benefit the citizens and employers of Moreno Valley.
Policy 5.8.4	Ensure that all new developments make adequate provision for bus stops and turnout areas for both public transit and school bus service.
Objective 5.10	Encourage bicycling as an alternative to single occupant vehicle travel for the purpose of reducing fuel consumption, traffic congestion, and air pollution.
Policy 5.10.1	Bikeways shall link residential neighborhood areas with parks, employment centers, civic and commercial areas, and schools.
Objective 5.11	Eliminate obstructions that impede safe movement of vehicles, bicyclists, and pedestrians.
Policy 5.11.2	Driveways shall be designed to avoid conflicts with pedestrian and bicycle travel.
Program 5-1	Periodically review current traffic volumes, traffic collision data, and the pattern of urban development to coordinate, program, and as necessary revise the planning and prioritization of road improvements.
Program 5-2	Periodically reassess the goals, objectives and policies statements of the Circulation Element and propose amendments, as necessary.
Program 5-3	Develop a comprehensive strategy to ensure full funding of the circulation system. The strategy will include the DIF, TUMF, and other funding sources that may be available to the City. In addition, the creation of benefit assessment districts, and road and bridge fee districts may be considered where appropriate.
Program 5-4	Develop a multi-year transportation infrastructure improvement program that, to the extent feasible, phases the construction of new projects in advance of new development.
Program 5-5	The above-referenced program will prioritize circulation improvement projects to be funded from DIF, TUMF and other sources. Prioritization to consider the

following factors: (a) Traffic safety; (b) Congestion relief; (c) Access to new development; and (d) Equitable benefit.

Program 5-6 Conduct studies of specified arterial segments to determine if any additional improvements will be needed to maintain an acceptable LOS at General Plan buildout. Generally, these segments will be studied as new developments are proposed in their vicinity. Measures will be identified that are consistent with the Circulation Element designation of these roadway segments, such as additional turn lanes at intersections, signal optimization by coordination and enhanced phasing, and travel demand management measures. The study of specified arterial segments will be required to identify measures to maintain an acceptable LOS at General Plan buildout for at least one of the reasons discussed below:

(a) Segments will need improvement, but their ultimate volumes slightly exceed design capabilities.

(b) Segments will need improvements but require inter-jurisdictional coordination.

(c) Segments would require significant encroachment on existing adjacent development if built out to their Circulation Element designations.

Program 5-7 Establish traffic study guidelines to deal with development projects in a consistent manner. The traffic study guidelines shall include criteria for projects that propose changes it the approved General Plan land uses.

Program 5-13 Implement Transportation demand management (TDM) strategies that reduce congestion in the peak travel hours. Examples include carpooling, telecommuting, and flexible work hours.

4.15.3 Methodology

This section summarizes: i) the traffic volume scenarios analyzed in this EIR and methods of traffic volume projection; ii) the proposed project's trip generation, distribution and assignment; and iii) opening year 2017 background, year 2022 background, and year 2035 General Plan Buildout background levels of service.

4.15.3.1 Traffic Volume Scenarios

Existing Baseline and Existing Baseline Plus Project Conditions. The existing year (2012) represents the baseline traffic conditions as they existed at the time the Notice of Preparation was issued to represent pre-project approval (existing physical conditions). The existing baseline plus project analysis determines direct project-related traffic impacts that would occur on the existing roadway system in a theoretical scenario in which the project is placed upon existing baseline conditions.

Within the project site, the proposed land uses were used for the "Plus-Project" scenarios while the existing land uses were used for the "No-Project" scenarios. The existing plus project analysis is intended to identify the project-specific impacts associated solely with the development of the proposed project and the corresponding mitigation measures necessary to mitigate the project-related impacts.

Year 2017 and Year 2017 Plus Project Conditions. The year 2017 analysis determines the project's cumulative contribution to near-term traffic impacts based on a comparison of year 2017

conditions to year 2017 plus project conditions. Within the site, the proposed land uses were used for the "Plus-Project" scenarios while the existing land uses were used for the "No-Project" scenarios.

The opening year cumulative analysis has been utilized to determine if improvements funded through local and regional transportation mitigation fee programs, such as the Transportation Uniform Mitigation Fee (TUMF) program and the City of Moreno Valley Development Impact Fee (DIF) program, can accommodate the cumulative traffic at the target LOS identified in the City of Moreno Valley General Plan. If the regionally funded improvements can provide the target LOS, and the payment of such funds for such improvements is foreseeable, then the project's payment into the established fee programs will be considered as mitigation for cumulative impacts through the conditions of approval. Other improvements needed beyond the regionally funded improvements (such as localized improvements to non-TUMF, or non-DIF) are identified in the impacts section (Section 4.15.5).

Phase I of the proposed project will be completed in 2017 and includes 21,450,000 square feet of logistics warehouse uses. This is approximately 52 percent of the total project building space. The internal road system will be partially built out, with east-west through traffic served by Alessandro Boulevard (Streets C, D, and E). Theodore Street would serve north-south traffic as it does today.

Per the City of Moreno Valley Traffic Impact Analysis Preparation Guidelines, opening year cumulative traffic volumes were developed by adding a 2 percent per annum growth rate to existing baseline traffic volumes; therefore, a total ambient growth of 12 percent of the existing baseline conditions was added to develop opening year cumulative conditions. Additionally, for opening year cumulative scenarios, traffic generated by other approved projects (cumulative projects) in the vicinity of the proposed project was added. Cumulative projects included for analysis under opening year cumulative traffic conditions are included in the project TIA. Because some of the developments contained within the cumulative analysis may not be constructed at the time anticipated, or at all due to economic conditions, the cumulative impact analysis contained within the TIA is inherently conservative and would tend to overstate cumulative impacts. A detailed summary of the volume development methodology is included in the project Traffic Impact Analysis Report, dated January 2013.

Project traffic volumes at study locations were the added to opening year cumulative volumes to develop opening year cumulative plus project traffic volumes.

Year 2022 and Year 2022 Plus Project Conditions. The year 2022 cumulative analysis determines the project's cumulative contribution to near-term traffic impacts based on a comparison of year 2022 cumulative conditions to year 2022 cumulative plus project conditions. Within the site, the proposed land uses were used for the "Plus-Project" scenarios while the existing land uses were used for the "No-Project" scenarios.

This analysis has also been utilized to determine if improvements funded through local and regional transportation mitigation fee programs, such as the TUMF program and the City of Moreno Valley DIF program, can accommodate the cumulative traffic at the target LOS identified in the City of Moreno Valley General Plan. If the regionally funded improvements can provide the target LOS, and the payment of such funds for such improvements is foreseeable, then the project's payment into the established fee programs will be considered as mitigation for cumulative impacts through the conditions of approval. Other improvements needed beyond the regionally funded improvements (such as localized improvements to non-TUMF, or non-DIF) are identified in the impacts section (Section 4.15.5).

The proposed project will be completed by year 2022 and include a total of 41,600,000 square feet of logistics warehouse uses. The internal road system will be built out. Theodore Street will be changed from a minor arterial to a major arterial. Additionally, Alessandro Boulevard will be closed at the

existing intersection with Merwin Street, rather than be expanded into an arterial as shown in the General Plan. East-west through traffic will be served by proposed "D" Street and Alessandro Boulevard. An additional east-west through route will be opened when Eucalyptus Avenue is connected with Redlands Boulevard to the west and Gilman-Springs Road to the east. Theodore Street will serve north-south traffic as it does today. The remaining project streets proposed are designed to provide internal access to project buildings and are not expected to serve external traffic.

The year 2022 analysis represents a partial buildout of the General Plan. Year 2022 cumulative volumes at study locations were developed by interpolating the growth increment derived from existing 2012 and year 2035 traffic volumes. Additionally, for year 2022 cumulative scenarios, traffic generated by other approved projects (cumulative projects) in the vicinity of the proposed project was added to opening year (2022) background volumes. The cumulative projects included for analysis under year 2022 cumulative traffic conditions are included in the project TIA. As mentioned above, because some of the developments contained within the cumulative analysis may not be constructed at the anticipated time, or at all due to economic conditions, the cumulative impact analysis contained within the TIA is inherently conservative and would tend to overstate cumulative impacts. A detailed summary of the volume development methodology is included in the project Traffic Impact Analysis Report, dated January 2013 in Appendix L-1.

Project traffic volumes at study locations were the added to year 2022 traffic volumes to develop year 2022 plus project traffic volumes.

General Plan Buildout (Year 2035) and General Plan Buildout (Year 2035) Plus Project Conditions. General Plan Buildout conditions determine the project's cumulative contribution to long-term traffic impacts under year 2035. Within the project site, the proposed land uses were used for the "Plus-Project" scenarios while the existing land uses were used for the "No-Project" scenarios. This analysis has also been utilized to determine if improvements funded through local and regional transportation mitigation fee programs, such as the TUMF program and the City of Moreno Valley DIF program, can accommodate the cumulative traffic at the target LOS identified in the City of Moreno Valley General Plan. If the regionally funded improvements can provide the target LOS, and the payment of such funds for such improvements is foreseeable, then the project's payment into the established fee programs will be considered as cumulative mitigation through the conditions of approval. Other improvements needed beyond the regionally funded improvements (such as localized improvements to non-TUMF, or non-DIF) are identified in the impacts section (Section 4.15.5).

As discussed above, the proposed project and internal roadway system will be fully built by the year 2022. Traffic projections for General Plan Buildout conditions were derived from the RivTAM using accepted procedures for model forecast refinement and smoothing. The traffic forecasts reflect the area-wide growth anticipated between existing (2012) baseline conditions and horizon year (2035) conditions. The traffic model zone structure is not designed to provide accurate turning movements along arterial roadways unless refinement and reasonableness checking is performed. Therefore, the horizon year (2035) peak hour forecasts were refined using the long-range forecasts.

Additionally, traffic generated by other approved projects (cumulative projects) in the vicinity of the proposed project were added the General Plan Buildout traffic volumes. The cumulative development projects included for analysis under General Plan Buildout traffic conditions are included in the project Traffic Impact Analysis Report, dated January 2013 (Appendix L-1). As noted above, because some of the developments contained within the cumulative analysis may not be constructed at the anticipated time, or at all due to economic conditions, the cumulative impact analysis contained within the TIA is inherently conservative and would tend to overstate cumulative impacts. A detailed summary of the volume development methodology is included in the project Traffic Impact Analysis Report, dated January 2013 (Appendix L-1).

Project traffic volumes at study locations were to added General Plan Buildout traffic volumes to develop General Plan Buildout plus project traffic volumes.

Table 4.15.J summarizes the forecast years as well as each development scenario analyzed.

Table 4.15.J: Analysis Scenarios

Forecast Year	Scenarios Analyzed
2012	Existing (2012) Baseline Conditions Existing Baseline plus Project Conditions
2017	• Year 2017 without Project Conditions: Ambient growth plus cumulative projects • Year (2017) plus Project Conditions: Ambient growth plus cumulative projects plus Phase I Project (21,450,000 square feet)
2022	• Year 2022, without and with Project (2 scenarios): Analysis based on data from the Riverside County Traffic Analysis Model (RivTAM) plus cumulative projects. • Year 2022 plus Project: Traffic projections to Year 2022 plus cumulative projects plus project
2035	• General Plan Buildout (year 2035), without and with Project (2 scenarios): Analysis based on data from the RivTAM plus cumulative projects. • General Plan Buildout (year 2035) plus Project

4.15.3.2 Project Trip Generation, Distribution, and Assignment

Trip generation represents the amount of traffic that is attracted and produced by a development project. The amount of traffic generated by a specific project is based on the specific land uses being proposed. Traffic engineers utilize different yet similar methodologies to anticipate trip generations. Many times, average trip generation rates as published by the ITE are used to forecast trip rates. In some circumstances, however, use of the ITE trip generation rates is not deemed to be the most accurate methodology of forecasting trip generation because more precise data are available. Therefore, in an effort to forecast the number of vehicle trips potentially generated by the proposed project accurately, the TIA examined and compared the results of three different trip generation sources: (1) the ITE *Trip Generation*, 9th Edition; (2) the Fontana Truck Trip Generation Study; and (3) the 2011 NAIOP trip generation study for high-cube logistics warehouses in Riverside and San Bernardino Counties. Table 4.15.K summarizes the trip rates from each source.

Table 4.15.K: Trip Generation Rate Comparison

Source of Trip Generation Rates	A.M. Peak Hour			P.M. Peak Hour		
	In	Out	Total	In	Out	Total
ITE *Trip Generation Manual*	0.0759	0.0341	0.1100	0.0372	0.0828	0.1200
Fontana *Truck Trip Generation Study*	0.0357	0.0343	0.0700	0.0224	0.0506	0.0730
NAIOP 2011 *Trip Generation Study*	0.030	0.017	0.047	0.022	0.048	0.070

Source: Tables 4 and 5, Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

In addition, trip generation rates derived from existing driveway traffic counts collected at the Skechers Warehouse Facility in November 2011 were compared to the trip rates shown in Table 4.15.K. The counts showed that for all time periods the traffic generated by the Skechers building was only about one-third of what the ITE trip generation rates would have predicted. Furthermore, the actual truck traffic was less than half (41%) of what the methodology mandated in the City of Moreno Valley's traffic impact guidelines (ITE trip generation rates with the vehicle mix from the Fontana truck study) would predict.

The 2011 NAIOP provides the more accurate trip generation for the proposed project as the NAIOP study is the most comprehensive trip study performed for high-cube logistics warehouses. As shown in previously referenced Table 4.15.K, when using the NAIOP and derived trip generation rates, project trips are forecast to be lower than if the ITE trip generation rates where used. However, in order to be conservative, this EIR and the TIA utilize the ITE 9th Edition trip rates, which has the effect of overestimating project impacts. Therefore, as determined in the TIA, trip generation rates for high-cube warehouse uses (Land Use 152) as published in the 9th Edition of ITE's *Trip Generation* manual, and currently widely accepted throughout Riverside and San Bernardino Counties, are the trip rates being utilized to determine the project's traffic impacts. The project trip generation is shown in Table 4.15.L.

Table 4.15.L: Project Trip Generation of Proposed and Existing Land Uses

Land Use Type	Unit	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Proposed Land Uses								
High-Cube Logistics Center (ITE 152)	KSF	0.076	0.034	0.110	0.037	0.083	0.120	1.680
Light Logistics (ITE 150)	KSF	0.237	0.063	0.300	0.080	0.240	0.320	3.560
Utilities Servicing Station (ITE 170)*	KSF	0.720	0.080	0.800	0.342	0.418	0.760	8.000
Gas Station w Convenience Store (ITE 945)	Pumps	5.08	5.08	10.16	6.76	6.76	13.51	162.78
Convenience Store (ITE 851)	KSF	33.52	33.52	67.030	26.729	25.681	52.410	737.990
Existing Land Uses								
Single-Family Dwellings (ITE 210)	DU	0.188	0.563	0.750	0.630	0.370	1.000	9.520
Utilities Servicing Station (ITE 170)*	KSF	0.720	0.080	0.800	0.342	0.418	0.760	8.000

* Note: A.M. directionality taken from table for trips/employee. Daily is assumed to be ten time peak-hour rates
KSF = Thousand Square Feet
DU = Dwelling Unit
ADT = Average Daily Trips
Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

The project is estimated to generate a net total of approximately 71,085 daily trips with approximately 4,672 occurring during a.m. peak hour and 5,101 occurring during the p.m. peak hour. Daily and hourly trip counts take into account only the trips generated by the project. Refinements to raw trip generation estimated using the ITE rates have been made to provide a more detailed breakdown of trips by vehicle mix, similar to the existing baseline count data. Per City of Moreno Valley standard practice, vehicle mix percentages were obtained from the City of Fontana *Truck Trip Generation Study* (August 2003), a recognized source throughout the County of Riverside and the County of San Bernardino for estimating the vehicle mix associated with industrial and warehouse uses. Although ITE provides truck trip generation information for the high-cube logistics warehouse use, these data are not considered as comprehensive as the data available in the Fontana Study nor are they specific to large warehouses/distribution centers in Southern California. As such, the vehicle-mix from the Fontana *Truck Trip Generation Study* has been applied to ITE trip generation rates in order to determine the proposed project's passenger car and truck trip generation. Table 4.15.M shows the project trips by vehicle type.

Trip distribution represents the probable starting and ending locations of traffic generated by a project. Trip distribution is heavily influenced by the geographical location of a project site in relation to local and regional land uses (i.e., the starting and ending locations), and access to a project site from the local and regional transportation system. The proposed project's trip distribution was developed for both passenger cars and trucks.

Table 4.15.M: Project Trips by Vehicle Type

Vehicle Type	AM Peak Hour			PM Peak Hour			ADT	PCEs
	In	Out	Total	In	Out	Total		
PHASE 1								
Autos	1,149	443	1,591	399	1,328	1,727	29,451	29,451
Light Trucks	95	53	147	74	88	162	1,310	1,965
Medium Trucks	124	71	194	99	116	214	1,739	3,479
Heavy Trucks	329	187	516	262	306	568	4,603	13,808
Total	1,695	753	2,448	835	1,837	2,672	37,104	48,704
PHASE 2								
Autos	2,177	844	3,021	751	2,532	3,283	56,403	56,403
Light Trucks	180	101	281	142	166	308	2,482	3,723
Medium Trucks	238	136	373	189	221	410	3,311	6,622
Heavy Trucks	634	363	997	508	592	1,100	8,889	26,666
Total	3,228	1,443	4,672	1,590	3,512	5,101	71,085	93,414

Source: Table 24, PB 2013January 2013

A survey of warehouses in the Inland Empire[1] found that 80 percent of the vehicles entering or leaving warehouse sites are passenger cars, nearly all of which are used for commute trips by employees of the warehouses. Most of these trips are local trips resulting from residents of neighboring cities and will access the project site using the local arterial network. Other passenger car trips would be generated by workers coming from more distant areas. In most cases, these trips would access the project site via SR-60 in the off-peak direction (i.e., commuters traveling to the project site from Los Angeles or Orange Counties). The truck trip distribution patterns have been developed based on the anticipated travel patterns for the proposed project's high-cube logistics warehousing trucks. Since the internal trips, the port-related trips, and the majority of external trips (all but those on I-10) use routes west of the project site, it is anticipated that a large majority of the WLC truck traffic will be oriented to the west of the project, with a much smaller amount to and from the east. Truck trips generated by the proposed project would be oriented in the following manner:

- 82 percent to the west via one or more freeways;
- 6 percent to the north via surface streets;
- 9 percent to the east utilizing SR-60 and I-10; and
- 3 percent to the southeast via surface streets.

Auto Traffic. Figure 25 of the WLC TIA indicates that daily passenger vehicle traffic will distribute in the following directions:

- 44 percent westbound on SR-60;
- 9 percent eastbound on SR-60 (east of Gilman Springs Road);
- 11 percent to the southeast on Gilman Springs Road;
- 29 percent southwest onto Cactus Avenue; and
- 9 percent north along Theodore Street.

Moreno Valley currently has a jobs/housing imbalance that results in long westbound commutes for thousands of city residents every workday. The WLC would create approximately 25,000 new jobs; nearly doubling the number of jobs in Moreno Valley. This would have several effects on commute

[1] Truck Trip Generation Study, City of Fontana, August 2003

patterns. First, many current and future residents of Moreno Valley would be able to work locally with very short commute trips.

Second, residents of neighboring cities who work at the WLC would have short commutes and, importantly, be able to access the site using the arterial road network. This is consistent with the policies of the Western Riverside Council of Governments and the Riverside County Transportation Commission to promote use of the arterial road network as an alternative to freeways. Tests with the RIVTAM model (see Figure 25) suggest that nearly half of auto traffic associated with the WLC would be on surface streets; i.e., not on freeways.

Third, workers coming from more distant locations would, in most cases, be traveling on freeways in the off-peak direction; i.e., commuters traveling to the WLC from Los Angeles or Orange Counties would be headed eastbound in the morning and westbound in the evening. This would enable them to take advantage of the existing unused off-peak capacity of freeways, since the freeways were sized for flows in the peak direction.

The RIVTAM model assumes that WLC employees would work elsewhere if the WLC project were not implemented, then the availability of jobs at the east end of Moreno Valley would reduce the number of workers driving long commutes to distant jobsites to the west and southwest. Although the project would increase freeway auto traffic eastbound in the morning, it would also decrease the traffic in the more congested westbound direction. In the evening the pattern would reverse, with the project relieving traffic in the congested eastbound direction. Therefore, the WLC project would have a net beneficial impact on the regional freeway auto traffic. This is consistent with the policies of SCAG, WRCOG, and other regional governments and agencies to encourage better jobs/housing balances as a way to reduce peak directional flows on the regional freeway system.

The assignment of traffic from the project area to the adjoining roadway system is based upon the project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the project. For more information on project trip generation and distribution for both trucks and passenger vehicles, see Sections 4.C and 4.D in the project TIA (PB 2013, DEIR Appendix L). It is important to note that all trucks must use established truck routes within the City of Moreno Valley, while passenger vehicles will distribute onto the freeway and local streets depending on their destinations.

It should be noted that all technical studies based all or in part on traffic (i.e., air quality, greenhouse gases, and noise) have used these same assumptions regarding trip generation, trip length, etc. from the project TIA for their assessments of project impacts.

Passenger Car Equivalents. The analytical methods used to forecast traffic impacts must take into account the driving characteristics of different classes of vehicles. This is typically done through the use of PCE factors, which convert the number of heavy vehicles in the traffic stream into an equivalent number of passenger cars. The term PCE was first used in the 1965 *Highway Capacity Manual* (HCM), and was determined by comparing the relative number of passing of trucks by passenger cars in relation to number of passing of passenger car by passenger cars. According to the *HCM 2000*:

> *The entry of heavy vehicles-that is, vehicles other than passenger cars (a category that includes small trucks and vans)-into the traffic stream affects the number of vehicles that can be served. Heavy vehicles are vehicles that have more than four tires touching the pavement.*
>
> *Trucks, buses, and recreational vehicles (RVs) are the three groups of heavy vehicles addressed by the methods in this manual. Heavy vehicles adversely affect traffic in two ways:*
>
> - *They are larger than passenger cars and occupy more roadway space; and*

- *They have poorer operating capabilities than passenger cars, particularly with respect to acceleration, deceleration, and the ability to maintain speed on upgrades.*

The second impact is more critical. The inability of heavy vehicles to keep pace with passenger cars in many situations creates large gaps in the traffic stream, which are difficult to fill by passing maneuvers. The resulting inefficiencies in the use of roadway space cannot be completely overcome. This effect is particularly harmful on sustained, steep upgrades, where the difference in operating capabilities is most pronounced, and on two-lane highways, where passing requires use of the opposing travel lane.

Grade is by far the most important determinant in the PCE factor to be used. The HCM's recommended PCE for trucks ranges from 1.5 for places with slopes of less than 2 percent up to 7.0 for places with steep grades more than a mile long. HCM's recommended PCE factors were used for the freeway analysis.

For the analysis of surface streets, the City's TIA guidelines mandate the use of PCE factors taken from the San Bernardino County CMP, 2003 Update. These are somewhat higher than the HCM rates; for example, HCM recommends 2 PCEs per heavy truck while the San Bernardino County CMP uses 3. This means that use of the San Bernardino County CMP PCE rates represents a deliberately conservative approach in the sense that the analysis will tend to over-state the impact of trucks on traffic conditions.

4.15.3.3 Year 2017 Conditions

Levels of service are discussed below for year 2017. As noted above, Phase I of the proposed project will be completed in 2017 and includes 21,450,000 square feet of logistics warehouse uses. This is approximately 52 percent of the total project building space. The internal road system will be partially built out, with east-west through traffic served by proposed "D" Street and Alessandro Boulevard. Theodore Street would serve north-south traffic as it does today. For the 2017 scenarios, roadway projects that are either under construction or are funded and planned for implementation in the short term were added. A detailed list of roadway projects added for the 2017 scenarios is included in the project TIA, dated January 2013 in Appendix L-1.

Year 2017 Without Project Levels of Service. An intersection level of service analysis was conducted to determine intersection performance under opening year cumulative conditions. Table 4.15.N summarizes the levels of service for opening year cumulative conditions at study area intersections. As shown on Table 4.15.N, the same 12 intersections that exceeded the City's LOS standards under Existing No-Project Conditions also exceed the LOS standards under 2017 No-Project conditions. No additional intersections were forecast to operate at LOS D or worse. In addition, 15 other intersections were forecast to operate at LOS D or worse. The intersections that were forecast to exceed the City's LOS standards were:

- Redlands Boulevard/Locust Avenue;
- Redlands Boulevard/SR-60 Westbound ramps (a.m. and p.m.);
- Theodore Avenue/Fir Avenue (p.m.);
- Oliver Street/Alessandro Boulevard (a.m.);
- Moreno Beach Drive/Ironwood Avenue (a.m.);
- Iris Avenue/Perris Boulevard (a.m.);
- Krameria Avenue; Perris Boulevard (a.m. and p.m.);
- Lasselle Street/Cactus Avenue;

Table 4.15.N: Year 2017 Without Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
1	Theodore St/Street F	D	N/A	Non-Existent		Non-Existent	
2	Street D/Street E	D	N/A	Non-Existent		Non-Existent	
3	Theodore Ave/Alessandro (Str A/Str C/Str E)	D	CSS	10.5	B	22.3	C
4	Street C/Street F	D	N/A	Non-Existent		Non-Existent	
5	Street C/Street H	D	N/A	Non-Existent		Non-Existent	
6	Alessandro Blvd (Street C)/Gilman Springs Rd	D	CSS	7.4	A	13.3	B
7	Street F/Street G	D	N/A	Non-Existent		Non-Existent	
8	Alessandro Blvd (Street G)/Street H	D	N/A	Non-Existent		Non-Existent	
9	Gilman Springs Rd/Eucalytpus Ave	D	N/A	Non-Existent		Non-Existent	
10	Redlands Blvd/Locust Ave	C	CSS	> 50	**F**	> 50	**F**
11	Redlands Blvd/Ironwood Ave	D	SIGNAL	36.8	D	34.7	C
12	Theodore Street/Ironwood Avenue	D	CSS	9.9	A	11.8	B
13	Redlands Blvd/SR-60 WB ramps	D	CSS	> 50	**F**	> 50	F
14	Redlands Blvd/SR-60 EB ramps	D	SIGNAL	10.6	B	19.4	B
15	Theodore Str/SR-60 WB ramps	D	CSS	10.3	B	12.3	B
16	Theodore Str/SR-60 EB ramps	D	CSS	10.8	B	13.1	B
17	Quincy Str/Fir Ave		N/A	Non-Existent		Non-Existent	
18	Redlands Blvd/Eucalyptus Ave (Fir)	D	N/A	Non-Existent		Non-Existent	
19	Theodore Ave/Fir Ave (Eucalyptus)	D	CSS	10.1	B	> 50	**F**
20	Oliver Str/Alessandro Blvd	C	CSS	> 50	**F**	> 50	**F**
21	Moreno Beach Dr/Alessandro Blvd	D	SIGNAL	20.1	C	19.7	B
22	Quincy Str/Alessandro Blvd		N/A	Non-Existent		Non-Existent	
23	Redlands Blvd/Alessandro Blvd	C	AWS	39.2	**E**	20.1	C
24	Oliver Str/Cactus Ave	D	SIGNAL	35.9	D	24.9	C
25	Moreno Beach Dr/Cactus Ave	C	SIGNAL	18.4	B	19.2	B
26	Quincy Str/Cactus Ave		N/A	Non-Existent		Non-Existent	
27	Redlands Blvd/Cactus Ave	C	AWS	13.6	B	8.8	A
28	Moreno Beach Dr/John Kennedy Dr	D	SIGNAL	20.2	C	17.2	B
29	Heacock Str/Ironwood Ave	D	SIGNAL	30.1	C	34.2	C
30	Heacock Str/SR-60 WB Ramps	D	SIGNAL	30.4	C	25.2	C
31	Heacock St/SR-60 EB Ramps	D	SIGNAL	16.9	B	21.4	C
32	Sunnymead Blvd & Perris Blvd	D	SIGNAL	30.1	C	37.1	D
33	Perris Blvd/SR-60 WB Ramps	D	SIGNAL	27.2	C	21.7	C
34	Perris Blvd/Eucalyptus Ave	D	SIGNAL	26.1	C	29.1	C
35	Moreno Beach Dr/Locust Ave	C	CSS	9.0	A	9.2	A
36	Moreno Beach Drive & Ironwood Avenue	D	SIGNAL	> 80	**F**	49.5	D
37	Moreno Beach Dr/SR-60 EB Ramps	D	SIGNAL	41.6	D	27.2	C
38	Perris Blvd/John F. Kennedy Dr	D	SIGNAL	42.5	D	41.4	D
39	Iris Ave/Perris Blvd	D	SIGNAL	55.1	**E**	37.5	D
40	Kitching St/Iris Ave	C	SIGNAL	27.3	C	22.1	C
41	Lasselle Str/Iris Ave	D	SIGNAL	30.9	C	42.7	D
42	Nason Str/Iris Ave	C	SIGNAL	8.5	A	8.5	A
43	Oliver Str/Iris Ave	D	SIGNAL	31.4	C	21.8	C
44	Via Dell Lago/Iris Ave	C	SIGNAL	9.0	A	7.7	A
45	Krameria Ave/Perris Blvd	D	SIGNAL	> 80	**F**	> 80	**F**
46	Kitching Str/Krameria Ave	D	SIGNAL	24.5	C	30.6	C
47	Lasselle Str/Krameria Ave	D	SIGNAL	35.2	D	14.0	B
48	Kitching Str/Alessandro Blvd	D	SIGNAL	31.3	C	25.8	C

Table 4.15.N: Year 2017 Without Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
49	Lasselle Str/Alessandro Blvd	D	SIGNAL	42.5	D	36.1	D
50	Morrison Str/Alessandro Blvd	D	SIGNAL	9.3	A	9.5	A
51	Nason Str/Alessandro Blvd	D	SIGNAL	26.2	C	31.2	C
52	Kitching Str/Cactus Ave	C	SIGNAL	33.7	C	23.8	C
53	Lasselle Str/Cactus Ave	C	SIGNAL	61.4	**E**	42.4	**D**
54	Morrison Str/Cactus Ave		N/A	Non-Existent		Non-Existent	
55	Nason Str/Cactus Ave	D	SIGNAL	27.0	C	61.1	**E**
56	Frederick Str/Alessandro Blvd	D	SIGNAL	24.1	C	47.4	D
57	Graham Str/Alessandro Blvd	D	SIGNAL	24.0	C	61.4	**E**
58	Heacock Str/Alessandro Blvd	D	SIGNAL	37.0	D	31.7	C
59	Indian Str/Alessandro Blvd	D	SIGNAL	24.4	C	31.9	C
60	Perris Blvd/Alessandro Blvd	D	SIGNAL	38.9	D	> 80	**F**
61	Frederick Str/Cactus Ave	D	SIGNAL	12.5	B	13.1	B
62	Graham Str/Cactus Ave	D	SIGNAL	> 80	**F**	55.9	**E**
63	Heacock Str/Cactus Ave	D	SIGNAL	40.5	D	22.3	C
64	Indian Str/Cactus Ave	C	SIGNAL	26.8	C	18.3	B
65	Perris Blvd/Cactus Ave	D	SIGNAL	31.3	C	30.5	C
66	Alessandro Blvd/Sycamore Canyon Blvd	D	SIGNAL	41.6	D	35.1	D
67	I-215 SB Ramps/Alessandro Blvd	D	SIGNAL	11.7	B	9.6	A
68	I-215 NB Ramps/Alessandro Blvd	D	SIGNAL	27.2	C	27.1	C
69	Old 215 Frontage Rd/Alessandro Blvd	D	SIGNAL	17.4	B	18.7	B
70	Day Str/Alessandro Blvd	D	SIGNAL	6.0	A	11.2	B
71	Elsworth Str/Alessandro Blvd	D	SIGNAL	15.3	B	28.4	C
72	I-215 SB Ramps/Cactus Ave	D	SIGNAL	25.1	C	36.4	D
73	I-215 NB Ramps/Cactus Ave	D	SIGNAL	9.6	A	9.6	A
74	Elsworth Str/Cactus Ave	D	SIGNAL	54.4	D	> 80	**F**
75	Central Ave/Lochmoor Dr.	D	SIGNAL	22.2	C	32.2	C
76	Sycamore Canyon Blvd/Central Ave	D	SIGNAL	30.3	C	19.8	B
77	SR-60 EB Ramps/Central Ave	D	SIGNAL	10.5	B	11.0	B
78	SR-60 WB Ramps/Central Ave	D	SIGNAL	7.8	A	7.4	A
79	Alessandro Blvd/Trautwein Rd.	D	SIGNAL	42.1	D	16.3	B
80	Alessandro Blvd/Mission Grove Pkwy	D	SIGNAL	24.8	C	52.0	D
81	Martin Luther King Blvd/Chicago Ave	D	SIGNAL	30.8	C	46.9	D
82	Martin Luther King Blvd/Iowa Ave	D	SIGNAL	10.1	B	15.1	B
83	Martin Luther King Blvd/Canyon Crest Dr	D	SIGNAL	67.3	**E**	33.2	C
84	Martin Luther King Blvd/I-215 SB Ramps	D	SIGNAL	10.1	B	5.9	A
85	Martin Luther King Blvd/I-215 NB Ramps	D	AWS	35.9	**E**	15.1	C
86	Central Ave/Chicago Ave	D	SIGNAL	28.8	C	34.9	C
87	Central Ave/El Cerrito Dr	D	SIGNAL	13.0	B	14.4	B
88	Central Ave/Canyon Crest Dr	D	SIGNAL	37.7	D	49.5	D
89	Chicago Ave/Country Club Dr	D	SIGNAL	7.3	A	5.2	A
90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	SIGNAL	34.7	C	32.1	C
91	Arlington Ave/Indiana Ave/SR-91 NB Ramps	D	SIGNAL	22.0	C	22.5	C
92	Arlington Ave/Maude St	D	SIGNAL	15.3	B	10.5	B
93	Horace St/Arlington Ave	D	SIGNAL	16.2	B	11.5	B
94	Arlington Ave/Victoria Ave	D	SIGNAL	78.3	**E**	79.9	**E**
95	Alessandro Blvd/Chicago Ave	D	SIGNAL	> 80	**F**	> 80	**F**
96	Alessandro Blvd/Century Ave	D	SIGNAL	37.4	D	11.4	B
97	Alessandro Blvd/Via Vista Dr	D	SIGNAL	49.1	D	25.3	C

Table 4.15.N: Year 2017 Without Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
98	Alessandro Blvd/Canyon Crest Dr	D	SIGNAL	44.8	D	25.3	C
99	Harley Knox Blvd/Perris Blvd	D	SIGNAL	21.4	C	16.6	B
100	Harley Knox Blvd/Evan Rd		N/A	Non-Existent		Non-Existent	
101	Ramona Expy/Indian St	E	SIGNAL	16.5	B	45.2	D
102	Ramona Expy/Perris Blvd	E	SIGNAL	33.6	C	44.3	D
103	Ramona Expy/Evans Rd	E	SIGNAL	> 80	**F**	32.8	C
104	Perris Blvd/Morgan St	D	SIGNAL	15.5	B	11.3	B
105	Evans Rd/Morgan St	C	SIGNAL	33.8	C	22.1	C
106	Perris Blvd/Rider St	C	SIGNAL	23.3	C	27.8	C
107	Evans Rd/Rider St	C	SIGNAL	36.5	**D**	29.2	C
108	Perris Blvd/Mid-County Pkwy WB Ramps		N/A	Non-Existent		Non-Existent	
109	Perris Blvd/Mid-County Pkwy EB Ramps		N/A	Non-Existent		Non-Existent	
110	Evans Rd/Mid-County Pkwy WB Ramps		N/A	Non-Existent		Non-Existent	
111	Evans Rd/Mid-County Pkwy EB Ramps		N/A	Non-Existent		Non-Existent	
112	Placentia Ave/Perris Blvd	D	SIGNAL	29.8	C	14.3	B
113	Evans Rd/Placentia Ave		N/A	Non-Existent		Non-Existent	
114	Evans Rd/Orange Ave	C	AWS	16.7	C	12.0	B
115	Evans Rd/Nuevo Rd	C	SIGNAL	24.1	C	23.2	C
116	Evans Rd/Ellis Ave		N/A	Non-Existent		Non-Existent	
117	Ellis Ave/I-215 SB Ramps		N/A	Non-Existent		Non-Existent	
118	Ellis Ave/SR-215 NB Ramps		N/A	Non-Existent		Non-Existent	
119	Evans Rd/San Jacinto Ave		N/A	Non-Existent		Non-Existent	
120	Park Center Blvd/Ramona Expy WB Ramps		N/A	Non-Existent		Non-Existent	
121	Park Center Blvd/Ramona Expy EB Ramps		N/A	Non-Existent		Non-Existent	
122	Bridge St/Ramona Expy	C	AWS	33.3	**D**	95.9	**F**
123	Gilman Springs Rd/Bridge Str	C	CSS	40.2	**E**	38.9	**E**
124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	C	CSS	> 50	**F**	> 50	**F**
125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	C	CSS	> 50	**F**	> 50	**F**
126	Ramona Expy/Sanderson Ave	D	SIGNAL	34.5	C	25.7	C
127	Potrero Blvd/SR-60 WB Ramps		N/A	Non-Existent		Non-Existent	
128	Potrero Blvd/SR-60 EB Ramps		N/A	Non-Existent		Non-Existent	
129	W 6th St/California Ave	C	AWS	15.6	C	16.5	C
130	W 6th St/Beaumont Ave	C	SIGNAL	11.5	B	13.7	B
131	Reche Canyon Rd/Reche Vista Dr	C	SIGNAL	22.9	C	7.3	A
132	San Timoteo Canyon Rd/Alessandro Rd	D	AWS	> 50	**F**	> 50	**F**
133	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	**F**	> 50	**F**
134	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	**F**	> 50	**F**
135	W Crescent Ave/Alessandro Rd	D	CSS	20.2	C	14.5	B
136	W Sunset Dr/Alessandro Rd	D	AWS	10.2	B	10.4	B

Notes: "CSS" means cross-street is stop-controlled "AWS" means all-way stop "RABT" means roundabout
"Non-Existent" indicates that the intersection exists in some scenarios but not in the scenario being reported

denotes LOS exceeding the target threshold

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- Nason Street/Cactus Avenue (p.m.);
- Graham Street/Alessandro Boulevard (p.m.);
- Perris Boulevard/Alessandro Boulevard (p.m.);
- Graham Street/Cactus Avenue (a.m. and p.m.);
- Elsworth Street/Cactus Avenue (p.m.);
- Martin Luther King Boulevard/Canyon Crest Drive (a.m.);
- Martin Luther King Boulevard/I-215 Northbound ramps (a.m.);
- Arlington Avenue/Victoria Avenue (a.m. and p.m.);
- Alessandro Boulevard/Chicago Avenue (p.m.);
- Ramona Expressway/Evans Road (a.m.);
- Evans Road/Rider Street (a.m.);
- Bridge Street/Ramona Expressway (a.m. and p.m.);
- Gilman Springs Road/Bridge Street (a.m.);
- SR-79 (Sanderson Avenue) Northbound/Gilman Springs Road (a.m. and p.m.);
- SR-79 (Sanderson Avenue) Southbound/Gilman Springs Road (a.m. and p.m.);
- San Timoteo Canyon Road/Alessandro Road (a.m. and p.m.);
- San Timoteo Canyon Road/Live Oak Canyon Road (a.m. and p.m.); and
- Redlands Boulevard/San Timoteo Canyon Road (a.m. and p.m.).

The year 2017 without project roadway levels of service are based on daily V/C ratios for the study area roadway segments. Table 4.15.O summarizes the results of this analysis and shows the following two study area roadway segments are projected to operate with unsatisfactory daily V/C ratios under year 2017 without project conditions. These same roadway segments also operate with unsatisfactory LOS in the existing condition:

- Gilman Springs Road:
  - Between Alessandro Boulevard and Bridge Street; and
  - Between SR-60 and Alessandro Boulevard.

A freeway segment level of service analysis was conducted to determine freeway performance under year 2017 conditions. Table 4.15.P summarizes the levels of service at study area segments under year 2017 no project conditions. As shown in Table 14.15.P, the following 37 study segments are forecast to operate at an unsatisfactory level of service during either the a.m. or p.m. peak hour:

- Northbound and Eastbound:
  - SR-60 S. Reservoir Road to Ramona Avenue (p.m.);
  - SR-60 Ramona Avenue to Central Avenue (p.m.);
  - SR-60 Central Avenue to Mountain Avenue (p.m.);
  - SR-60 Euclid Avenue to Grove Avenue (p.m.);
  - SR-60 Grove Avenue to Vineyard Avenue (p.m.);
  - SR-60 Vineyard Avenue to Archibald Avenue (p.m.);

Table 4.15.O: Year 2017 Without Project Roadway Levels of Service

	Roadway	From	To	Roadway Section*	Design Capacity	Daily Volume	LOS
S-1	Theodore Street (A)	SR-60 WB Ramps	Ironwood Avenue	2U	11,300	1,333	A
S-2	Theodore Street (A)	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	2U	11,300	6,879	A
S-3	Fir (Eucalyptus) Ave.	Redlands Blvd	Theodore Street (A)	2U**	11,300	6,745	A
S-4	Eucalyptus Ave (B)	Theodore Street (A)	Gilman Springs Rd	Future Road			
S-5	Theodore Street (A)	Fir (Eucalyptus) Ave.	Street E	2U	11,300	1,010	A
S-6	Street E	Theodore Street (A)	Street D	Future Road			
S-7	Street F	Theodore Street (A)	Alessandro Blvd (Street C)	Future Road			
S-8	Theodore Street (A)	Fir (Eucalyptus) Ave.	Alessandro Blvd (Street C)	2U	11,300	1,069	A
S-9	Alessandro Blvd (Street E)	Merwin Street	Theodore Street (A)	2U	11,300	2,288	A
S-10	Street D	Alessandro Blvd (Street E)	Cactus Ave.	Future Road			
S-11	Alessandro Blvd (Street C)	Theodore Street (A)	Street F	2U	11,300	4,774	A
S-12	Street F	Street C	Street G	Future Road			
S-13	Alessandro Blvd (Street C)	Street F	Gilman Springs Rd	2U	11,300	0	A
S-14	Street G	Street F	Street H	Future Road			
S-15	Street H	Street G	Alessandro Blvd (Street C)	Future Road			
S-16	Gilman Springs Rd	Alessandro Blvd (Street C)	Bridge Street	2U	11,300	17,371	**E**
S-17	Gilman Springs Rd	SR-60	Alessandro Blvd (Street C)	2U	11,300	15,213	**E**
S-18	Redlands Blvd	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	2U	11,300	8,712	B
S-19	Redlands Blvd	Fir (Eucalyptus) Ave.	Alessandro Blvd	2U	*10,000*	7,588	B
S-20	Alessandro Blvd	Redlands Blvd	Merwin Street	2U	*10,000*	4,191	A
S-21	Redlands Blvd	Alessandro Blvd	Cactus Ave.	2U	*10,000*	6,551	A
S-22	Cactus Ave.	Redlands Blvd	Street D	2U**	*10,000*	342	A

* Section is the number of lanes, with "U" for "undivided" and "D" for "Divided" roadways
** Road currently has 2 lanes in one direction and 1 lane in the other. The capacity shown is based on the narrower direction.
*** LOS Standard is "C" in residential areas and "D" for roads in employment-generating areas or near freeways

Indicates LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.P: Year 2017 Without Project Freeway Mainline Levels of Service

			Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-2	SR-60	S Reservoir Rd to Ramona Ave	6,850	28.0	D	8,610	41.7	**E**	9,640	54.6	**F**	7,200	30.4	D
F-3	SR-60	Ramona Ave to Central Ave	6,490	26.1	D	10,340	67.8	**F**	9,110	47.2	**F**	6,720	27.3	D
F-4	SR-60	Central Ave to Mountain Ave	7,220	30.3	D	10,270	66.2	**F**	6,970	29.0	D	6,900	28.6	D
F-5	SR-60	Mountain Ave to Euclid Ave	7,080	29.4	D	7,330	31.2	D	6,890	28.5	D	7,350	31.1	D
F-6	SR-60	Euclid Ave to Grove Ave	8,680	42.4	**E**	10,000	60.7	**F**	7,110	29.8	D	7,160	29.9	D
F-7	SR-60	Grove Ave to Vineyard Ave	7,880	34.9	D	10,340	67.8	**F**	6,900	28.4	D	7,620	33.0	D
F-8	SR-60	Vineyard Ave to Archibald Ave	7,780	34.1	D	10,340	67.8	**F**	8,420	39.4	**E**	7,130	29.7	D
F-9	SR-60	Archibald Ave to Haven Ave	7,210	30.0	D	7,120	29.9	D	See Weaving Analysis			See Weaving Analysis		
F-10	SR-60	Haven Ave to Miliken Ave	7,030	21.8	C	7,550	23.9	C	6,390	19.6	C	6,550	20.2	C
F-11	SR-60	Miliken Ave to I-15	4,970	19.1	C	4,980	19.2	C	6,000	23.4	C	6,010	23.4	C
F-12	SR-60	I-15 to Etiwanda Ave	3,370	12.9	B	3,200	12.3	B	4,940	15.0	B	5,230	15.8	B
F-13	SR-60	Etiwanda Ave to Mission Blvd/Country Village Rd	3,870	14.9	B	4,360	16.8	B	4,640	17.7	B	4,840	18.4	C
F-14	SR-60	Mission Blvd/Country Village Rd to Pedley Rd	3,350	12.9	B	3,370	12.9	B	4,590	17.5	B	5,000	19.1	C
F-15	SR-60	Pedley Rd to Pyrite St	3,580	13.8	B	3,670	14.1	B	3,540	13.5	B	4,010	15.2	B
F-16	SR-60	Pyrite St to Valley Way	4,170	16.0	B	4,010	15.4	B	2,920	11.1	B	3,480	13.2	B
F-17	SR-60	Valley Way to Rubidoux Blvd	5,400	30.2	D	4,680	24.9	C	4,990	26.8	D	5,860	34.1	D

Table 4.15.P: Year 2017 Without Project Freeway Mainline Levels of Service

			Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-18	SR-60	Rubidoux Blvd to Market St	6,070	36.6	**E**	5,180	28.8	D	3,930	20.1	C	4,980	26.7	D
F-19	SR-60	Market St to Main St	5,590	31.8	D	7,760	69.1	**F**	6,200	37.7	**E**	6,410	40.2	**E**
F-20	SR-60	Main to SR-91	See Weaving Analysis			See Weaving Analysis			5,770	33.2	D	6,140	37.0	**E**
F-24	SR-60	Martin Luther King Blvd to Central Ave	7,960	37.0	**E**	9,880	64.7	**F**	7,760	37.2	**E**	7,470	33.9	D
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	5,670	21.9	C	7,480	32.0	D	8,210	37.9	**E**	7,990	35.8	**E**
F-27	SR-60	I-215 to Day St.	See Weaving Analysis			See Weaving Analysis			7,760	66.8	**F**	3,700	19.0	C
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	3,240	26.2	D	4,350	42.1	**E**	3,500	28.9	D	3,770	32.7	D
F-30	SR-60	Heacock St to Perris Blvd	2,840	22.2	C	4,150	38.4	**E**	3,310	26.8	D	3,250	26.3	D
F-31	SR-60	Perris Blvd to Nason St	2,220	17.1	B	3,090	24.5	C	2,700	20.9	C	2,480	19.1	C
F-32	SR-60	Moreno Beach Dr to Nason St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-33	SR-60	Moreno Beach Dr to Redlands Blvd	1,620	12.4	B	2,200	16.7	B	1,610	12.3	B	1,650	12.6	B
F-34	SR-60	Redlands Blvd to Theodore St	2,030	15.5	B	2,890	22.4	C	2,000	15.2	B	2,000	15.3	B
F-35	SR-60	Theodore St to Gilman Springs Rd	1,830	14.0	B	2,620	20.1	C	1,960	14.9	B	1,730	13.2	B
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	1,550	12.4	B	2,170	17.4	B	1,550	12.4	B	1,300	10.4	A
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	1,580	12.1	B	2,200	16.7	B	1,570	11.9	B	1,310	10.0	A
F-38	SR-60	Potrero Blvd to I-10	1,580	12.1	B	2,200	16.7	B	1,570	11.9	B	1,310	10.0	A
F-39	SR-91	I-15 to McKinley St	6,800	27.8	D	10,920	82.2	**F**	7,040	29.4	D	7,200	29.9	D
F-40	SR-91	McKinley St to Pierce St	6,090	36.8	**E**	6,060	36.5	**E**	5,270	29.3	D	6,230	38.1	**E**

Table 4.15.P: Year 2017 Without Project Freeway Mainline Levels of Service

ID	Freeway	Segment	Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-41	SR-91	Pierce St to Magnolia Ave	5,530	31.3	D	5,510	31.1	D	5,090	27.9	D	8,270	83.9	**F**
F-42	SR-91	Magnolia Ave to La Sierra Ave	See Weaving Analysis			See Weaving Analysis			5,380	30.2	D	8,260	83.4	**F**
F-43	SR-91	La Sierra Ave to Tyler St	5,180	28.4	D	5,430	30.4	D	4,910	26.5	D	6,050	36.1	**E**
F-44	SR-91	Tyler St to Van Buren Blvd	6,420	25.7	C	6,250	24.8	C	6,350	25.5	C	7,740	33.8	D
F-45	SR-91	Van Buren Blvd to Adam St	6,560	26.4	D	5,410	20.9	C	5,880	23.1	C	7,400	31.5	D
F-46	SR-91	Adam St to Madison St	7,300	31.5	D	5,070	19.8	C	5,430	21.1	C	6,400	25.4	C
F-47	SR-91	Madison St to Indiana Ave/Arlington Ave	6,620	27.3	D	4,980	19.3	C	4,640	24.7	C	5,670	32.3	D
F-49	SR-91	Central Ave to 14th St	5,880	34.6	D	5,120	27.9	D	4,440	23.5	C	4,520	23.6	C
F-51	SR-91	University Ave to Spruce St (off-ramp)	8,320	27.0	D	7,530	23.6	C	See Weaving Analysis			See Weaving Analysis		
F-52	I-10	SR-60 to Beaumont Ave	3,340	12.8	B	5,050	19.3	C	4,880	18.6	C	4,090	15.6	B
F-53	I-10	Beaumont Ave to Pennsylvania Ave	3,400	13.0	B	4,990	19.0	C	4,920	18.8	C	4,110	15.7	B
F-54	I-10	Pennsylvania Ave to Highland Springs Ave	3,560	13.6	B	5,210	19.9	C	5,150	19.7	C	4,310	16.5	B
F-55	I-10	Highland Springs Ave to Sunset Ave	3,420	13.1	B	4,960	18.9	C	4,930	18.8	C	4,140	15.8	B
F-56	I-10	Sunset Ave to 22nd St	3,340	12.8	B	4,830	18.4	C	4,800	18.3	C	4,040	15.4	B
F-57	I-10	22nd St to S 8th St	3,290	12.6	B	4,740	18.0	C	4,720	18.0	B	3,980	15.2	B
F-58	I-10	S 8th St to S Hargrave St	3,290	12.6	B	4,720	18.0	B	4,710	17.9	B	3,980	15.2	B

Table 4.15.P: Year 2017 Without Project Freeway Mainline Levels of Service

			Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-59	I-10	S Hargrave St to Field Rd	2,960	11.3	B	4,240	16.1	B	4,240	16.1	B	3,580	13.7	B
F-60	I-10	Field Rd to Main St (Cabazon)	2,820	10.8	A	4,050	15.4	B	4,040	15.4	B	3,410	13.0	B
F-61	I-10	Main St (Cabazon) to Main St	2,490	9.5	A	3,580	13.6	B	3,570	13.6	B	3,020	11.5	B
F-62	I-10	Main St to Haugen-Lehmann Way	2,490	9.5	A	3,580	13.6	B	3,570	13.6	B	3,020	11.5	B
F-64	I-10	SR-111 to Tipton Rd	2,160	8.3	A	3,110	11.8	B	3,100	11.8	B	2,620	10.0	A
F-65	I-10	Tipton Rd to SR-62	2,160	8.3	A	3,110	11.8	B	3,100	11.8	B	2,620	10.0	A
F-66	I-215	Scott Rd to Newport Rd	3,110	24.5	C	3,610	30.3	D	2,520	19.3	C	2,670	20.5	C
F-68	I-215	Newport Rd to MacCall Blvd	2,300	17.5	B	2,250	17.2	B	2,780	21.6	C	3,640	30.5	D
F-69	I-215	MacCall Blvd to Ethanac Rd	2,850	22.1	C	3,620	30.4	D	3,380	27.5	D	3,020	23.6	C
F-70	I-215	Ethanac Rd to SR-74	4,430	43.4	**E**	3,470	28.6	D	3,170	25.3	C	4,480	44.4	**E**
F-71	I-215	SR-74/Case Rd to Redlands Blvd	3,960	34.9	D	4,600	47.8	**F**	4,990	59.5	**F**	4,310	41.0	**E**
F-74	I-215	Columbia Ave to Center St	6,150	37.5	**E**	5,990	35.7	**E**	6,110	37.0	**E**	5,410	30.3	D
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	6,020	36.1	**E**	5,830	34.1	D	6,520	42.1	**E**	5,760	33.4	D
F-76	I-215	Iowa Ave/La Cadena Dr to Barton Rd	5,880	34.6	D	6,000	35.8	**E**	6,340	39.7	**E**	5,720	33.0	D
F-77	I-215	Barton Rd to Mt Vernon Ave	6,310	39.4	**E**	6,410	40.6	**E**	6,340	39.7	**E**	5,780	33.6	D
F-78	I-215	Mt Vernon Ave/Washington St to I-10	6,140	24.3	C	6,330	25.2	C	6,690	27.1	D	6,170	24.4	C

Table 4.15.P: Year 2017 Without Project Freeway Mainline Levels of Service

ID	Freeway	Segment	Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-80	I-215	Auto Plaza Dr/ Orange Show Rd to Mill St	4,750	18.2	C	5,160	19.8	C	4,570	17.5	B	4,500	17.2	B
F-83	I-215	Baseline Rd to Highland Ave/SR-210	3,330	17.0	B	3,820	19.6	C	5,080	27.6	D	5,540	31.4	D

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- SR-60 Rubidoux Boulevard to Market Street (a.m.);
- SR-60 Market Street to Main Street (p.m.);
- SR-60 Martin Luther King Boulevard to Central Avenue (a.m. and p.m.);
- SR-60 Pigeon Pass Road/Frederick Street to Heacock Street (p.m.);
- SR-60 Heacock Street to Perris Boulevard (p.m.);
- SR-91 I-15 to McKinley Street (p.m.);
- SR-91 McKinley Street to Pierce Street (a.m. and p.m.)
- I-215 Ethanac Road to SR-74 (a.m.);
- I-215 SR-74/Case Road to Redlands Boulevard (p.m.);
- I-215 Columbia Avenue to Center Street (a.m. and p.m.);
- I-215 Center Street to Iowa Avenue/La Cadena Drive (a.m.);
- I-215 Iowa Avenue/La Cadena Drive to Barton Road (p.m.); and
- I-215 Barton Road to Mt. Vernon Avenue (a.m. and p.m.).

- Southbound and Westbound:
  - SR-60 S. Reservoir Road to Ramona Avenue (a.m.);
  - SR-60 Ramona Avenue to Central Avenue (a.m.);
  - SR-60 Vineyard Avenue to Archibald Avenue (a.m.);
  - SR-60 Market Street to Main Street (a.m. and p.m.);
  - SR-60 Main Street to SR-91 (p.m.);
  - SR-60 Martin Luther King Boulevard to Central Avenue (a.m.);
  - SR-60 Fair Isle Drive/Box Springs Road to I-215 (a.m. and p.m.);
  - SR-60 I-215 to Day Street (a.m.);
  - SR-91 McKinley Street to Pierce Street (p.m.);
  - SR-91 Pierce Street to Magnolia Avenue (p.m.);
  - SR-91 Magnolia Avenue to La Sierra Avenue (p.m.);
  - SR-91 La Sierra Avenue to Tyler Street (p.m.);
  - I-215 Ethanac Road to SR-74 (p.m.);
  - I-215 SR-74/Case Road to Redlands Boulevard (a.m. and p.m.);
  - I-215 Columbia Avenue to Center Street (a.m.);
  - I-215 Center Street to Iowa Avenue/La Cadena Drive (a.m.);
  - I-215 Iowa Avenue/La Cadena Drive to Barton Road (a.m.); and
  - I-215 Barton Road to Mt. Vernon Avenue (a.m.).

A freeway weaving analysis was conducted on freeway segments where an on-ramp is closely followed by an off-ramp, and the two are joined by an auxiliary lane. Table 4.15.Q summarizes the levels of service at weaving segments under opening year cumulative conditions. As shown on Table 14.15.Q, the following seven northbound or eastbound sections and five southbound or westbound sections are forecast to operate at unsatisfactory levels of service in either the a.m. peak or p.m. peak hour:

Table 4.15.Q: Year 2017 Without Project Weaving Segment Levels of Service

ID	Freeway	Weaving Segment	Northbound / Eastbound												Southbound / Westbound											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS
			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F		
W-1	SR-60	SR-71/S Garey Ave to S Reservoir Rd	5,226	186	344	1,054	27.7	C	7,665	215	386	1,216	42.0	E	5,104	74	1,147	417	24.3	C	5,239	69	971	391	23.9	C
W-9	SR-60	Haven Ave to Archibald Ave	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						5,800	30	531	561	27.0	C	5,633	43	437	817	27.6	C
W-20	SR-60	Main St to SR-91	5,587	87	683	493	33.2	D	6,463	53	938	298	39.9	E	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-21	SR-60	SR-91 to W Blaine St/3rd St	3,541	261	199	1,479	22.0	C	8,388	258	232	1,462	45.9	E	6,756	116	975	655	32.8	D	7,211	141	939	799	35.8	E
W-22	SR-60	W Blaine St/3rd St to University Ave	4,668	18	322	342	25.7	C	6,325	55	335	1,045	43.9	E	5,626	6	544	114	22.8	C	7,089	19	541	361	30.5	D
W-23	SR-60	University Ave to Martin Luther King Blvd	5,391	21	449	399	28.8	D	5,281	51	240	960	29.6	D	4,653	43	647	817	32.2	D	6,372	22	658	418	38.2	E
W-25	SR-60	Central Ave to Fair Isle Dr/Box Springs Rd	4,363	23	827	437	22.6	C	6,983	53	598	998	39.2	E	5,999	69	392	1,302	43.2	E	6,244	54	456	1,026	41.2	E
W-27	SR-60	I-215 to Day St	2,817	27	633	153	13.2	B	4,637	27	703	153	20.5	C	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-28	SR-60	Day St to Pigeon Pass Rd/Frederick St	2,182	12	1,219	219	15.5	B	3,498	28	1,362	532	24.7	C	3,534	44	787	827	36.2	E	3,555	35	595	665	32.5	D
W-32	SR-60	Moreno Beach Dr to Nason St.	1,000	10	801	181	12.0	B	1,549	9	1,061	171	17.5	B	1,401	41	50	770	13.5	B	1,247	37	154	694	12.7	B
W-42	SR-91	Magnolia Ave to La Sierra Ave	4,519	39	832	732	28.8	D	4,212	52	948	988	30.0	D	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-48	SR-91	Arlington Ave to Central Ave	5,876	26	885	485	39.3	E	2,548	18	753	333	17.6	B	3,717	17	554	314	21.6	C	4,260	20	480	380	24.2	C
W-50	SR-91	14th St to University Ave	3,907	17	784	314	24.8	C	3,390	20	931	371	23.7	C	4,169	9	681	171	24.2	C	6,062	22	578	418	35.8	E
W-51	SR-91	SR-60 to Mission Inn Ave/University Ave (off-ramp)	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						2,609	164	377	927	14.3	B	6,120	162	308	918	27.1	C
W-63	I-10	Haugen-Lehmann Way to SR-111	1,434	14	967	77	8.2	A	2,751	11	760	60	11.8	B	3,102	22	28	418	12.2	B	1,514	74	37	1,397	11.6	B
W-73	I-215	SR-60 to Columbia Ave	4,540	330	150	1,870	38.5	E	4,215	305	226	1,726	35.6	E	4,603	83	1,658	468	32.0	D	3,786	96	1,624	544	28.2	D
W-79	I-215	I-10 to Auto Plaza Dr/Orange Show Rd	3,539	69	841	391	17.8	B	3,315	95	816	536	17.5	B	4,148	38	1,153	213	19.7	B	3,717	77	824	434	18.8	B
W-81	I-215	Mill St to 2nd St	4,370	20	791	371	19.6	B	4,485	25	785	475	20.7	C	4,061	31	369	589	18.2	B	3,676	36	424	684	17.5	B
W-82	I-215	5th St to Baseline Rd	3,246	16	575	295	14.1	B	3,236	16	575	295	14.0	B	3,094	34	346	646	14.6	B	2,639	39	411	741	13.7	B

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- Northbound or Eastbound:
  - SR-60 SR-71/S. Garey Avenue to S. Reservoir Road (p.m.);
  - SR-60 Main Street to SR-91 (p.m.);
  - SR-60 SR-91 to W. Blaine Street/3rd Street (p.m.);
  - SR-60 W. Blaine Street/3rd Street to University Avenue (p.m.);
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road (p.m.);
  - SR-91 Arlington Avenue to Central Avenue (a.m.); and
  - I-215 SR-60 to Columbia Avenue (a.m. and p.m.).
- Southbound or Westbound:
  - SR-60 SR-91 to W. Blaine Street/3rd Street (p.m.);
  - SR-60 University Avenue to Martin Luther King Boulevard (p.m.);
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road (a.m. and p.m.);
  - SR-60 Day Street to Pigeon Pass Road/Frederick Street (a.m.); and
  - SR-91 14th Street to University Avenue (p.m.).

Freeway ramp merge and diverge operations have been evaluated for year 2017 conditions. Table 4.15.R summarizes the levels of service under year 2017 no project conditions and shows the following three freeway ramp junctions are forecast to operate at unsatisfactory levels of service in either the a.m. peak or p.m. peak hour:

- SR-60 eastbound On-Ramp from Central Avenue (p.m.);
- SR-60 westbound Off-Ramp to Central Avenue (a.m. and p.m.); and
- SR-60 westbound Off-Ramp to Martin Luther King Boulevard (a.m.).

4.15.3.4. Year 2022 Conditions

An intersection level of service analysis was conducted to determine intersection performance under year 2022 without project conditions. Table 4.15.S summarizes the levels of service at under year 2022 without project conditions and shows the following 31 study intersections are forecast to operate at an unsatisfactory level of service during either the a.m. or p.m. peak hour:

- Redlands Boulevard/Locust Avenue (a.m. and p.m.);
- Redlands Boulevard/SR-60 Westbound ramps (a.m. and p.m.);
- Theodore Avenue/Fir (Eucalyptus) Avenue (p.m.);
- Oliver Street/Alessandro Boulevard (a.m. and p.m.);
- Redlands Boulevard/Alessandro Boulevard (a.m.);
- Moreno Beach Drive/Ironwood Avenue (a.m.);
- Moreno Beach Drive/SR-60 Eastbound Ramps (a.m.);
- Lasselle Street/Iris Avenue (p.m.);
- Krameria Avenue/Perris Boulevard (a.m. and p.m.);
- Lasselle Street/Alessandro Boulevard (a.m.);

Table 4.15.R: Year 2017 Without Project Freeway Ramp Levels of Service

ID	Freeway / Direction	Ramp Segment		Ramp No. of Lanes	AM Peak Hour				PM Peak Hour			
					Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS
R-1	SR-60 EB	On-Ramp from Martin Luther King Blvd	EB SR-60 On-Ramp from Martin Luther King Blvd	1	5,790	460	24.0	C	6,240	1,410	33.0	D
R-2	SR-60 EB	On-Ramp from Central Ave	EB SR-60 On-Ramp from Central Ave	1	7,680	460	25.2	C	9,750	1,050	36.8	**F**
R-3	SR-60 EB	Off-Ramp to Redlands Blvd	EB SR-60 Off-Ramp to Redlands Blvd	1	1,620	240	5.7	A	2,200	520	10.9	B
R-4	SR-60 EB	Loop On-Ramp from Redlands Blvd	EB SR-60 Loop On-Ramp from Redlands Blvd	1	1,380	80	16.1	B	1,680	110	18.7	B
R-5	SR-60 EB	Direct On-Ramp from Redlands Blvd	EB SR-60 Direct On-Ramp from Redlands Blvd	0	Does not exist in this Scenario				Does not exist in this Scenario			
R-6	SR-60 EB	Off-Ramp to Theodore St	EB SR-60 Off-Ramp to Theodore St	1	2,030	260	20.7	C	2,890	340	28.5	D
R-7	SR-60 EB	Loop On-Ramp from Theodore St	EB SR-60 Loop On-Ramp from Theodore St	1	1,770	60	19.2	B	2,550	80	25.7	C
R-8	SR-60 EB	Direct On-Ramp from Theodore St	EB SR-60 Direct On-Ramp from Theodore St	1	Does not exist in this Scenario				Does not exist in this Scenario			
R-9	SR-60 EB	Off-Ramp to Gilman Spring Rd	EB SR-60 Off-Ramp to Gilman Spring Rd	1	1,830	400	19.3	B	2,620	440	26.5	C
R-10	SR-60 EB	On-Ramp from Gilman Spring Rd	EB SR-60 On-Ramp from Gilman Spring Rd	1	1,430	140	17.3	B	2,180	80	23.0	C

Table 4.15.R: Year 2017 Without Project Freeway Ramp Levels of Service

ID	Freeway / Direction	Ramp Segment		Ramp No. of Lanes	AM Peak Hour				PM Peak Hour			
					Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS
R-11	SR-60 WB	Off-Ramp to Gilman Spring Rd	WB SR-60 Off-Ramp to Gilman Spring Rd	1	1,560	120	16.7	B	1,410	80	15.4	B
R-12	SR-60 WB	On-Ramp from Gilman Spring Rd	WB SR-60 On-Ramp from Gilman Spring Rd	1	1,440	520	20.2	C	1,330	400	18.4	B
R-13	SR-60 WB	Off-Ramp to Theodore St	WB SR-60 Off-Ramp to Theodore St	1	1,960	70	20.0	B	1,730	40	17.9	B
R-14	SR-60 WB	On-Ramp from Theodore St	WB SR-60 On-Ramp from Theodore St	1	1,890	100	18.6	B	1,690	300	18.5	B
R-15	SR-60 WB	Off-Ramp to Redlands Blvd	WB SR-60 Off-Ramp to Redlands Blvd	1	2,000	120	20.3	C	2,000	60	20.4	C
R-16	SR-60 WB	Loop On-Ramp from Redlands Blvd	WB SR-60 Loop On-Ramp from Redlands Blvd	1	1,880	420	22.8	C	1,940	410	23.3	C
R-17	SR-60 WB	Direct On-Ramp from Redlands Blvd	WB SR-60 Direct On-Ramp from Redlands Blvd	0	Does not exist in this Scenario				Does not exist in this Scenario			
R-18	SR-60 WB	Off-Ramp to Central Ave	WB SR-60 Off-Ramp to Central Ave	2	7,760	460	36.7	**E**	7,780	510	36.6	**E**
R-19	SR-60 WB	Off-Ramp to Martin Luther King Blvd	WB SR-60 Off-Ramp to Martin Luther King Blvd	1	7,760	540	35.6	**E**	7,470	440	23.0	C

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.S: Year 2022 Without Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
IN-1	Theodore St/Street F	D	N/A	Non-Existent		Non-Existent	
IN-2	Street D/Street E	D	N/A	Non-Existent		Non-Existent	
IN-3	Theodore Ave/Alessandro (Str A/Str C/Str E)	D	CSS	10.0	A	10.3	B
IN-4	Street C/Street F	D	N/A	Non-Existent		Non-Existent	
IN-5	Street C/Street H	D	N/A	Non-Existent		Non-Existent	
IN-6	Alessandro Blvd (Street C)/Gilman Springs Rd	D	CSS	5.8	A	7.9	A
IN-7	Street F/Street G	D	N/A	Non-Existent		Non-Existent	
IN-8	Alessandro Blvd (Street G)/Street H	D	N/A	Non-Existent		Non-Existent	
IN-9	Gilman Springs Rd/Eucalytpus Ave	D	N/A	Non-Existent		Non-Existent	
IN-10	Redlands Blvd/Locust Ave	C	CSS	> 50	**F**	> 50	**F**
IN-11	Redlands Blvd/Ironwood Ave	D	SIGNAL	34.9	C	31.7	C
IN-12	Theodore Street/Ironwood Avenue	D	CSS	13.0	B	17.8	C
IN-13	Redlands Blvd/SR-60 WB ramps	D	CSS	> 50	**F**	> 50	**F**
IN-14	Redlands Blvd/SR-60 EB ramps	D	SIGNAL	8.9	A	15.9	B
IN-15	Theodore Str/SR-60 WB ramps	D	CSS	12.2	B	19.2	C
IN-16	Theodore Str/SR-60 EB ramps	D	CSS	12.2	B	23.2	C
IN-17	Quincy Str/Fir Ave		N/A	Non-Existent		Non-Existent	
IN-18	Redlands Blvd/Eucalyptus Ave (Fir)	D	N/A	Non-Existent		Non-Existent	
IN-19	Theodore Ave/Fir Ave (Eucalyptus)	D	CSS	9.8	A	41.7	**E**
IN-20	Oliver Str/Alessandro Blvd	C	CSS	> 50	**F**	> 50	**F**
IN-21	Moreno Beach Dr/Alessandro Blvd	D	SIGNAL	17.6	B	18.5	B
IN-22	Quincy Str/Alessandro Blvd		N/A	Non-Existent		Non-Existent	
IN-23	Redlands Blvd/Alessandro Blvd	C	AWS	25.2	**D**	13.2	B
IN-24	Oliver Str/Cactus Ave	D	SIGNAL	32.5	C	25.7	C
IN-25	Moreno Beach Dr/Cactus Ave	C	SIGNAL	18.5	B	18.9	B
IN-26	Quincy Str/Cactus Ave		N/A	Non-Existent		Non-Existent	
IN-27	Redlands Blvd/Cactus Ave	C	AWS	13.4	B	9.5	A
IN-28	Moreno Beach Dr/John Kennedy Dr	D	SIGNAL	19.8	B	18.9	B
IN-29	Heacock Str/Ironwood Ave	D	SIGNAL	30.9	C	36.9	D
IN-30	Heacock Str/SR-60 WB Ramps	D	SIGNAL	33.7	C	47.5	D
IN-31	Heacock St/SR-60 EB Ramps	D	SIGNAL	21.1	C	24.7	C
IN-32	Sunnymead Blvd & Perris Blvd	D	SIGNAL	29.9	C	39.2	D
IN-33	Perris Blvd/SR-60 WB Ramps	D	SIGNAL	31.8	C	21.7	C
IN-34	Perris Blvd/Eucalyptus Ave	D	SIGNAL	27.7	C	33.4	C
IN-35	Moreno Beach Dr/Locust Ave	C	CSS	9.2	A	9.6	A
IN-36	Moreno Beach Drive & Ironwood Avenue	D	SIGNAL	> 80	**F**	51.0	D
IN-37	Moreno Beach Dr/SR-60 EB Ramps	D	SIGNAL	> 80	**F**	37.8	D
IN-38	Perris Blvd/John F. Kennedy Dr	D	SIGNAL	50.8	D	53.5	D
IN-39	Iris Ave/Perris Blvd	D	SIGNAL	54.0	D	38.6	D
IN-40	Kitching St/Iris Ave	C	SIGNAL	28.9	C	23.9	C
IN-41	Lasselle Str/Iris Ave	D	SIGNAL	32.8	C	68.7	**E**
IN-42	Nason Str/Iris Ave	C	SIGNAL	9.3	A	12.6	B
IN-43	Oliver Str/Iris Ave	D	SIGNAL	28.9	C	22.0	C
IN-44	Via Dell Lago/Iris Ave	C	SIGNAL	8.8	A	8.3	A
IN-45	Krameria Ave/Perris Blvd	D	SIGNAL	> 80	**F**	> 80	**F**
IN-46	Kitching Str/Krameria Ave	D	SIGNAL	29.2	C	40.0	D

Table 4.15.S: Year 2022 Without Project Intersection Levels of Service (Page 2)

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
IN-47	Lasselle Str/Krameria Ave	D	SIGNAL	32.9	C	15.3	B
IN-48	Kitching Str/Alessandro Blvd	D	SIGNAL	28.5	C	25.7	C
IN-49	Lasselle Str/Alessandro Blvd	D	SIGNAL	56.1	E	41.9	D
IN-50	Morrison Str/Alessandro Blvd	D	SIGNAL	9.3	A	9.2	A
IN-51	Nason Str/Alessandro Blvd	D	SIGNAL	31.5	C	29.5	C
IN-52	Kitching Str/Cactus Ave	C	SIGNAL	32.2	C	26.2	C
IN-53	Lasselle Str/Cactus Ave	C	SIGNAL	64.0	**E**	52.8	**D**
IN-54	Morrison Str/Cactus Ave		N/A	Non-Existent		Non-Existent	
IN-55	Nason Str/Cactus Ave	D	SIGNAL	30.6	C	32.8	C
IN-56	Frederick Str/Alessandro Blvd	D	SIGNAL	30.4	C	61.7	**E**
IN-57	Graham Str/Alessandro Blvd	D	SIGNAL	32.4	C	76.8	**E**
IN-58	Heacock Str/Alessandro Blvd	D	SIGNAL	41.8	D	48.9	D
IN-59	Indian Str/Alessandro Blvd	D	SIGNAL	24.7	C	33.5	C
IN-60	Perris Blvd/Alessandro Blvd	D	SIGNAL	50.5	D	> 80	**F**
IN-61	Frederick Str/Cactus Ave	D	SIGNAL	19.1	B	15.6	B
IN-62	Graham Str/Cactus Ave	D	SIGNAL	> 80	**F**	66.6	**E**
IN-63	Heacock Str/Cactus Ave	D	SIGNAL	42.5	D	32.9	C
IN-64	Indian Str/Cactus Ave	C	SIGNAL	28.8	C	22.0	C
IN-65	Perris Blvd/Cactus Ave	D	SIGNAL	35.7	D	32.7	C
IN-66	Alessandro Blvd/Sycamore Canyon Blvd	D	SIGNAL	38.2	D	58.3	**E**
IN-67	I-215 SB Ramps/Alessandro Blvd	D	SIGNAL	10.9	B	8.9	A
IN-68	I-215 NB Ramps/Alessandro Blvd	D	SIGNAL	25.5	C	23.3	C
IN-69	Old 215 Frontage Rd/Alessandro Blvd	D	SIGNAL	17.3	B	35.4	D
IN-70	Day Str/Alessandro Blvd	D	SIGNAL	10.7	B	43.0	D
IN-71	Elsworth Str/Alessandro Blvd	D	SIGNAL	20.7	C	34.7	C
IN-72	I-215 SB Ramps/Cactus Ave	D	SIGNAL	30.5	C	> 80	**F**
IN-73	I-215 NB Ramps/Cactus Ave	D	SIGNAL	10.8	B	12.6	B
IN-74	Elsworth Str/Cactus Ave	D	SIGNAL	31.3	C	> 80	**F**
IN-75	Central Ave/Lochmoor Dr.	D	SIGNAL	19.6	B	30.3	C
IN-76	Sycamore Canyon Blvd/Central Ave	D	SIGNAL	29.7	C	24.8	C
IN-77	SR-60 EB Ramps/Central Ave	D	SIGNAL	11.1	B	10.2	B
IN-78	SR-60 WB Ramps/Central Ave	D	SIGNAL	6.6	A	7.4	A
IN-79	Alessandro Blvd/Trautwein Rd.	D	SIGNAL	29.8	C	15.5	B
IN-80	Alessandro Blvd/Mission Grove Pkwy	D	SIGNAL	33.2	C	48.3	D
IN-81	Martin Luther King Blvd/Chicago Ave	D	SIGNAL	34.6	C	48.4	D
IN-82	Martin Luther King Blvd/Iowa Ave	D	SIGNAL	9.2	A	16.7	B
IN-83	Martin Luther King Blvd/Canyon Crest Dr	D	SIGNAL	> 80	**F**	41.2	D
IN-84	Martin Luther King Blvd/I-215 SB Ramps	D	SIGNAL	9.6	A	5.6	A
IN-85	Martin Luther King Blvd/I-215 NB Ramps	D	AWS	27.4	D	15.0	B
IN-86	Central Ave/Chicago Ave	D	SIGNAL	34.5	C	40.8	D
IN-87	Central Ave/El Cerrito Dr	D	SIGNAL	13.2	B	17.3	B
IN-88	Central Ave/Canyon Crest Dr	D	SIGNAL	36.3	D	51.2	D
IN-89	Chicago Ave/Country Club Dr	D	SIGNAL	9.4	A	7.1	A
IN-90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	SIGNAL	36.9	D	35.4	D
IN-91	Arlington Ave/Indiana Ave/SR-91 NB Ramps	D	SIGNAL	22.1	C	31.3	C
IN-92	Arlington Ave/Maude St	D	SIGNAL	14.3	B	13.5	B

Table 4.15.S: Year 2022 Without Project Intersection Levels of Service (Page 3)

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
IN-93	Horace St/Arlington Ave	D	SIGNAL	19.7	B	10.1	B
IN-94	Arlington Ave/Victoria Ave	D	SIGNAL	> 80	**F**	> 80	**F**
IN-95	Alessandro Blvd/Chicago Ave	D	SIGNAL	64.5	**E**	> 80	**F**
IN-96	Alessandro Blvd/Century Ave	D	SIGNAL	32.5	C	14.9	B
IN-97	Alessandro Blvd/Via Vista Dr	D	SIGNAL	29.5	C	20.5	C
IN-98	Alessandro Blvd/Canyon Crest Dr	D	SIGNAL	30.6	C	30.2	C
IN-99	Harley Knox Blvd/Perris Blvd	D	SIGNAL	33.3	C	25.5	C
IN-100	Harley Knox Blvd/Evan Rd		N/A	Non-Existent		Non-Existent	
IN-101	Ramona Expy/Indian St	E	SIGNAL	18.6	B	39.7	D
IN-102	Ramona Expy/Perris Blvd	E	SIGNAL	34.3	C	31.2	C
IN-103	Ramona Expy/Evans Rd	E	SIGNAL	> 80	**F**	41.6	D
IN-104	Perris Blvd/Morgan St	D	SIGNAL	14.6	B	12.7	B
IN-105	Evans Rd/Morgan St	C	SIGNAL	32.8	C	29.7	C
IN-106	Perris Blvd/Rider St	C	SIGNAL	17.6	B	22.7	C
IN-107	Evans Rd/Rider St	C	SIGNAL	36.0	**D**	30.3	C
IN-108	Perris Blvd/Mid-County Pkwy WB Ramps	D	SIGNAL	29.2	C	20.8	C
IN-109	Perris Blvd/Mid-County Pkwy EB Ramps	D	SIGNAL	19.2	B	32.4	C
IN-110	Evans Rd/Mid-County Pkwy WB Ramps	D	SIGNAL	38.0	D	32.2	C
IN-111	Evans Rd/Mid-County Pkwy EB Ramps	D	SIGNAL	14.6	B	25.9	C
IN-112	Placentia Ave/Perris Blvd	D	SIGNAL	40.8	D	60.0	**E**
IN-113	Evans Rd/Placentia Ave		N/A	Non-Existent		Non-Existent	
IN-114	Evans Rd/Orange Ave	C	AWS	22.6	C	16.9	C
IN-115	Evans Rd/Nuevo Rd	C	SIGNAL	32.0	C	32.2	C
IN-116	Evans Rd/Ellis Ave		N/A	Non-Existent		Non-Existent	
IN-117	Ellis Ave/I-215 SB Ramps		N/A	Non-Existent		Non-Existent	
IN-118	Ellis Ave/SR-215 NB Ramps		N/A	Non-Existent		Non-Existent	
IN-119	Evans Rd/San Jacinto Ave		N/A	Non-Existent		Non-Existent	
IN-120	Park Center Blvd/Ramona Expy WB Ramps		N/A	Non-Existent		Non-Existent	
IN-121	Park Center Blvd/Ramona Expy EB Ramps		N/A	Non-Existent		Non-Existent	
IN-122	Bridge St/Ramona Expy		N/A	Non-Existent		Non-Existent	
IN-123	Gilman Springs Rd/Bridge Str	C	CSS	22.3	C	25.7	**D**
IN-124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	C	CSS	> 50	**F**	> 50	**F**
IN-125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	C	CSS	> 50	**F**	> 50	**F**
IN-126	Ramona Expy/Sanderson Ave	D	SIGNAL	35.7	D	24.4	C
IN-127	Potrero Blvd/SR-60 WB Ramps		N/A	Non-Existent		Non-Existent	
IN-128	Potrero Blvd/SR-60 EB Ramps		N/A	Non-Existent		Non-Existent	
IN-129	W 6th St/California Ave	C	AWS	31.8	**D**	> 50	**F**
IN-130	W 6th St/Beaumont Ave	C	SIGNAL	15.7	B	25.3	C
IN-131	Reche Canyon Rd/Reche Vista Dr	C	SIGNAL	11.0	B	5.5	A
IN-132	San Timoteo Canyon Rd/Alessandro Rd	D	AWS	> 50	**F**	> 50	**F**
IN-133	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	**F**	> 50	**F**
IN-134	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	**F**	> 50	**F**
IN-135	W Crescent Ave/Alessandro Rd	D	CSS	27.7	D	16.2	C
IN-136	W Sunset Dr/Alessandro Rd	D	AWS	10.9	B	11.1	B

Notes: "NB" and "SB" denote northbound and southbound respectively

"EB" and "WB" denote eastbound and westbound respectively

"LT" and "RT" denote left turn and right turn respectively

Indicates LOS exceeds the target level

"CSS" means cross-street is stop-controlled

"AWS" means all-way stop

"RABT" means roundabout

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- Lasselle Street/Cactus Avenue (a.m. and p.m.);
- Frederick Street/Alessandro Boulevard (p.m.);
- Graham Street/Alessandro Boulevard (p.m.);
- Perris Boulevard/Alessandro Boulevard (p.m.);
- Graham Street/Cactus Avenue (a.m. and p.m.);
- Alessandro Boulevard/Sycamore Canyon Boulevard (p.m.);
- I-215 Southbound Ramps/Cactus Avenue (p.m.);
- Elsworth Street/Cactus Avenue (p.m.);
- Martin Luther King Boulevard/Canyon Crest Drive (a.m.);
- Arlington Avenue/Victoria Avenue (a.m. and p.m.);
- Alessandro Boulevard/Chicago Avenue (a.m. and p.m.);
- Ramona Expressway/Evans Road (a.m.);
- Evans Road/Rider Street (a.m.);
- Placentia Avenue/Perris Boulevard (p.m.);
- Gilman Springs Road/Bridge Street (p.m.);
- SR-79 (Sanderson Avenue) Northbound/Gilman Springs Road (a.m. and p.m.);
- SR-79 (Sanderson Avenue) Southbound/Gilman Springs Road (a.m. and p.m.);
- W. 6th Street/California Avenue (a.m. and p.m.);
- San Timoteo Canyon Road/Alessandro Road (a.m. and p.m.);
- San Timoteo Canyon Road/Live Oak Canyon Road (a.m. and p.m.); and
- Redlands Boulevard/San Timoteo Canyon Road (a.m. and p.m.).

The opening year 2022 without project roadway levels of service are based on daily V/C ratios for the study area roadway segments. Table 4.15.T summarizes the results of this analysis and shows two study area roadway segments are projected to operate with unacceptable daily V/C ratios under year 2022 conditions. These same roadway segments also operate with unsatisfactory LOS in the existing and year 2017 no project conditions:

- Gilman Springs Road:
    - Between Alessandro Boulevard and Bridge Street; and
    - Between SR-60 and Alessandro Boulevard.

A freeway segment level of service analysis was conducted to determine freeway performance under year 2022 without project conditions. Table 4.15.U summarizes the levels of service at study area segments under year 2022 without project conditions and shows the following 42 freeway segments are forecast to operate at an unsatisfactory level of service during either the a.m. or p.m. peak hour:

- Northbound or Eastbound:
    - SR-60 S. Reservoir Road to Ramona Avenue (p.m.);
    - SR-60 Ramona Avenue to Central Avenue (p.m.);
    - SR-60 Central Avenue to Mountain Avenue (p.m.);

Table 4.15.T: Year 2022 Without Project Roadway Levels of Service

Roadway		From	To	LOS Standard***	Roadway Section*	Daily Volume	LOS
S-1	Theodore Street (A)	SR-60 WB Ramps	Ironwood Avenue	D	2U	3,011	A
S-2	Theodore Street (A)	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	2U	6,661	A
S-3	Fir (Eucalyptus) Ave.	Redlands Blvd	Theodore Street (A)	D	2U**	7,045	A
S-4	Eucalyptus Ave (B)	Theodore Street (A)	Gilman Springs Rd	N/A	Future Road		
S-5	Theodore Street (A)	Fir (Eucalyptus) Ave.	Street E	D	2U	574	A
S-6	Street E	Theodore Street (A)	Street D	N/A	Future Road		
S-7	Street F	Theodore Street (A)	Alessandro Blvd (Street C)	N/A	Future Road		
S-8	Theodore Street (A)	Fir (Eucalyptus) Ave.	Alessandro Blvd (Street C)	D	2U	633	A
S-9	Alessandro Blvd (Street E)	Merwin Street	Theodore Street (A)	D	2U	2,108	A
S-10	Street D	Alessandro Blvd (Street E)	Cactus Ave.	N/A	Future Road		
S-11	Alessandro Blvd (Street C)	Theodore Street (A)	Street F	D	2U	2,986	A
S-12	Street F	Street C	Street G	N/A	Future Road		
S-13	Alessandro Blvd (Street C)	Street F	Gilman Springs Rd	D	2U	2,986	A
S-14	Street G	Street F	Street H	N/A	Future Road		
S-15	Street H	Street G	Alessandro Blvd (Street C)	N/A	Future Road		
S-16	Gilman Springs Rd	Alessandro Blvd (Street C)	Bridge Street	D	2U	14,237	**E**
S-17	Gilman Springs Rd	SR-60	Alessandro Blvd (Street C)	D	2U	12,819	**E**
S-18	Redlands Blvd	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	2U	11,042	C
S-19	Redlands Blvd	Fir (Eucalyptus) Ave.	Alessandro Blvd	C	2U	9,219	C
S-20	Alessandro Blvd	Redlands Blvd	Merwin Street	C	2U	3,886	A
S-21	Redlands Blvd	Alessandro Blvd	Cactus Ave.	C	2U	8,335	B
S-22	Cactus Ave.	Redlands Blvd	Street D	C	2U**	342	A

* Section is the number of lanes, with "U" for "undivided" and "D" for "Divided" roadways

** Road currently has 2 lanes in one direction and 1 lane in the other. The capacity shown is based on the narrower direction.

*** LOS Standard is "C" in residential areas and "D" for roads in employment-generating areas or near freeways

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.U: Year 2022 Without Project Freeway Mainline Levels of Service

ID	Freeway	Segment	Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-2	SR-60	S Reservoir Rd to Ramona Ave	7,210	30.5	D	7,830	35.1	**E**	8,770	43.3	**E**	7,150	30.1	D
F-3	SR-60	Ramona Ave to Central Ave	6,850	28.2	D	9,380	51.4	**F**	8,290	38.7	**E**	6,750	27.7	D
F-4	SR-60	Central Ave to Mountain Ave	7,590	33.0	D	9,350	51.0	**F**	6,340	25.4	C	6,990	29.1	D
F-5	SR-60	Mountain Ave to Euclid Ave	7,520	32.5	D	6,690	27.5	D	6,260	25.0	C	7,440	32.0	D
F-6	SR-60	Euclid Ave to Grove Ave	8,990	45.8	**F**	9,280	50.0	**F**	6,470	26.1	D	7,310	31.1	D
F-7	SR-60	Grove Ave to Vineyard Ave	8,170	37.6	**E**	9,530	53.6	**F**	6,330	25.4	C	7,920	35.5	**E**
F-8	SR-60	Vineyard Ave to Archibald Ave	8,080	36.5	**E**	9,470	52.7	**F**	7,670	33.6	D	7,550	32.8	D
F-9	SR-60	Archibald Ave to Haven Ave	7,590	32.8	D	6,630	27.2	D	See Weaving Analysis			See Weaving Analysis		
F-10	SR-60	Haven Ave to Miliken Ave	7,400	23.2	C	7,040	22.1	C	5,850	18.0	B	7,110	22.3	C
F-11	SR-60	Miliken Ave to I-15	5,280	20.3	C	4,530	17.4	B	5,550	21.6	C	7,050	29.2	D
F-12	SR-60	I-15 to Etiwanda Ave	4,580	17.6	B	3,440	13.3	B	4,490	13.7	B	5,850	17.9	B
F-13	SR-60	Etiwanda Ave to Mission Blvd	5,070	19.6	C	4,460	17.2	B	4,220	16.2	B	5,830	22.8	C
F-14	SR-60	Mission Blvd to Pedley Rd	4,600	17.7	B	3,560	13.8	B	4,240	16.3	B	5,850	22.9	C
F-15	SR-60	Pedley Rd to Pyrite St	4,620	17.8	B	3,710	14.4	B	3,290	12.6	B	5,010	19.2	C
F-16	SR-60	Pyrite St to Valley Way	5,190	20.1	C	3,990	15.5	B	2,740	10.6	A	4,510	17.2	B
F-17	SR-60	Valley Way to Rubidoux Blvd	6,280	39.4	**E**	4,530	24.1	C	4,630	24.4	C	6,530	42.2	**E**
F-18	SR-60	Rubidoux Blvd to Market St	6,920	48.7	**F**	4,950	27.2	D	3,630	18.6	C	5,660	32.5	D
F-19	SR-60	Market St to Main St	6,450	41.6	**E**	7,260	56.8	**F**	5,860	34.4	D	6,820	46.5	**F**
F-20	SR-60	Main to SR-91	See Weaving Analysis			See Weaving Analysis			5,450	30.6	D	6,610	42.9	**E**
F-24	SR-60	Martin Luther King Blvd to Central Ave	8,440	41.5	**E**	9,140	53.5	**F**	7,060	32.4	D	7,680	35.6	**E**
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	6,450	25.7	C	7,270	30.8	D	7,390	31.9	D	8,510	40.3	**E**
F-27	SR-60	I-215 to Day St.	See Weaving Analysis			See Weaving Analysis			7,250	54.3	**F**	3,880	20.0	C
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	3,520	29.2	D	4,200	39.3	**E**	3,460	28.5	D	3,860	34.0	D
F-30	SR-60	Heacock St to Perris Blvd	3,160	25.0	C	4,050	36.7	**E**	3,300	26.6	D	3,360	27.5	D
F-31	SR-60	Perris Blvd to Nason St	2,590	19.8	C	3,070	24.3	C	2,790	21.6	C	2,550	19.6	C
F-32	SR-60	Moreno Beach Dr to Nason St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-33	SR-60	Moreno Beach Dr to Redlands Blvd	1,910	14.5	B	2,370	18.0	C	1,810	13.8	B	1,750	13.4	B
F-34	SR-60	Redlands Blvd to Theodore St	2,460	18.7	C	3,240	25.8	C	2,280	17.3	B	2,200	16.8	B
F-35	SR-60	Theodore St to Gilman Springs Rd	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	2,310	18.5	C	2,770	22.7	C	2,180	17.5	B	1,850	14.8	B
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	2,070	15.7	B	2,820	21.8	C	2,190	16.7	B	1,690	12.9	B
F-38	SR-60	Potrero Blvd to I-10	2,070	15.7	B	2,820	21.8	C	2,190	16.7	B	1,690	12.9	B
F-39	SR-91	I-15 to McKinley St	7,190	29.9	D	10,400	68.0	**F**	7,280	30.9	D	7,330	31.0	D
F-40	SR-91	McKinley St to Pierce St	6,500	41.8	**E**	5,950	35.6	**E**	5,440	31.0	D	6,330	39.6	**E**
F-41	SR-91	Pierce St to Magnolia Ave	5,970	35.2	**E**	5,410	30.5	D	5,210	29.0	D	8,080	77.6	**F**

Table 4.15.U: Year 2022 Without Project Freeway Mainline Levels of Service (Page 2)

ID	Freeway	Segment	Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-42	SR-91	Magnolia Ave to La Sierra Ave	See Weaving Analysis			See Weaving Analysis			5,450	31.1	D	8,040	76.1	**F**
F-43	SR-91	La Sierra Ave to Tyler St	5,490	30.9	D	5,230	29.0	D	4,800	25.9	C	5,980	35.6	**E**
F-44	SR-91	Tyler St to Van Buren Blvd	6,600	26.6	D	5,980	23.6	C	6,170	24.7	C	7,420	31.6	D
F-45	SR-91	Van Buren Blvd to Adam St	6,700	27.2	D	5,250	20.3	C	5,810	22.9	C	7,160	29.9	D
F-46	SR-91	Adam St to Madison St	7,310	31.4	D	4,970	19.4	C	5,420	21.2	C	6,210	24.5	C
F-47	SR-91	Madison St to Indiana Ave	6,710	27.6	D	4,970	19.4	C	4,780	25.8	C	5,550	31.2	D
F-49	SR-91	Central Ave to 14th St	5,910	34.9	D	5,070	27.7	D	4,340	22.8	C	4,530	23.8	C
F-51	SR-91	University Ave to Spruce St (off-ramp)	8,270	26.6	D	7,700	24.2	C	See Weaving Analysis			See Weaving Analysis		
F-52	I-10	SR-60 to Beaumont Ave	4,390	16.8	B	6,080	24.1	C	5,610	21.9	C	5,370	20.7	C
F-53	I-10	Beaumont Ave to Pennsylvania Ave	4,450	17.1	B	6,240	24.9	C	5,470	21.3	C	5,270	20.3	C
F-54	I-10	Pennsylvania Ave to Highland Springs	4,640	17.8	B	6,480	26.2	D	5,920	23.3	C	5,480	21.2	C
F-55	I-10	Highland Springs Ave to Sunset Ave	4,560	17.5	B	6,210	24.8	C	5,690	22.3	C	5,200	20.1	C
F-56	I-10	Sunset Ave to 22nd St	4,470	17.2	B	5,960	23.5	C	5,450	21.2	C	5,090	19.7	C
F-57	I-10	22nd St to S 8th St	4,380	16.8	B	5,800	22.8	C	5,320	20.6	C	5,110	19.6	C
F-58	I-10	S 8th St to S Hargrave St	4,370	16.8	B	5,730	22.4	C	5,250	20.3	C	5,250	20.2	C
F-59	I-10	S Hargrave St to Field Rd	4,100	15.8	B	5,350	20.8	C	4,810	18.5	C	5,020	19.3	C
F-60	I-10	Field Rd to Main St (Cabazon)	3,770	14.5	B	5,080	19.6	C	4,600	17.7	B	4,830	18.6	C
F-61	I-10	Main St (Cabazon) to Main St	3,410	13.1	B	4,670	18.0	B	4,110	15.8	B	4,240	16.3	B
F-62	I-10	Main St to Haugen-Lehmann Way	3,280	12.6	B	4,720	18.1	C	4,230	16.3	B	4,300	16.5	B
F-64	I-10	SR-111 to Tipton Rd	2,950	11.3	B	4,140	15.9	B	3,680	14.1	B	3,760	14.4	B
F-65	I-10	Tipton Rd to SR-62	2,810	10.8	A	4,170	16.0	B	3,700	14.2	B	3,770	14.4	B
F-66	I-215	Scott Rd to Newport Rd	2,850	22.2	C	4,330	41.3	**E**	3,670	30.8	D	2,500	19.1	C
F-68	I-215	Newport Rd to MacCall Blvd	2,100	16.1	B	3,140	24.8	C	3,820	33.1	D	3,520	29.2	D
F-69	I-215	MacCall Blvd to Ethanac Rd	2,750	21.3	C	4,380	42.3	**E**	4,380	42.8	**E**	2,950	23.1	C
F-70	I-215	Ethanac Rd to SR-74	4,200	39.3	**E**	4,100	37.2	**E**	4,110	37.7	**E**	4,250	39.8	**E**
F-71	I-215	SR-74/Case Rd to Redlands Blvd	3,490	28.6	D	4,800	52.6	**F**	5,730	103.7	**F**	3,860	33.4	D
F-74	I-215	Columbia Ave to Center St	6,090	36.8	**E**	6,030	36.2	**E**	6,390	40.0	**E**	5,330	29.6	D
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	5,830	34.1	D	5,800	33.8	D	6,880	46.9	**F**	5,560	31.6	D
F-76	I-215	Iowa Ave/La Cadena Dr to Barton Rd	5,690	32.7	D	6,130	37.3	**E**	6,700	44.2	**E**	5,570	31.7	D
F-77	I-215	Barton Rd to Mt Vernon Ave	5,980	35.6	**E**	6,550	42.5	**E**	6,720	44.4	**E**	5,610	32.0	D
F-78	I-215	Mt Vernon Ave to I-10	5,770	22.5	C	6,660	27.0	D	7,080	29.2	D	5,890	23.1	C
F-80	I-215	Auto Plaza Dr to Mill St	4,490	17.2	B	5,500	21.2	C	4,790	18.2	C	4,140	15.8	B
F-83	I-215	Baseline Rd to Highland Ave	3,030	15.4	B	4,060	20.8	C	5,280	29.0	D	5,040	27.3	D

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- SR-60 Euclid Avenue to Grove Avenue (a.m. and p.m.);
- SR-60 Grove Avenue to Vineyard Avenue (a.m. and p.m.);
- SR-60 Vineyard Avenue to Archibald Avenue (a.m. and p.m.);
- SR-60 Valley Way to Rubidoux Boulevard (a.m.);
- SR-60 Rubidoux Boulevard to Market Street (a.m.);
- SR-60 Market Street to Main Street (a.m. and p.m.);
- SR-60 Martin Luther King Boulevard to Central Avenue (a.m. and p.m.);
- SR-60 Pigeon Pass Road/Frederick Street to Heacock Street (p.m.);
- SR-60 Heacock Street to Perris Boulevard (p.m.);
- SR-91 I-15 to McKinley Street (p.m.);
- SR-91 McKinley Street to Pierce Street (a.m. and p.m.);
- SR-91 Pierce Street to Magnolia Avenue (a.m.);
- I-215 Scott Road to Newport Road (p.m.);
- I-215 MacCall Boulevard to Ethanac Road (p.m.);
- I-215 Ethanac Road to SR-74 (a.m. and p.m.);
- I-215 SR-74/Case Road to Redlands Boulevard (p.m.);
- I-215 Columbia Avenue to Center Street (a.m. and p.m.);
- I-215 Iowa Avenue/La Cadena Drive to Barton Road (p.m.); and
- I-215 Barton Road to Mt. Vernon Avenue (a.m. and p.m.).

- Southbound or Westbound:
  - SR-60 S. Reservoir Road to Ramona Avenue (a.m.);
  - SR-60 Ramona Avenue to Central Avenue (a.m.);
  - SR-60 Grove Avenue to Vineyard Avenue (p.m.);
  - SR-60 Valley Way to Rubidoux Boulevard (p.m.);
  - SR-60 Market Street to Main Street (p.m.);
  - SR-60 Main Street to SR-91 (p.m.);
  - SR-60 Martin Luther King Boulevard to Central Avenue (p.m.);
  - SR-60 Fair Isle Drive/Box Springs Road to I-215 (p.m.);
  - SR-60 I-215 to Day Street (a.m.);
  - SR-91 McKinley Street to Pierce Street (p.m.);
  - SR-91 Pierce Street to Magnolia Avenue (p.m.);
  - SR-91 Magnolia Avenue to La Sierra Avenue (p.m.);
  - SR-91 La Sierra Avenue to Tyler Street (p.m.);
  - I-215 MacCall Boulevard to Ethanac Road (a.m.);
  - I-215 Ethanac Road to SR-74 (a.m. and p.m.);
  - I-215 SR-74/Case Road to Redlands Boulevard (a.m.);

- I-215 Columbia Avenue to Center Street (a.m.);
- I-215 Center Street to Iowa Avenue /La Cadena Drive (a.m.);
- I-215 Iowa Avenue /La Cadena Drive to Barton Road (a.m.); and
- I-215 Barton Road to Mt. Vernon Avenue (a.m.).

A freeway weaving analysis was conducted on freeway segments where an on-ramp is closely followed by an off-ramp, and the two are joined by an auxiliary lane. Table 4.15.V summarizes the levels of service at weaving segments under year 2022 without project conditions and shows the following seven northbound or eastbound sections and four southbound or westbound sections are forecast to operate at unsatisfactory levels of service under year 2022 conditions in either the a.m. peak or p.m. peak hour. These same segments were forecast to operate at unsatisfactory LOS in the year 2017 without project condition:

- Northbound or Eastbound:
  - SR-60 SR-71/S. Garey Avenue to S. Reservoir Road (p.m.);
  - SR-60 Main Street to SR-91 (a.m. and p.m.);
  - SR-60 SR-91 to W. Blaine Street/3rd Street (p.m.);
  - SR-60 W. Blaine Street/3rd Street to University Avenue (p.m.);
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road (p.m.);
  - SR-91 Arlington Avenue to Central Avenue (a.m.); and
  - I-215 SR-60 to Columbia Avenue (a.m. and p.m.).
- Southbound or Westbound
  - SR-60 SR-91 to W. Blaine Street/3rd Street (p.m.);
  - SR-60 University Avenue to Martin Luther King Boulevard (p.m.);
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road (a.m. and p.m.); and
  - SR-91 14th Street to University Avenue (p.m.).

Freeway ramp merge and diverge operations have been evaluated for year 2022 without project conditions. Table 4.15.W summarizes the levels of service at under year 2022 without project conditions and shows two freeway ramp junctions are forecast to operate at unsatisfactory levels of service in either the a.m. peak or p.m. peak hour:

- SR-60 eastbound On-Ramp from Central Avenue (p.m.); and
- SR-60 westbound Off-Ramp to Central Avenue (p.m.).

4.15.3.5 General Plan Buildout without the Project

An intersection level of service analysis was conducted to determine intersection performance under General Plan Buildout without project conditions. Table 4.15.X summarizes the levels of service at study intersections under General Plan Buildout without project conditions and shows the following 36 study intersections are forecast to operate at an unsatisfactory level of service during either the a.m. or p.m. peak hour:

- Alessandro Boulevard (Street C)/Gilman Springs Road (p.m.);
- Theodore Street/Ironwood Avenue (p.m.);

Table 4.15.V: Year 2022 Without Project Freeway Weaving Segment Levels of Service

ID	Freeway	Weaving Segment	Northbound / Eastbound												Southbound / Westbound											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS
			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F		
W-1	SR-60	SR-71/S Garey Ave to S Reservoir Rd	5,602	182	339	1,029	29.3	D	6,877	207	383	1,173	37.6	E	4,629	69	1,041	391	21.9	C	5,285	75	935	425	24.3	C
W-9	SR-60	Haven Ave to Archibald Ave	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						5,249	29	512	542	24.4	C	6,130	40	411	751	29.3	D
W-20	SR-60	Main St to SR-91	5,972	92	769	519	36.6	E	6,017	57	973	323	38.0	E	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-21	SR-60	SR-91 to W Blaine St/3rd St	4,037	257	264	1,454	24.2	C	7,936	236	255	1,335	42.3	E	6,070	110	921	621	29.4	D	7,450	140	911	791	36.9	E
W-22	SR-60	W Blaine St/3rd St to University Ave	4,970	20	351	371	27.6	C	5,862	52	319	979	40.4	E	5,056	6	524	114	21.0	C	7,293	23	538	428	32.0	D
W-23	SR-60	University Ave to Martin Luther King Blvd	5,630	30	401	561	30.5	D	4,859	49	232	922	27.3	C	4,190	40	610	760	28.8	D	6,473	23	687	437	39.6	E
W-25	SR-60	Central Ave to Fair Isle Dr/Box Springs Rd	5,106	36	765	675	27.4	C	6,646	56	634	1,064	38.8	E	5,370	70	340	1,330	39.6	E	6,391	51	479	969	42.2	E
W-27	SR-60	I-215 to Day St	3,099	39	641	221	14.6	B	4,266	56	645	315	19.9	B	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-28	SR-60	Day St to Pigeon Pass Rd/Frederick St	2,463	13	1,178	238	16.7	B	3,318	28	1,252	532	23.2	C	3,341	41	809	779	34.3	D	3,507	37	624	694	32.7	D
W-32	SR-60	Moreno Beach Dr to Nason St.	1,271	11	850	200	14.2	B	1,635	15	956	276	18.1	B	1,530	40	80	760	14.5	B	1,220	40	181	751	13.2	B
W-35	SR-60	Theodore St to Gilman Springs Rd	1,886	6	325	105	12.7	B	2,464	14	637	257	19.3	B	1,819	19	161	361	13.6	B	1,616	16	105	295	11.5	B
W-42	SR-91	Magnolia Ave to La Sierra Ave	4,818	38	822	722	30.2	D	4,089	49	892	922	28.6	D	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-48	SR-91	Arlington Ave to Central Ave	5,805	25	915	475	39.0	E	2,540	20	740	380	17.9	B	3,635	15	575	285	21.2	C	4,103	23	487	437	24.1	C
W-50	SR-91	14th St to University Ave	3,827	17	863	323	25.1	C	3,412	22	958	418	24.6	C	4,101	11	769	209	25.0	C	5,904	24	636	456	36.0	E
W-51	SR-91	SR-60 to Mission Inn Ave/University Ave (off-ramp)	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						2,778	155	376	876	14.7	B	5,993	158	333	893	26.7	C
W-63	I-10	Haugen-Lehmann Way to SR-111	2,240	20	931	111	11.0	B	3,785	15	825	85	15.9	B	3,665	25	45	475	14.8	B	2,707	77	74	1,454	17.2	B
W-73	I-215	SR-60 to Columbia Ave	4,612	302	219	1,709	37.8	E	4,347	287	284	1,624	35.8	E	4,778	98	1,613	553	33.5	D	3,911	111	1,459	629	28.8	D
W-79	I-215	I-10 to Auto Plaza Dr/Orange Show Rd	3,273	83	788	468	16.8	B	3,748	108	742	612	19.0	B	4,519	39	1,051	221	20.8	C	3,558	78	792	442	18.0	B
W-81	I-215	Mill St to 2nd St	3,969	19	752	352	17.8	B	4,714	24	716	456	21.1	C	4,280	30	420	570	19.0	B	3,306	36	395	675	15.9	B
W-82	I-215	5th St to Baseline Rd	2,915	15	545	285	12.7	B	3,568	18	522	342	15.2	B	3,560	30	380	570	16.0	B	2,347	37	414	694	12.3	B

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.W: Year 2022 Without Project Freeway Ramp Levels of Service

ID	Freeway / Direction	Ramp Segment	Ramp No. of Lanes	AM Peak Hour				PM Peak Hour			
				Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS
R-1	SR-60 EB	On-Ramp from Martin Luther King Blvd	1	6,190	710	27.4	C	5,780	1,320	30.8	D
R-2	SR-60 EB	On-Ramp from Central Ave	1	8,170	710	28.8	D	9,010	1,120	35.0	**F**
R-3	SR-60 EB	Off-Ramp to Redlands Blvd	1	1,910	220	8.3	A	2,370	520	12.5	B
R-4	SR-60 EB	Loop On-Ramp from Redlands Blvd	1	1,690	90	18.7	B	1,850	210	20.9	C
R-5	SR-60 EB	Direct On-Ramp from Redlands Blvd	0	Does not Exist in this Scenario				Does not Exist in this Scenario			
R-6	SR-60 EB	Off-Ramp to Theodore St	1	2,460	250	24.4	C	3,240	150	31.7	D
R-7	SR-60 EB	Loop On-Ramp from Theodore St	1	2,210	110	15.2	B	3,090	270	23.9	C
R-8	SR-60 EB	Direct On-Ramp from Theodore St	1	Does not Exist in this Scenario				Does not Exist in this Scenario			
R-9	SR-60 EB	Off-Ramp to Gilman Spring Rd	1	2,320	330	14.4	B	3,370	650	21.0	C
R-10	SR-60 EB	On-Ramp from Gilman Spring Rd	1	1,990	270	14.6	B	2,720	140	19.8	B
R-11	SR-60 WB	Off-Ramp to Gilman Spring Rd	1	2,210	230	13.8	B	1,910	190	119.0	B
R-12	SR-60 WB	On-Ramp from Gilman Spring Rd	1	1,980	380	15.5	B	1,720	310	12.8	B
R-13	SR-60 WB	Off-Ramp to Theodore St	1	2,360	180	12.4	B	2,030	120	9.3	A
R-14	SR-60 WB	On-Ramp from Theodore St	1	2,180	100	21.0	C	1,910	290	20.2	C
R-15	SR-60 WB	Off-Ramp to Redlands Blvd	1	2,280	170	22.9	C	2,200	100	22.3	C
R-16	SR-60 WB	Loop On-Ramp from Redlands Blvd	1	2,110	440	24.9	C	2,100	380	24.4	C
R-17	SR-60 WB	Direct On-Ramp from Redlands Blvd	0	Does not Exist in this Scenario				Does not Exist in this Scenario			
R-18	SR-60 WB	Off-Ramp to Central Ave	2	7,110	410	33.8	D	7,890	530	37.3	**E**
R-19	SR-60 WB	Off-Ramp to Martin Luther King Blvd	1	7,060	510	32.8	D	7,680	430	34.6	D

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.X: General Plan Buildout Without Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
IN-1	Theodore St/Street F	D	N/A	Non-Existent		Non-Existent	
IN-2	Street D/Street E	D	N/A	Non-Existent		Non-Existent	
IN-3	Theodore Ave/Alessandro (Str A/Str C/Str E)	D	CSS	20.3	C	19.2	C
IN-4	Alessandro Blvd (Street C)/Street F	D	N/A	Non-Existent		Non-Existent	
IN-5	Alessandro Blvd (Street C)/Street H	D	N/A	Non-Existent		Non-Existent	
IN-6	Alessandro Blvd (Street C)/Gilman Springs Rd	D	CSS	11.7	B	> 50	**F**
IN-7	Street F/Street G	D	N/A	Non-Existent		Non-Existent	
IN-8	Street G/Street H	D	N/A	Non-Existent		Non-Existent	
IN-9	Gilman Springs Rd/Eucalytpus Ave	D	N/A	Non-Existent		Non-Existent	
IN-10	Redlands Blvd/Locust Ave	C	SIGNAL	5.4	A	16.6	B
IN-11	Redlands Blvd/Ironwood Ave	D	SIGNAL	45.0	D	48.2	D
IN-12	Theodore Street/Ironwood Avenue	D	CSS	22.9	C	> 50	**F**
IN-13	Redlands Blvd/SR-60 WB ramps	D	SIGNAL	5.1	A	7.6	A
IN-14	Redlands Blvd/SR-60 EB ramps	D	SIGNAL	5.1	A	7.3	A
IN-15	Theodore Str/SR-60 WB ramps	D	CSS	> 50	**F**	> 50	**F**
IN-16	Theodore Str/SR-60 EB ramps	D	CSS	13.5	B	> 50	**F**
IN-17	Quincy Str/Fir Ave	D	CSS	9.6	A	12.6	B
IN-18	Redlands Blvd/Eucalyptus Ave (Fir)	D	SIGNAL	7.4	A	15.4	B
IN-19	Theodore Ave/Fir Ave (Eucalyptus)	D	CSS	10.5	B	> 50	**F**
IN-20	Oliver Str/Alessandro Blvd	C	CSS	19.8	C	21.1	C
IN-21	Moreno Beach Dr/Alessandro Blvd	D	SIGNAL	17.2	B	19.2	B
IN-22	Quincy Str/Alessandro Blvd	C	SIGNAL	4.2	A	3.7	A
IN-23	Redlands Blvd/Alessandro Blvd	C	AWS	49.6	**E**	35.8	**E**
IN-24	Oliver Str/Cactus Ave	D	SIGNAL	22.3	C	20.1	C
IN-25	Moreno Beach Dr/Cactus Ave	C	SIGNAL	20.2	C	29.7	C
IN-26	Quincy Str/Cactus Ave	C	SIGNAL	4.2	A	4.1	A
IN-27	Redlands Blvd/Cactus Ave	C	AWS	13.6	B	12.9	B
IN-28	Moreno Beach Dr/John Kennedy Dr	D	SIGNAL	22.5	C	16.6	B
IN-29	Heacock Str/Ironwood Ave	D	SIGNAL	31.6	C	35.2	D
IN-30	Heacock Str/SR-60 WB Ramps	D	SIGNAL	30.5	C	23.1	C
IN-31	Heacock St/SR-60 EB Ramps	D	SIGNAL	12.3	B	19.4	B
IN-32	Sunnymead Blvd & Perris Blvd	D	SIGNAL	31.8	C	39.7	D
IN-33	Perris Blvd/SR-60 WB Ramps	D	SIGNAL	22.5	C	17.1	B
IN-34	Perris Blvd/Eucalyptus Ave	D	SIGNAL	21.8	C	24.7	C
IN-35	Moreno Beach Dr/Locust Ave	C	CSS	29.4	**D**	37.9	**E**
IN-36	Moreno Beach Drive & Ironwood Avenue	D	SIGNAL	46.6	D	50.4	D
IN-37	Moreno Beach Dr/SR-60 EB Ramps	D	SIGNAL	> 80	**F**	> 80	**F**
IN-38	Perris Blvd/John F. Kennedy Dr	D	SIGNAL	28.8	C	31.6	C
IN-39	Iris Ave/Perris Blvd	D	SIGNAL	58.6	**E**	63.8	**E**
IN-40	Kitching St/Iris Ave	C	SIGNAL	63.8	**E**	> 80	**F**
IN-41	Lasselle Str/Iris Ave	D	SIGNAL	34.9	C	77.3	**E**
IN-42	Nason Str/Iris Ave	C	SIGNAL	20.8	C	24.2	C
IN-43	Oliver Str/Iris Ave	D	SIGNAL	24.4	C	25.1	C

Table 4.15.X: General Plan Buildout Without Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
IN-44	Via Dell Lago/Iris Ave	C	SIGNAL	7.0	A	7.2	A
IN-45	Krameria Ave/Perris Blvd	D	SIGNAL	27.8	C	52.6	D
IN-46	Kitching Str/Krameria Ave	D	SIGNAL	35.3	D	41.7	D
IN-47	Lasselle Str/Krameria Ave	D	SIGNAL	32.2	C	14.5	B
IN-48	Kitching Str/Alessandro Blvd	D	SIGNAL	26.5	C	28.2	C
IN-49	Lasselle Str/Alessandro Blvd	D	SIGNAL	19.7	B	23.7	C
IN-50	Morrison Str/Alessandro Blvd	D	SIGNAL	25.1	C	23.4	C
IN-51	Nason Str/Alessandro Blvd	D	SIGNAL	30.9	C	28.2	C
IN-52	Kitching Str/Cactus Ave	C	SIGNAL	30.7	C	28.5	C
IN-53	Lasselle Str/Cactus Ave	C	SIGNAL	38.5	**D**	34.8	C
IN-54	Morrison Str/Cactus Ave	D	SIGNAL	6.1	A	8.6	A
IN-55	Nason Str/Cactus Ave	D	SIGNAL	36.1	D	47.6	D
IN-56	Frederick Str/Alessandro Blvd	D	SIGNAL	19.2	B	34.4	C
IN-57	Graham Str/Alessandro Blvd	D	SIGNAL	35.7	D	> 80	**F**
IN-58	Heacock Str/Alessandro Blvd	D	SIGNAL	29.6	C	29.5	C
IN-59	Indian Str/Alessandro Blvd	D	SIGNAL	21.7	C	37.0	D
IN-60	Perris Blvd/Alessandro Blvd	D	SIGNAL	32.9	C	40.9	D
IN-61	Frederick Str/Cactus Ave	D	SIGNAL	9.7	A	12.5	B
IN-62	Graham Str/Cactus Ave	D	SIGNAL	22.7	C	42.1	D
IN-63	Heacock Str/Cactus Ave	D	SIGNAL	31.6	C	27.2	C
IN-64	Indian Str/Cactus Ave	C	SIGNAL	32.6	C	36.4	**D**
IN-65	Perris Blvd/Cactus Ave	D	SIGNAL	39.2	D	32.5	C
IN-66	Alessandro Blvd/Sycamore Canyon Blvd	D	SIGNAL	35.3	D	> 80	**F**
IN-67	I-215 SB Ramps/Alessandro Blvd	D	SIGNAL	9.5	A	8.5	A
IN-68	I-215 NB Ramps/Alessandro Blvd	D	SIGNAL	27.5	C	31.4	C
IN-69	Old 215 Frontage Rd/Alessandro Blvd	D	SIGNAL	15.2	B	16.4	B
IN-70	Day Str/Alessandro Blvd	D	SIGNAL	22.6	C	28.1	C
IN-71	Elsworth Str/Alessandro Blvd	D	SIGNAL	28.4	C	52.4	D
IN-72	I-215 SB Ramps/Cactus Ave	D	SIGNAL	37.6	D	> 80	**F**
IN-73	I-215 NB Ramps/Cactus Ave	D	SIGNAL	71.1	**E**	> 80	**F**
IN-74	Elsworth Str/Cactus Ave	D	SIGNAL	> 80	**F**	> 80	**F**
IN-75	Central Ave/Lochmoor Dr.	D	SIGNAL	18.6	B	76.8	E
IN-76	Sycamore Canyon Blvd/Central Ave	D	SIGNAL	28.6	C	25.4	C
IN-77	SR-60 EB Ramps/Central Ave	D	SIGNAL	10.5	B	11.1	B
IN-78	SR-60 WB Ramps/Central Ave	D	SIGNAL	7.3	A	6.6	A
IN-79	Alessandro Blvd/Trautwein Rd.	D	SIGNAL	33.3	C	16.5	B
IN-80	Alessandro Blvd/Mission Grove Pkwy	D	SIGNAL	27.4	C	52.2	D
IN-81	Martin Luther King Blvd/Chicago Ave	D	SIGNAL	26.0	C	41.3	D
IN-82	Martin Luther King Blvd/Iowa Ave	D	SIGNAL	10.9	B	14.8	B
IN-83	Martin Luther King Blvd/Canyon Crest Dr	D	SIGNAL	40.7	D	41.1	D
IN-84	Martin Luther King Blvd/I-215 SB Ramps	D	SIGNAL	11.7	B	12.2	B
IN-85	Martin Luther King Blvd/I-215 NB Ramps	D	AWS	45.1	**E**	20.7	C
IN-86	Central Ave/Chicago Ave	D	SIGNAL	49.5	D	> 80	**F**
IN-87	Central Ave/El Cerrito Dr	D	SIGNAL	16.9	B	20.0	B
IN-88	Central Ave/Canyon Crest Dr	D	SIGNAL	45.2	D	> 80	**F**

Table 4.15.X: General Plan Buildout Without Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
IN-89	Chicago Ave/Country Club Dr	D	SIGNAL	10.3	B	13.5	B
IN-90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	SIGNAL	37.9	D	67.9	**E**
IN-91	Arlington Ave/Indiana Ave/SR-91 NB Ramps	D	SIGNAL	20.2	C	22.9	C
IN-92	Arlington Ave/Maude St	D	SIGNAL	17.1	B	13.5	B
IN-93	Horace St/Arlington Ave	D	SIGNAL	26.4	C	17.2	B
IN-94	Arlington Ave/Victoria Ave	D	SIGNAL	> 80	**F**	70.8	**E**
IN-95	Alessandro Blvd/Chicago Ave	D	SIGNAL	55.3	**E**	> 80	**F**
IN-96	Alessandro Blvd/Century Ave	D	SIGNAL	19.2	B	11.8	B
IN-97	Alessandro Blvd/Via Vista Dr	D	SIGNAL	18.8	B	22.1	C
IN-98	Alessandro Blvd/Canyon Crest Dr	D	SIGNAL	54.4	D	> 80	**F**
IN-99	Harley Knox Blvd/Perris Blvd	D	SIGNAL	33.5	C	48.0	D
IN-100	Harley Knox Blvd/Evan Rd	D	SIGNAL	16.1	B	23.8	C
IN-101	Ramona Expy/Indian St	E	SIGNAL	> 80	**F**	> 80	**F**
IN-102	Ramona Expy/Perris Blvd	E	SIGNAL	49.2	D	58.5	E
IN-103	Ramona Expy/Evans Rd	E	SIGNAL	60.6	**E**	46.2	D
IN-104	Perris Blvd/Morgan St	D	SIGNAL	11.9	B	9.9	A
IN-105	Evans Rd/Morgan St	C	SIGNAL	28.1	C	21.8	C
IN-106	Perris Blvd/Rider St	C	SIGNAL	23.4	C	30.1	C
IN-107	Evans Rd/Rider St	C	SIGNAL	36.3	**D**	34.5	C
IN-108	Perris Blvd/Mid-County Pkwy WB Ramps	D	SIGNAL	32.7	C	22.6	C
IN-109	Perris Blvd/Mid-County Pkwy EB Ramps	D	SIGNAL	28.3	C	36.2	D
IN-110	Evans Rd/Mid-County Pkwy WB Ramps	D	SIGNAL	25.7	C	21.3	C
IN-111	Evans Rd/Mid-County Pkwy EB Ramps	D	SIGNAL	18.1	B	24.9	C
IN-112	Placentia Ave/Perris Blvd	D	SIGNAL	29.3	C	34.2	C
IN-113	Evans Rd/Placentia Ave	D	SIGNAL	7.3	A	7.4	A
IN-114	Evans Rd/Orange Ave	C	SIGNAL	25.5	C	25.3	C
IN-115	Evans Rd/Nuevo Rd	C	SIGNAL	31.8	C	31.2	C
IN-116	Evans Rd/Ellis Ave	D	SIGNAL	12.7	B	13.6	B
IN-117	Ellis Ave/I-215 SB Ramps	E	SIGNAL	26.5	C	28.3	C
IN-118	Ellis Ave/SR-215 NB Ramps	E	SIGNAL	22.2	C	34.3	C
IN-119	Evans Rd/San Jacinto Ave	D	SIGNAL	21.1	C	22.7	C
IN-120	Park Center Blvd/Ramona Expy WB Ramps	D	CSS	11.8	B	15.3	C
IN-121	Park Center Blvd/Ramona Expy EB Ramps	D	CSS	12.0	B	29.9	D
IN-122	Bridge St/Ramona Expy		N/A	Non-Existent		Non-Existent	
IN-123	Gilman Springs Rd/Bridge Str	C	CSS	> 50	**F**	> 50	**F**
IN-124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	C	CSS	> 50	**F**	> 50	**F**
IN-125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	C	CSS	> 50	**F**	> 50	**F**
IN-126	Ramona Expy/Sanderson Ave	D	SIGNAL	43.9	D	39.9	D
IN-127	Potrero Blvd/SR-60 WB Ramps	D	SIGNAL	21.1	C	15.3	B
IN-128	Potrero Blvd/SR-60 EB Ramps	D	SIGNAL	20.3	C	31.3	C

Table 4.15.X: General Plan Buildout Without Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
IN-129	W 6th St/California Ave	C	AWS	> 50	**F**	> 50	**F**
IN-130	W 6th St/Beaumont Ave	C	SIGNAL	35.5	**D**	> 80	**F**
IN-131	Reche Canyon Rd/Reche Vista Dr	C	SIGNAL	35.0	C	> 80	**F**
IN-132	San Timoteo Canyon Rd/Alessandro Rd	D	AWS	26.4	D	22.2	C
IN-133	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	**F**	> 50	**F**
IN-134	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	**F**	> 50	**F**
IN-135	W Crescent Ave/Alessandro Rd	D	CSS	17.6	C	14.7	B
IN-136	W Sunset Dr/Alessandro Rd	D	AWS	10.2	B	10.4	B

Notes: "NB" and "SB" denote northbound and southbound respectively
"EB" and "WB" denote eastbound and westbound respectively
"LT" and "RT" denote left turn and right turn respectively
Indicates LOS exceeds the target level
"CSS" means cross-street is stop-controlled
"AWS" means all-way stop
"RABT" means roundabout

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- Theodore Street/SR-60 Westbound ramps (a.m. and p.m.);
- Theodore Street/SR-60 Eastbound ramps (p.m.);
- Theodore Avenue/Fir (Eucalyptus) Avenue (p.m.);
- Redlands Boulevard/Alessandro Boulevard (a.m. and p.m.);
- Moreno Beach Drive/Locust Avenue (a.m. and p.m.);
- Moreno Beach Drive/SR-60 Eastbound Ramps (a.m. and p.m.);
- Iris Avenue/Perris Boulevard (a.m. and p.m.);
- Kitching Street/Iris Avenue (a.m. and p.m.);
- Lasselle Street/Iris Avenue (p.m.);
- Lasselle Street/Cactus Avenue (a.m.);
- Graham Street/Alessandro Boulevard (p.m.);
- Indian Street/Cactus Avenue (p.m.);
- Alessandro Boulevard/Sycamore Canyon Boulevard (p.m.);
- I-215 Southbound Ramps/Cactus Avenue (p.m.);
- I-215 Northbound Ramps/Cactus Avenue (a.m. and p.m.);
- Elsworth Street/Cactus Avenue (a.m. and p.m.);
- Central Avenue/Lochmoor Drive (p.m.);
- Martin Luther King Boulevard/I-215 Northbound Ramps (a.m.);
- Central Avenue/Chicago Avenue (p.m.);
- Central Avenue/Canyon Crest Drive (p.m.);
- Arlington Avenue/Riverside Avenue/SR-91 Southbound Ramps (p.m.);
- Arlington Avenue/Victoria Avenue (a.m. and p.m.);
- Alessandro Boulevard/Chicago Avenue (a.m. and p.m.);
- Alessandro Boulevard/Canyon Crest Drive (p.m.);
- Ramona Expressway/Indian Street (a.m. and p.m.);
- Evans Road/Rider Street (a.m.);
- Gilman Springs Road/Bridge Street (a.m. and p.m.);
- SR-79 (Sanderson Avenue) Northbound/Gilman Springs Road (a.m. and p.m.);
- SR-79 (Sanderson Avenue) Southbound/Gilman Springs Road (a.m. and p.m.);
- W. 6th Street/California Avenue (a.m. and p.m.);
- W 6th Street/Beaumont Avenue (a.m. and p.m.);
- Reche Canyon Road/Reche Vista Drive (p.m.);
- San Timoteo Canyon Road/Live Oak Canyon Road (a.m. and p.m.); and
- Redlands Boulevard/San Timoteo Canyon Road (a.m. and p.m.).

General Plan Buildout without project roadway levels of service are based on daily V/C ratios for the study area roadway segments. Table 4.15.Y summarizes the results of this analysis. In this scenario,

Gilman Springs Road and Redlands Boulevard are assumed to have been widened in accordance with General Plan policy to six and four lanes, respectively. As shown in Table 4.15.Y, all study area roadway segments are projected to operate at acceptable daily V/C ratios under General Plan Buildout without project conditions.

A freeway segment level of service analysis was conducted to determine freeway performance under General Plan Buildout without project conditions. Table 4.15.Z summarizes the levels of service at study area segments under General Plan Buildout without project conditions and shows the following 57 study segments are forecast to operate at an unsatisfactory level of service during either the a.m. or p.m. peak hour:

- Northbound or Eastbound:
    - SR-60 S. Reservoir Road to Ramona Avenue (a.m. and p.m.);
    - SR-60 Ramona Avenue to Central Avenue (a.m. and p.m.);
    - SR-60 Central Avenue to Mountain Avenue (a.m. and p.m.);
    - SR-60 Mountain Avenue to Euclid Avenue (a.m.);
    - SR-60 Euclid Avenue to Grove Avenue (a.m. and p.m.);
    - SR-60 Grove Avenue to Vineyard Avenue (a.m. and p.m.);
    - SR-60 Vineyard Avenue to Archibald Avenue (a.m. and p.m.);
    - SR-60 Archibald Avenue to Haven Avenue (a.m.);
    - SR-60 Valley Way to Rubidoux Boulevard (a.m.);
    - SR-60 Rubidoux Boulevard to Market Street (a.m.);
    - SR-60 Market Street to Main Street (a.m. and p.m.);
    - SR-60 Martin Luther King Boulevard to Central Avenue (a.m. and p.m.);
    - SR-60 Pigeon Pass Road/Frederick Street to Heacock Street (p.m.);
    - SR-60 Heacock Street to Perris Boulevard (p.m.);
    - SR-60 Redlands Boulevard to Theodore Street (p.m.);
    - SR-60 Gilman Springs Road to Jack Rabbit Trail (p.m.);
    - SR-60 Jack Rabbit Trail to I-10/Potrero Boulevard (p.m.);
    - SR-91 I-15 to McKinley Street (p.m.);
    - SR-91 Pierce Street to Magnolia Avenue (a.m. and p.m.);
    - SR-91 La Sierra Avenue to Tyler Street (a.m. and p.m.);
    - SR-91 Adam Street to Madison Street (a.m.);
    - SR-91 Central Avenue to 14th Street (a.m.);
    - I-10 SR-60 to Beaumont Avenue (p.m.);
    - I-10 Beaumont Avenue to Pennsylvania Avenue (p.m.);
    - I-10 Pennsylvania Avenue to Highland Springs (p.m.);
    - I-10 Highland Springs Avenue to Sunset Avenue (p.m.);
    - I-10 S. Hargrave Street to Field Road (p.m.);
    - I-10 Main Street (Cabazon) to Main Street (p.m.);

Table 4.15.Y: General Plan Buildout Without Project Roadway Levels of Service

	Roadway	From	To	LOS Standard***	Roadway Section*	Daily Volume	LOS
S-1	Theodore Street (A)	SR-60 WB Ramps	Ironwood Avenue	D	2U	9,653	C
S-2	Theodore Street (A)	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	2U	8,699	B
S-3	Fir (Eucalyptus) Ave.	Redlands Blvd	Theodore Street (A)	D	2U	7,346	A
S-4	Eucalyptus Ave (B)	Theodore Street (A)	Gilman Springs Rd	N/A	Future Road		
S-5	Theodore Street (A)	Fir (Eucalyptus) Ave.	Street E	D	2U	1,664	A
S-6	Street E	Theodore Street (A)	Street D	N/A	Future Road		
S-7	Street F	Theodore Street (A)	Alessandro Blvd (Street C)	N/A	Future Road		
S-8	Theodore Street (A)	Fir (Eucalyptus) Ave.	Alessandro Blvd (Street C)	D	2U	1,724	A
S-9	Alessandro Blvd (Street E)	Merwin Street	Theodore Street (A)	D	2U	5,501	A
S-10	Street D	Alessandro Blvd (Street E)	Cactus Ave.	N/A	Future Road		
S-11	Alessandro Blvd (Street C)	Theodore Street (A)	Street F	D	2U	7,953	B
S-12	Street F	Street C	Street G	N/A	Future Road		
S-13	Alessandro Blvd (Street C)	Street F	Gilman Springs Rd	D	2U	7,953	B
S-14	Street G	Street F	Street H	N/A	Future Road		
S-15	Street H	Street G	Alessandro Blvd (Street C)	N/A	Future Road		
S-16	Gilman Springs Rd	Alessandro Blvd (Street C)	Bridge Street	D	6D	48,013	D
S-17	Gilman Springs Rd	SR-60	Alessandro Blvd (Street C)	D	6D	41,536	C
S-18	Redlands Blvd	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	4U	13,802	A
S-19	Redlands Blvd	Fir (Eucalyptus) Ave.	Alessandro Blvd	C	4U	7,840	A
S-20	Alessandro Blvd	Redlands Blvd	Merwin Street	C	4U	10,022	A
S-21	Redlands Blvd	Alessandro Blvd	Cactus Ave.	C	4U	11,263	A
S-22	Cactus Ave.	Redlands Blvd	Street D	C	4U	342	A

* Section is the number of lanes, with "U" for "undivided" and "D" for "Divided" roadways

LOS Standard is "C" in residential areas and "D" for roads in employment-generating areas or near freeways

Indicates LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.Z: General Plan Buildout Without Project Freeway Mainline LOS

ID	Freeway	Segment	Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-2	SR-60	S Reservoir Rd to Ramona Ave	8,560	41.2	**E**	8,750	43.6	**E**	8,770	43.3	**E**	7,840	34.6	D
F-3	SR-60	Ramona Ave to Central Ave	8,190	37.8	**E**	10,230	66.5	**F**	8,080	37.2	**E**	7,720	33.7	D
F-4	SR-60	Central Ave to Mountain Ave	8,900	44.8	**E**	10,210	66.0	**F**	6,340	25.4	C	7,580	32.7	D
F-5	SR-60	Mountain Ave to Euclid Ave	8,780	43.4	**E**	7,590	33.3	D	6,230	25.2	C	8,250	37.9	**E**
F-6	SR-60	Euclid Ave to Grove Ave	9,920	59.3	**F**	9,680	56.0	**F**	6,470	26.1	D	7,950	35.5	**E**
F-7	SR-60	Grove Ave to Vineyard Ave	9,210	48.5	**F**	10,050	62.7	**F**	6,280	25.0	C	8,150	37.1	**E**
F-8	SR-60	Vineyard Ave to Archibald Ave	9,080	46.3	**F**	10,210	66.0	**F**	7,660	33.3	D	7,640	33.1	D
F-9	SR-60	Archibald Ave to Haven Ave	8,430	39.5	**E**	7,330	31.5	D	See Weaving Analysis			See Weaving Analysis		
F-10	SR-60	Haven Ave to Miliken Ave	8,430	27.5	D	8,110	26.4	D	6,510	20.3	C	7,970	25.6	C
F-11	SR-60	Miliken Ave to I-15	5,160	19.8	C	4,530	17.4	B	5,460	21.0	C	7,180	29.8	D
F-12	SR-60	I-15 to Etiwanda Ave	4,140	15.9	B	2,740	10.6	A	4,840	14.9	B	6,360	19.4	C
F-13	SR-60	Etiwanda Ave to Mission Blvd/Country Village Rd	4,950	19.1	C	4,170	16.1	B	4,220	16.1	B	5,620	21.6	C
F-14	SR-60	Mission Blvd/Country Village Rd to Pedley Rd	4,380	16.8	B	3,150	12.2	B	4,140	15.9	B	5,660	21.8	C
F-15	SR-60	Pedley Rd to Pyrite St	4,620	17.8	B	3,610	13.9	B	3,260	12.5	B	4,820	18.3	C
F-16	SR-60	Pyrite St to Valley Way	5,060	19.5	C	3,880	15.0	B	2,470	9.5	A	3,930	14.9	B

Table 4.15.Z: General Plan Buildout Without Project Freeway Mainline LOS

			Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-17	SR-60	Valley Way to Rubidoux Blvd	6,160	38.0	**E**	3,850	19.9	C	4,560	24.1	C	6,360	39.6	**E**
F-18	SR-60	Rubidoux Blvd to Market St	6,490	42.1	**E**	4,200	22.1	C	3,400	17.4	B	5,120	27.7	D
F-19	SR-60	Market St to Main St	6,020	36.4	**E**	6,610	44.8	**E**	5,520	31.4	D	6,280	38.7	**E**
F-20	SR-60	Main to SR-91	See Weaving Analysis			See Weaving Analysis			5,310	29.6	D	6,310	39.0	**E**
F-24	SR-60	Martin Luther King Blvd to Central Ave	9,500	59.8	**F**	9,850	70.6	**F**	8,310	45.3	**F**	8,980	53.0	**F**
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	6,090	24.2	C	5,780	22.8	C	7,480	33.0	D	8,970	46.6	**F**
F-27	SR-60	I-215 to Day St.	See Weaving Analysis			See Weaving Analysis			7,050	50.4	**F**	3,580	18.5	C
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	3,330	27.3	D	4,100	37.8	**E**	3,620	30.9	D	3,900	34.9	D
F-30	SR-60	Heacock St to Perris Blvd	3,020	24.1	C	4,180	39.3	**E**	3,530	29.7	D	3,400	28.2	D
F-31	SR-60	Perris Blvd to Nason St	2,660	20.9	C	3,500	29.2	D	3,310	27.1	D	2,770	21.8	C
F-32	SR-60	Moreno Beach Dr to Nason St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-33	SR-60	Moreno Beach Dr to Redlands Blvd	2,470	19.1	C	3,120	24.9	C	3,130	25.0	C	2,670	20.8	C
F-34	SR-60	Redlands Blvd to Theodore St	3,200	25.9	C	4,500	45.4	**F**	4,010	36.3	**E**	3,530	29.7	D
F-35	SR-60	Theodore St to Gilman Springs Rd	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	2,420	19.4	C	4,430	48.8	**F**	3,350	29.0	D	2,920	25.2	C

Table 4.15.Z: General Plan Buildout Without Project Freeway Mainline LOS

ID	Freeway	Segment	Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	2,500	19.5	C	4,750	51.8	**F**	3,690	31.6	D	3,010	24.0	C
F-38	SR-60	Potrero Blvd to I-10	2,300	17.8	B	3,620	30.6	D	2,360	18.2	C	1,930	15.0	B
F-39	SR-91	I-15 to McKinley St	8,140	26.3	D	11,870	52.4	**F**	8,590	28.6	D	8,630	28.6	D
F-40	SR-91	McKinley St to Pierce St	6,990	29.1	D	6,910	29.0	D	6,550	26.9	D	7,440	32.0	D
F-41	SR-91	Pierce St to Magnolia Ave	6,430	41.3	**E**	6,360	41.2	**E**	6,260	39.9	**E**	9,000	144.5	**F**
F-42	SR-91	Magnolia Ave to La Sierra Ave	See Weaving Analysis			See Weaving Analysis			6,130	38.3	**E**	8,600	107.0	**F**
F-43	SR-91	La Sierra Ave to Tyler St	6,170	38.1	**E**	6,250	39.8	**E**	5,460	31.4	D	6,390	40.8	**E**
F-44	SR-91	Tyler St to Van Buren Blvd	7,250	30.7	D	6,950	29.2	D	6,880	28.8	D	7,970	35.9	**E**
F-45	SR-91	Van Buren Blvd to Adam St	7,270	30.8	D	6,290	25.5	C	6,590	27.1	D	7,720	34.0	D
F-46	SR-91	Adam St to Madison St	7,980	36.6	**E**	6,030	24.3	C	6,270	25.4	C	6,970	29.0	D
F-47	SR-91	Madison St to Indiana Ave	7,000	29.6	D	5,390	21.4	C	5,540	32.1	D	6,290	39.5	**E**
F-49	SR-91	Central Ave to 14th St	6,400	40.9	**E**	5,730	33.4	D	5,290	30.1	D	5,460	30.9	D
F-51	SR-91	University Ave to Spruce St (off-ramp)	8,160	26.4	D	7,420	23.4	C	See Weaving Analysis			See Weaving Analysis		
F-52	I-10	SR-60 to Beaumont Ave	5,030	19.7	C	8,170	38.3	**E**	7,820	35.3	**E**	6,060	24.5	C
F-53	I-10	Beaumont Ave to Pennsylvania Ave	5,100	20.1	C	8,030	37.1	**E**	7,660	34.1	D	5,840	23.5	C
F-54	I-10	Pennsylvania Ave to Highland Springs	5,240	20.7	C	8,170	38.3	**E**	8,180	38.4	**E**	5,920	23.9	C

Table 4.15.Z: General Plan Buildout Without Project Freeway Mainline LOS

			Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-55	I-10	Highland Springs Ave to Sunset Ave	5,350	21.2	C	8,240	38.9	**E**	7,990	36.7	**E**	5,590	22.3	C
F-56	I-10	Sunset Ave to 22nd St	4,970	19.6	C	7,670	34.5	D	7,620	33.8	D	5,420	21.5	C
F-57	I-10	22nd St to S 8th St	4,880	19.3	C	7,480	33.0	D	7,680	34.5	D	5,130	20.3	C
F-58	I-10	S 8th St to S Hargrave St	5,000	19.7	C	7,770	34.9	D	7,790	35.4	**E**	5,370	21.4	C
F-59	I-10	S Hargrave St to Field Rd	4,770	18.8	C	7,970	36.9	**E**	7,610	34.0	D	5,000	19.8	C
F-60	I-10	Field Rd to Main St (Cabazon)	3,990	15.8	B	7,490	33.1	D	7,150	30.7	D	4,620	18.3	C
F-61	I-10	Main St (Cabazon) to Main St	4,320	17.1	B	7,800	35.2	**E**	7,040	30.0	D	5,040	20.0	C
F-62	I-10	Main St to Haugen-Lehmann Way	4,080	16.1	B	7,530	33.1	D	7,070	30.2	D	4,410	17.4	B
F-64	I-10	SR-111 to Tipton Rd	3,660	14.5	B	7,320	31.7	D	6,420	26.2	D	4,860	19.2	C
F-65	I-10	Tipton Rd to SR-62	3,700	14.6	B	7,330	31.7	D	6,430	26.2	D	4,870	19.2	C
F-66	I-215	Scott Rd to Newport Rd	3,350	17.2	B	6,010	36.0	**E**	5,470	30.8	D	4,160	21.5	C
F-84	I-215	Barboni Rd to Newport Rd	3,150	16.1	B	5,680	32.9	D	4,950	26.6	D	4,040	20.9	C
F-68	I-215	Newport Rd to MacCall Blvd	2,910	15.0	B	4,610	24.4	C	5,020	27.2	D	5,240	28.9	D
F-69	I-215	MacCall Blvd to Ethanac Rd	3,530	18.1	C	5,570	31.9	D	5,400	30.4	D	4,800	25.6	C
F-70	I-215	Ethanac Rd to SR-74	5,240	29.1	D	5,650	32.6	D	5,390	30.3	D	6,220	38.3	**E**

Table 4.15.Z: General Plan Buildout Without Project Freeway Mainline LOS

			Northbound / Eastbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-71	I-215	SR-74/Case Rd to Redlands Blvd/Ellis	5,200	28.7	D	6,760	46.1	**F**	7,170	53.3	**F**	5,980	35.6	**E**
F-85	I-215	Ellis Ave to Redlands Blvd	4,820	25.9	C	6,200	38.4	**E**	6,560	43.1	**E**	5,490	21.2	C
F-74	I-215	Columbia Ave to Center St	4,110	21.6	C	3,350	17.5	B	5,000	27.4	D	3,680	19.1	C
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	4,940	26.9	D	4,270	22.7	C	5,970	35.8	**E**	4,690	25.1	C
F-76	I-215	Iowa Ave/La Cadena Dr to Barton Rd	4,880	26.5	D	4,310	22.8	C	5,060	27.8	D	3,780	19.7	C
F-77	I-215	Barton Rd to Mt Vernon Ave	5,320	29.9	D	4,700	25.4	C	5,540	31.6	D	4,210	22.2	C
F-78	I-215	Mt Vernon Ave to I-10	5,110	19.8	C	5,720	22.5	C	6,480	26.2	D	5,210	20.3	C
F-80	I-215	Auto Plaza Dr to Mill St	4,680	18.0	B	5,980	23.6	C	5,600	21.7	C	4,540	17.4	B
F-83	I-215	Baseline Rd to Highland Ave	3,260	16.8	B	4,890	26.4	D	6,910	48.0	**F**	5,780	33.9	D

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- I-215 Scott Road to Newport Road (p.m.);
- I-215 SR-74/Case Road to Redlands Boulevard (p.m.); and
- I-215 Ellis Avenue to Redlands Boulevard (p.m.);

- Southbound or Westbound:
  - SR-60 S. Reservoir Road to Ramona Avenue (a.m.);
  - SR-60 Ramona Avenue to Central Avenue (a.m.);
  - SR-60 Mountain Avenue to Euclid Avenue (p.m.);
  - SR-60 Euclid Avenue to Grove Avenue (p.m.);
  - SR-60 Grove Avenue to Vineyard Avenue (p.m.);
  - SR-60 Valley Way to Rubidoux Boulevard (p.m.);
  - SR-60 Market Street to Main Street (p.m.);
  - SR-60 Main Street to SR-91 (p.m.);
  - SR-60 Martin Luther King Boulevard to Central Avenue (a.m. and p.m.);
  - SR-60 Fair Isle Drive/Box Springs Road to I-215 (p.m.);
  - SR-60 I-215 to Day Street (a.m.);
  - SR-60 Redlands Boulevard to Theodore Street (a.m.);
  - SR-91 Pierce Street to Magnolia Avenue (a.m. and p.m.);
  - SR-91 Magnolia Avenue to La Sierra Avenue (a.m. and p.m.);
  - SR-91 La Sierra Avenue to Tyler Street (p.m.);
  - SR-91 Tyler Street to Van Buren Boulevard (p.m.);
  - SR-91 Madison Street to Indiana Avenue (p.m.);
  - I-10 SR-60 to Beaumont Avenue (a.m.);
  - I-10 Pennsylvania Avenue to Highland Springs Avenue (a.m.);
  - I-10 Highland Springs Avenue to Sunset Avenue (a.m.);
  - I-10 S 8th Street to S. Hargrave Street (a.m.);
  - I-215 Ethanac Road to SR-74 (p.m.);
  - I-215 SR-74/Case Road to Redlands Boulevard (a.m. and p.m.);
  - I-215 Ellis Avenue to Redlands Boulevard (a.m.);
  - I-215 Center Street to Iowa Avenue/La Cadena Drive (a.m.); and
  - I-215 Baseline Road to Highland Avenue (a.m.).

A freeway weaving analysis was conducted on freeway segments where an on-ramp is closely followed by an off-ramp, and the two are joined by an auxiliary lane. Table 4.15.AA summarizes the levels of service at weaving segments under General Plan Buildout without project conditions and shows the following eight northbound or eastbound and eight southbound or westbound freeway weaving segments are forecast to operate at unsatisfactory levels of service in either the a.m. peak or p.m. peak hour:

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Table 4.15.AA: General Plan Buildout Without Project Weaving Segment Levels of Service

ID	Freeway	Weaving Segment	Northbound / Eastbound												Southbound / Westbound											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density		Weaving Movement Volume				Density		Weaving Movement Volume				Density		Weaving Movement Volume				Density	
			F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS
W-1	SR-60	EB SR-60 SR-71/S Garey Ave to S Reservoir Rd	6,304	314	237	1,777	39.7	**E**	7,252	332	239	1,879	46.8	**E**	4,011	71	1,650	400	22.0	C	4,912	92	1,989	519	27.6	C
W-9	SR-60	EB SR-60 Haven Ave to Archibald Ave	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						5,291	31	1,010	580	28.7	D	6,239	49	972	922	36.4	**E**
W-20	SR-60	EB SR-60 Main St to SR-91	5,879	89	592	502	34.2	D	6,021	51	739	289	35.0	**E**	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-21	SR-60	EB SR-60 SR-91 to W Blaine St/3rd St	4,839	339	181	1,921	32.4	D	8,469	299	172	1,692	>Capacity	**F**	6,094	134	1,497	757	33.6	D	7,726	156	1,204	884	40.9	**E**
W-22	SR-60	EB SR-60 W Blaine St/3rd St to University Ave	6,348	18	412	342	37.3	**E**	7,020	50	430	950	>Capacity	**F**	5,666	6	514	114	24.2	C	7,873	23	557	437	35.8	**E**
W-23	SR-60	EB SR-60 University Ave to Martin Luther King Blvd	6,831	31	520	580	38.7	**E**	5,537	47	564	884	33.7	D	5,244	44	606	836	36.1	**E**	7,605	25	725	475	>Capacity	**F**
W-25	SR-60	EB SR-60 Central Ave to Fair Isle Dr/Box Springs Rd	5,941	61	729	1,159	37.0	**E**	7,049	49	612	922	41.0	**E**	6,520	70	411	1,321	>Capacity	**F**	7,815	45	496	846	>Capacity	**F**
W-27	SR-60	I-215 to Day St	2,426	146	505	825	15.9	B	3,717	237	483	1,343	25.6	C	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-28	SR-60	Day St to Pigeon Pass Rd/Frederick St	2,373	13	1,138	238	16.2	B	3,228	38	1,652	722	26.4	C	5,300	40	971	751	>Capacity	**F**	3,401	31	770	580	32.3	D
W-32	SR-60	Moreno Beach Dr to Nason St.	1,468	18	813	333	16.4	B	2,080	20	980	380	22.5	C	2,534	24	276	456	20.1	C	1,894	24	296	456	16.1	B
W-35	SR-60	Theodore St to Gilman Springs Rd	2,088	8	833	143	17.5	B	2,858	68	1,503	1,283	37.9	**E**	2,657	67	574	1,264	31.9	D	2,217	57	323	1,083	24.2	C
W-42	SR-91	Magnolia Ave to La Sierra Ave	5,410	40	771	751	33.7	D	5,118	48	863	903	34.3	D	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-48	SR-91	EB SR-60 Arlington Ave to Central Ave	6,353	23	807	437	41.0	**E**	3,345	15	736	276	21.3	C	4,275	15	585	285	24.9	C	4,983	13	517	247	27.4	C
W-50	SR-91	14th St to University Ave	4,226	16	775	295	26.4	C	3,703	23	908	428	26.1	C	5,110	10	771	181	30.4	D	6,834	24	696	456	>Capacity	**F**
W-51	SR-91	SR-60 to Mission Inn Ave/University Ave (off-ramp)	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						3,011	245	776	1,386	200.6	C	6,506	204	576	1,156	32.5	D
W-63	I-10	Haugen-Lehmann Way to SR-111	2,951	21	1,079	119	14.4	B	6,285	135	1,235	765	33.1	D	6,291	41	159	779	29.0	D	2,831	81	1,049	1,539	>Capacity	**F**
W-73	I-215	SR-60 to Columbia Ave	3,092	302	229	1,709	28.4	D	2,280	300	330	1,700	24.5	C	3,236	206	2,055	1,165	33.8	D	2,254	234	1,756	1,326	28.1	D
W-79	I-215	I-10 to Auto Plaza Dr/Orange Show Rd	3,084	104	817	587	16.9	B	3,886	156	714	884	20.9	C	4,462	42	1,458	238	22.5	C	3,557	87	813	493	18.8	B
W-81	I-215	Mill St to 2nd St	4,028	18	802	342	18.3	B	5,173	23	827	437	23.5	C	5,161	31	579	589	23.4	C	3,808	38	423	713	18.3	B
W-82	I-215	5nd St to Baseline Rd	2,969	19	562	352	13.5	B	3,896	26	575	485	17.7	B	4,353	33	608	618	20.3	C	2,858	38	442	722	14.6	B

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

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- Northbound or Eastbound:
  - SR-60 SR-71/S. Garey Avenue to S. Reservoir Road (a.m. and p.m.);
  - SR-60 Main Street to SR-91 (p.m.);
  - SR-60 SR-91 to W. Blaine Street/3rd Street (p.m.);
  - SR-60 W. Blaine Street/3rd Street to University Avenue (a.m. and p.m.);
  - SR-60 University Avenue to Martin Luther King Boulevard (a.m.);
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road (a.m. and p.m.);
  - SR-60 Theodore Street to Gilman Springs Road (p.m.); and
  - SR-91 Arlington Avenue to Central Avenue (a.m.).
- Southbound or Westbound:
  - SR-60 Haven Avenue to Archibald Avenue (p.m.);
  - SR-60 SR-91 to W. Blaine Street/3rd Street (p.m.);
  - SR-60 W. Blaine Street/3rd Street to University Avenue (p.m.);
  - SR-60 University Avenue to Martin Luther King Boulevard (a.m. and p.m.);
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road (a.m. and p.m.);
  - SR-60 Day Street to Pigeon Pass Road/Frederick Street (a.m.);
  - SR-91 14th Street to University Avenue (p.m.); and
  - I-10 Haugen-Lehmann Way to SR-111 (p.m.).

Freeway ramp merge and diverge operations have been evaluated for year General Plan Buildout without project conditions. Table 4.15.AB summarizes the levels of service at under General Plan Buildout without project conditions and shows the following 11 freeway ramp junctions are forecast to operate at unsatisfactory levels of service in either the a.m. peak or p.m. peak hour:

- SR-60 Eastbound On-Ramp from Central Avenue (a.m. and p.m.);
- SR-60 Eastbound Off-Ramp to Theodore Street (p.m.);
- SR-60 Eastbound Loop On-Ramp from Theodore Street (p.m.);
- SR-60 Eastbound Off-Ramp to Gilman Springs Road (p.m.);
- SR-60 Eastbound On-Ramp from Gilman Springs Road (p.m.);
- SR-60 Westbound On-Ramp from Gilman Springs Road (a.m.);
- SR-60 Westbound Off-Ramp to Theodore Street (a.m.);
- SR-60 Westbound On-Ramp from Theodore Street (a.m.);
- SR-60 Westbound Loop On-Ramp from Redlands Boulevard (a.m.);
- SR-60 Westbound Off-Ramp to Central Avenue (a.m. and p.m.); and
- SR-60 Westbound Off-Ramp to Martin Luther King Boulevard (a.m. and p.m.).

Table 4.15.AB: General Plan Buildout Without Project Freeway Ramp Levels of Service

ID	Freeway / Direction	Ramp Segment	Ramp No. of Lanes	AM Peak Hour				PM Peak Hour			
				Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS
R-1	SR-60 EB	On-Ramp from Martin Luther King Blvd	1	7,410	580	30.6	D	6,420	1,400	33.7	D
R-2	SR-60 EB	On-Ramp from Central Ave	1	7,890	1,220	32.2	**F**	8,630	970	32.9	**F**
R-3	SR-60 EB	Off-Ramp to Redlands Blvd	1	2,470	210	13.7	B	3,120	440	19.6	B
R-4	SR-60 EB	Loop On-Ramp from Redlands Blvd	1	2,260	90	23.7	C	2,680	60	26.9	C
R-5	SR-60 EB	Direct On-Ramp from Redlands Blvd	1	2,350	110	19.9	B	2,740	480	25.9	C
R-6	SR-60 EB	Off-Ramp to Theodore St	1	3,200	270	31.7	D	4,500	150	43.4	**F**
R-7	SR-60 EB	Loop On-Ramp from Theodore St	1	2,930	150	22.0	C	4,350	1,350	42.9	**F**
R-8	SR-60 EB	Direct On-Ramp from Theodore St	1	Does not exist in this Scenario				Does not exist in this Scenario			
R-9	SR-60 EB	Off-Ramp to Gilman Spring Rd	1	3,070	840	19.4	B	5,710	1,570	35.8	**E**
R-10	SR-60 EB	On-Ramp from Gilman Spring Rd	1	2,230	260	16.9	B	4,140	470	34.3	**F**
R-11	SR-60 WB	Off-Ramp to Gilman Spring Rd	1	3,470	240	21.8	C	3,100	560	19.5	B
R-12	SR-60 WB	On-Ramp from Gilman Spring Rd	1	3,230	1,330	33.4	**F**	2,540	1,140	26.3	C
R-13	SR-60 WB	Off-Ramp to Theodore St	1	4,560	640	32.7	**F**	3,680	380	24.8	C
R-14	SR-60 WB	On-Ramp from Theodore St	1	3,920	90	35.5	**E**	3,300	230	31.6	D
R-15	SR-60 WB	Off-Ramp to Redlands Blvd	1	4,010	320	32.4	D	3,530	370	28.1	D
R-16	SR-60 WB	Loop On-Ramp from Redlands Blvd	1	3,690	140	36.0	**E**	3,160	100	31.3	D
R-17	SR-60 WB	Direct On-Ramp from Redlands Blvd	1	3,830	370	34.2	D	3,260	280	28.9	D

Table 4.15.AB: General Plan Buildout Without Project Freeway Ramp Levels of Service

ID	Freeway / Direction	Ramp Segment	Ramp No. of Lanes	AM Peak Hour				PM Peak Hour			
				Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS
R-18	SR-60 WB	Off-Ramp to Central Ave	2	8,320	480	39.9	**E**	9,200	540	>Capacity	**F**
R-19	SR-60 WB	Off-Ramp to Martin Luther King Blvd	1	8,310	710	39.1	**E**	8,980	660	41.4	**F**

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

4.15.4 Thresholds of Significance

Based on Appendix G of the *CEQA Guidelines*, the proposed project would create potentially significant traffic impacts if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit.
- Cause a decrease from satisfactory LOS (based on local agency adopted standards) to an unsatisfactory LOS on a study area intersection, roadway segment, freeway mainline lane, freeway weaving segment or freeway ramp. A significant cumulative traffic impact would occur if the project contributes traffic toward those facilities operating at unsatisfactory LOS in the without project condition. The adopted LOS standards are as follows:
    - Roadway segments and intersections: LOS C; and LOS D as outlined in previously referenced Table 4.15.E.
    - Freeway mainline: LOS D.
    - Freeway Ramp Merge/Diverge: LOS D.
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, which results in substantial safety risks.
- Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The Moreno Valley General Plan Circulation Element, adopted July 2006, defines a preferred performance standard of LOS C (where feasible) for City roads (including intersections). However, the circulation element also allows peak hour levels of service in the LOS D range at certain locations. These locations include areas of high employment concentration or north/south roads in the vicinity of the SR-60. Therefore, if a roadway segment or intersection is projected to operate at an acceptable level of service (i.e., LOS C/D or better) without the project, and the project is expected to cause the intersection to operate at an unacceptable level of service, the project impact is considered significant.

The study area includes intersections and roadways in six cities besides Moreno Valley. Table 4.15.AC shows the various level of service standards for intersections within each jurisdiction. A project's impact on an intersection is considered significant if it causes the LOS to exceed the target level set by the jurisdiction or, if the LOS in the no-project condition already exceeds the LOS level, if the project causes an increase in traffic delay beyond the no-project condition.

All freeway mainline segments and freeway ramps are under the jurisdiction of Caltrans. LOS D has been established by Caltrans as the operating standard for freeway mainline segments and freeway ramps. Therefore, if a freeway segment is projected to operate at an acceptable level of service (i.e., LOS D or better) without the project, and the project is expected to cause the facility to operate at an unacceptable level of service (i.e., LOS E or F), the impact is considered significant. Previously referenced Table 4.15.D shows level of service criteria for freeway segments and ramps.

4.15.5 Less Than Significant Impacts

Air traffic patterns, design hazard features, emergency access, and alternative transportation policies, plans, or programs are considered to have either no impact or less than significant impacts.

4.15.5.1 Air Traffic Patterns

Threshold	Would the proposed project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Airport facilities within the vicinity of the project site include the March Air Field, which is part of the March Air Reserve Base (MARB). The MARB encompasses approximately 6,500 acres of the Air Force Reserve's 452nd Air Mobility Wing, which provides host base support for numerous tenant active military units. It is also the home of 4th Air Force and multiple units of the California Air National Guard. When March Air Force Base (March AFB) was converted from an active duty base to a Reserve Base in 1996, the decision resulted in approximately 4,400 acres of property and facilities being declared surplus and available for disposal actions, as well as joint use of the airfield. With the realignment of March AFB, the MARB Redevelopment Project Area was established. The MARB Redevelopment Project Area includes the entire 6,500-acre former active duty base area, and approximately 450 acres adjacent to the base in the industrial area of the City of Moreno Valley.

Table 4.15.AC: Intersection LOS Standards by Jurisdiction

Jurisdiction	Type of Facility	# of Study Intersections	LOS Standard
Moreno Valley	Intersections adjacent to freeways or employment centers	57	D
	All other intersections	14	C
Beaumont	Most intersections	2	C
	Intersections with major highways	2	D
Perris	Intersections with SR-74, Ramona Exp, or I-215	5	E
	Expressway/arterial intersections	10	D
	All other intersections	6	C
Redlands	Intersections currently operating at "D" or worse	1	Existing LOS
	All other intersections	2	C
Riverside (County)	Most intersections*	7	C
	Intersections with Ramona Expressway	2	D
Riverside (City)	Intersections of collectors or higher roads	27	D
San Jacinto	Arterial intersections	1	D
Caltrans	State highway facilities currently operating at LOS "E" or "F"		Existing Density
	State highway facilities		D

* Intersections between arterials, highways, expressways, and freeway ramps within community development areas are allowed LOS "D" as an exception.
Source: Table 12, Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

To implement the MARB Redevelopment Project Area and to facilitate the transition of a portion of the MARB from military to civilian uses, the March Joint Powers Authority, (March JPA) consisting of the County of Riverside and the Cities of Moreno Valley, Perris, and Riverside, was formed. The

March JPA along with the U.S. Air Force pursued the establishment of March Air Field as a joint use airport.

The Air Force defines a "joint use airport" as one where the facilities which are owned and operated by the Air Force are made available for use by civil aviation. A joint use agreement between these parties was executed May 7, 1997, along with land leases for over 300 acres as the civilian airport name MIP. Under the agreement, the civilian (March JPA) and the military (AFRC) entities share essential aviation facilities such as the control towers and runways, as well as maintenance of facilities, under this joint use arrangement. Under the provisions of the Joint Use Agreement, the MIP is the civilian facility that is managed and operated by the MIP Airport Authority (MIPAA). The MIP includes air cargo operations such as the March Global Port, a 350-acre commercial air cargo and distribution center.

The Department of the Defense (Air Force) completed an Air Installation Compatible Use Zone (AICUZ) study for MARB in 1998. The AICUZ study was designed and is intended to aid in the development of compatible land uses in non-government areas surrounding military airfields to protect public safety and health. The study established three zones based on potential crash patterns: a Clear Zone and two Accident Potential Zones (APZs). The Clear Zone reaches from along the extended runway centerline to a distance of 3,000 feet, APZ 1 extends from 3,000 feet to 8,000 feet, and APZ II extends from 8,000 feet to 15,000 feet. According to the AICUZ, outside of the Clear Zone and APZs “the risk of aircraft accidents is not significant enough to warrant special consideration in land use planning.” The proposed project site is not located within a Clear Zone, APZ 1, or APZ 2 for MARB as designated by the Air Force 2005 AICUZ Study. In addition to the AICUZ, Airport Influence Area boundaries around MARB have been adopted by County of Riverside Airport Land Use Commission (ALUC) in its Airport Land Use Plan (ALUP). The proposed project site is located within Influence Area III.

The project site is approximately 1.5 miles east of the March Air Field and is entirely within Airport Influence Area III of the MIP. As part of the standard process for development within Airport Influence Areas for MARB, proposed projects are required to be reviewed by the ALUC for consistency with the ALUP. As a standard condition imposed during ALUC reviews, development located within the boundaries of Influence Area III is required to provide navigation easements. Development that is allowed to occur within Airport Influence III of MIP would not include any features that would alter air traffic patterns or the level of air traffic at the MIP; therefore, a less than significant air safety impact would occur and no mitigation is required.

4.15.5.2 Design Hazard Features

Threshold	Would the proposed project substantially increase hazards due to a design feature or incompatible use?

The design of roadways must provide adequate sight distance and traffic control measures. This provision is normally realized through roadway design to facilitate roadway traffic flows. Roadway improvements in and around the project site would be designed and constructed to satisfy all City and Caltrans requirements for street widths, corner radii, intersection control as well as incorporate design standards tailored specifically to project access requirements. Adherence to applicable City requirements would ensure the proposed project would not include any sharp curves or dangerous intersections.

During the project review process, City staff expressed a concern about the intersection of D Street and the eastern end of Cactus Avenue, east of Redlands Boulevard. Early designs showed it as a skewed “T” intersection, but the Specific Plan now shows it as a more gently curving “knuckle” configuration, which eliminated the original concern about the safety of the intersection.

Temporary impacts associated with the construction of infrastructure improvements included as a part this project may temporarily restrict vehicular traffic or cause temporary hazards. The construction of infrastructure would coincide with roadway improvements, which would include road or lane closures as well as the presence of construction workers and equipment on public roads. Construction operations would be required to implement adequate measures to facilitate the passage of people and vehicles through/around any required road or lane closures. Site-specific activities, such as temporary construction activities, are finalized on a project-by-project basis by the City and are required to ensure adequate traffic flow. At the time of approval of any site-specific plans required for the construction of infrastructure as a part of typical conditions of approval, the project would be required to implement measures that would maintain traffic flow and access. In the absence of a roadway design hazard, no impact would occur; therefore, no mitigation is required.

4.15.5.3 Emergency Access

Threshold	Would the proposed project result in inadequate emergency access?

Construction activities that may temporarily restrict vehicular traffic would be required to implement adequate measures to facilitate the passage of people and vehicles through/around any required road closures. Site-specific activities such as temporary construction activities are finalized on a project-by-project basis by the City and are required to ensure adequate emergency access.

The roadway improvements that will take place as a part of this project will improve the traffic circulation in the area. This will improve the ability of emergency vehicles to access the project as well as the surrounding properties. Access to the project site is designed to accommodate large trucks with trailers used for the distribution of goods to and from the warehouses. This would provide ample vehicular access for emergency vehicles. During the operational phase of the proposed project, on-site access would be required to comply with standards established by the City Public Works Department. The size and location of fire suppression facilities (e.g., hydrants) and fire access routes would be required to conform to Fire Department standards. As required of all development in the City, the operation of the proposed project would conform to applicable Uniform Fire Code standards. The submittal of such plans would be considered a condition of approval, which would be part of the permitting process initiated by the applicant and approved by the City in accordance with City standards. As with any development, access to and through the project would be required to comply with the required street widths, as determined in the California Building Code (CBC), Master Plan of Streets, and the Uniform Fire Code. Therefore, implementation of the proposed project would not significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; therefore, no mitigation is required.

4.15.5.4 Alternative Transportation Policies, Plans, or Programs

Threshold	Would the proposed project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

The proposed project would result in the development of employment opportunities and would therefore reduce vehicle miles traveled. Currently, approximately 70 percent of workers residing in the City of Moreno Valley commute to jobs outside the City. According to the U.S. Census Bureau, 21.7 percent of Moreno Valley workers commute more than 50 miles one-way to work, and another 20.8 percent drive 25 to 50 miles one way. Nearly four out of five Moreno Valley workers drive to work alone. The City is in need of employment opportunities to serve City and regional residents. A better jobs/housing balance results in shorter commute times, reduced vehicle miles traveled, and reduced traffic congestion. Locating jobs in areas such as the City is a public policy prerogative of the City, regional governmental entities such as SCAG, and the State of California as manifested by recent legislation such as SB 375. The project is consistent with these policies because it will provide

approximately 25,000[1] new jobs; nearly doubling the number of jobs in Moreno Valley. As a result, the percentage of Moreno Valley residents that need to commute regionally would be reduced. In addition, the project will be conditioned to provide sidewalks and landscaping treatments to allow for pedestrian access throughout the site.

An updated Housing Element, adopted by the City in February 2011, identified the Moreno Highlands area as a potential location for future jobs-producing land uses. In April 2011, the City adopted its Economic Development Action Plan, which identified eastern Moreno Valley as a potential area for major job-producing land uses. The proposed World Logistics Center project is consistent with this planning objective, as it provides a comprehensive plan for jobs-producing land uses.

The WLC Specific Plan provides for Class II bicycle lanes on all project streets (see WLCSP Section 3.4.3 and WLCSP Figure 3-12). In addition, WLCSP Section 6.0, Sustainability, Item 2 indicates showers and changing rooms will be available which will facilitate people using bicycles to get to and from work.

The WLC Specific Plan provides for connections to existing trails to the west along Redlands Boulevard, and to the southwest along Cactus Avenue. In addition, the plan provides for a new trail connection from the southwest corner of the site around the land designated as open space under the WLCSP, to connect to a future planned "trailhead" at the northwest corner of the state-owned property to the south. The WLCSP also includes a "loop" trail segment through the WLCSP along Street F to Eucalyptus Avenue and back to Redlands Boulevard (see DEIR Figure 3-12, *Non-Vehicular Circulation*). With these planned improvements, the WLCSP will have less than significant impacts regarding non-vehicular circulation.

Section 4.D of the project TIA indicates that the addition of 24,642 employees in the eastern portion of the City would help reduce the number of workers driving long commutes to distant jobsites to the west and southwest, which is supported by the results of the RIVTAM model used in the TIA. The provision of additional employment options in proximity to existing residential development in the City will help reduce local vehicle miles traveled as the employment generated by the project slowly improves the City's job/housing ratio, and more local jobs are created for City residents. Therefore, the proposed project is consistent with City policies encouraging alternative transportation. Since the project will not create any significant impacts related to non-vehicular transportation, no mitigation is required.

4.15.6 Significant Impacts

The following potential impacts were determined to be significant, either because the project would contribute to an intersection, roadway segment or freeway facility already exceeding the LOS threshold, or because the project would cause the intersection, roadway segment or freeway to exceed the LOS threshold. The project would be required to make required on-site and adjacent off-site improvements, contribute to local and regional circulation improvement through the payment of the DIFs and TUMFs, and would therefore contribute to improvements that may mitigate the direct project impact or cumulative impact of the project. Mitigation of direct project impacts can be in the form of improvements to the intersection, or payment of the fees if projects funded by the fee would mitigate the project impact to a less than significant level.

Planned Improvements. As part of the analysis of project traffic impacts, it is important to note that development within the WLCSP will make a number of roadway and intersection improvements that are within or adjacent to project property (i.e., on-site improvements). These improvements include:

[1] Based on a ratio of 0.6 employees per 1000 square feet of logistics. This ratio is taken from: *DTA Public Works Database; confirmed by "Employment Density Study," SCAG (2001), and "Logistics Trends and Specific Industries," NAIOP Research Foundation (March 2010).San Bernardino Planning Department.*

- Gilman Springs/Alessandro Boulevard Intersection;
- Gilman Springs/Eucalyptus Avenue Intersection;
- SR-60 Westbound Ramp/Theodore Street Intersection;
- SR-60 Eastbound Ramp/Theodore Street Intersection;
- Redlands Boulevard/Eucalyptus Avenue Intersection;
- Theodore Street/Eucalyptus Avenue Intersection;
- Eucalyptus Avenue from Redlands Boulevard to Theodore Street (south side); and
- Internal Streets A through H shown on WLCSP Circulation Plan (DEIR Figure 3-10).

4.15.6.1 Existing (2012) With Project Conditions Traffic and Level of Service Impacts

Threshold:	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit. A significant project-specific traffic impact would occur if the project would cause a decrease from satisfactory LOS (based on local agency adopted standards) to an unsatisfactory LOS on a study area intersection, roadway segment, freeway mainline lane, freeway weaving segment or freeway ramp. A significant cumulative traffic impact would occur if the project contributes traffic toward those facilities operating at unsatisfactory LOS in the pre-project condition. The adopted LOS standards are as follows: • Roadway segments and intersections: LOS C; and LOS D as outlined in previously referenced Table 4.15.E. • Freeway mainline: LOS D. • Freeway Ramp Merge/Diverge: LOS D.

Intersection Analysis. Existing baseline (2012) with project intersection levels of service for the study area intersections are summarized in Table 4.15.AD, which shows there are 19 study intersections where the project would have a significant impact. Twelve of these intersections already exceed the threshold of significance under existing conditions and would therefore be considered cumulative impacts. The project would cause a direct project impact at another seven intersections.

The project would worsen the existing LOS deficiency at the following 12 intersections under existing with project conditions:

- Redlands Boulevard/Locust Avenue;
- Redlands Boulevard/SR-60 Westbound Ramps;
- Oliver Street/Alessandro Boulevard;
- Moreno Beach Drive/SR-60 Eastbound Ramps;
- Lasselle Street/Cactus Avenue;
- Alessandro Boulevard/Chicago Avenue;

Table 4.15.AD-1: Existing (2012) plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2012 No Project			2012 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
1	Theodore St/Street F	D	N/A	Non-Existent		RABT	12.5	B
2	Street D/Street E	D	N/A	Non-Existent		SIGNAL	9.8	A
3	Theodore Ave/Alessandro (Str A/Str C/Str E)	D	CSS	9.7	A	RABT	13.7	C
4	Street C/Street F	D	N/A	Non-Existent		RABT	8.2	A
5	Street C/Street H	D	N/A	Non-Existent		SIGNAL	10.4	B
6	Alessandro Blvd (Street C)/Gilman Springs Rd	D	CSS	10.3	B	SIGNAL	16.4	B
7	Street F/Street G	D	N/A	Non-Existent		SIGNAL	9.7	A
8	Alessandro Blvd (Street G)/Street H	D	N/A	Non-Existent		AWS	14	B
9	Gilman Springs Rd/Eucalytpus Ave	D	N/A	Non-Existent		SIGNAL	6.4	A
10	Redlands Blvd/Locust Ave	C	CSS	26.7	**D**	CSS	> 50	**F**
11	Redlands Blvd/Ironwood Ave	D	SIGNAL	40.9	D	SIGNAL	34.4	C
12	Theodore Street/Ironwood Avenue	D	CSS	9.7	A	CSS	16.8	C
13	Redlands Blvd/SR-60 WB ramps	D	CSS	42.2	**E**	CSS	48.0	**E**
14	Redlands Blvd/SR-60 EB ramps	D	SIGNAL	9.6	A	SIGNAL	18.3	B
15	Theodore Str/SR-60 WB ramps	D	CSS	9.0	A	SIGNAL	18.8	B
16	Theodore Str/SR-60 EB ramps	D	CSS	9.2	A	SIGNAL	2.5	A
17	Quincy Str/Fir Ave		N/A	Non-Existent		N/A	Non-Existent	
18	Redlands Blvd/Eucalyptus Ave (Fir)	D	N/A	Non-Existent		SIGNAL	12.1	B
19	Theodore Ave/Fir Ave (Eucalyptus)	D	CSS	9.2	A	SIGNAL	14.9	B
20	Oliver Str/Alessandro Blvd	C	CSS	25.9	**D**	CSS	> 50	**F**
21	Moreno Beach Dr/Alessandro Blvd	D	SIGNAL	24.0	C	SIGNAL	30.0	C
22	Quincy Str/Alessandro Blvd		N/A	Non-Existent		N/A	Non-Existent	
23	Redlands Blvd/Alessandro Blvd	C	AWS	20.5	C	AWS	21.7	C
24	Oliver Str/Cactus Ave	D	SIGNAL	23.8	C	SIGNAL	28.2	C
25	Moreno Beach Dr/Cactus Ave	C	SIGNAL	16.0	B	SIGNAL	18.2	B
26	Quincy Str/Cactus Ave		N/A	Non-Existent		N/A	Non-Existent	
27	Redlands Blvd/Cactus Ave	C	AWS	11.4	B	AWS	> 50	**F**
28	Moreno Beach Dr/John Kennedy Dr	D	SIGNAL	16.2	B	SIGNAL	22.0	C
29	Heacock Str/Ironwood Ave	D	SIGNAL	29.6	C	SIGNAL	29.9	C
30	Heacock Str/SR-60 WB Ramps	D	SIGNAL	22.6	C	SIGNAL	23.8	C
31	Heacock St/SR-60 EB Ramps	D	SIGNAL	12.5	B	SIGNAL	13.9	B

Table 4.15.AD-1: Existing (2012) plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2012 No Project			2012 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
32	Sunnymead Blvd & Perris Blvd	D	SIGNAL	29.4	C	SIGNAL	30.7	C
33	Perris Blvd/SR-60 WB Ramps	D	SIGNAL	22.0	C	SIGNAL	25.1	C
34	Perris Blvd/Eucalyptus Ave	D	SIGNAL	22.8	C	SIGNAL	23.7	C
35	Moreno Beach Dr/Locust Ave	C	CSS	8.6	A	CSS	8.9	A
36	Moreno Beach Drive & Ironwood Avenue	D	SIGNAL	50.3	D	SIGNAL	55.8	**E**
37	Moreno Beach Dr/SR-60 EB Ramps	D	SIGNAL	38.0	D	SIGNAL	46.0	D
38	Perris Blvd/John F. Kennedy Dr	D	SIGNAL	37.0	D	SIGNAL	37.8	D
39	Iris Ave/Perris Blvd	D	SIGNAL	41.5	D	SIGNAL	45.3	D
40	Kitching St/Iris Ave	C	SIGNAL	23.4	C	SIGNAL	25.1	C
41	Lasselle Str/Iris Ave	D	SIGNAL	25.4	C	SIGNAL	31.1	C
42	Nason Str/Iris Ave		N/A	Non-Existent		N/A	Non-Existent	
43	Oliver Str/Iris Ave	D	SIGNAL	22.1	C	SIGNAL	25.7	C
44	Via Dell Lago/Iris Ave	C	SIGNAL	6.7	A	SIGNAL	8.7	A
45	Krameria Ave/Perris Blvd	D	SIGNAL	34.6	C	SIGNAL	36.1	D
46	Kitching Str/Krameria Ave	D	SIGNAL	21.7	C	SIGNAL	48.5	D
47	Lasselle Str/Krameria Ave	D	SIGNAL	37.9	D	SIGNAL	43.2	D
48	Kitching Str/Alessandro Blvd	D	SIGNAL	28.8	C	SIGNAL	29.7	C
49	Lasselle Str/Alessandro Blvd	D	SIGNAL	31.7	C	SIGNAL	32.4	C
50	Morrison Str/Alessandro Blvd	D	SIGNAL	8.8	A	SIGNAL	8.7	A
51	Nason Str/Alessandro Blvd	D	SIGNAL	20.5	C	SIGNAL	21.4	C
52	Kitching Str/Cactus Ave	C	SIGNAL	33.3	C	SIGNAL	34.2	C
53	Lasselle Str/Cactus Ave	C	SIGNAL	47.2	**D**	SIGNAL	49.2	**D**
54	Morrison Str/Cactus Ave		N/A	Non-Existent		N/A	Non-Existent	
55	Nason Str/Cactus Ave	D	SIGNAL	22.5	C	SIGNAL	22.3	C
56	Frederick Str/Alessandro Blvd	D	SIGNAL	19.5	B	SIGNAL	19.5	B
57	Graham Str/Alessandro Blvd	D	SIGNAL	19.8	B	SIGNAL	20.2	C
58	Heacock Str/Alessandro Blvd	D	SIGNAL	25.8	C	SIGNAL	26.6	C
59	Indian Str/Alessandro Blvd	D	SIGNAL	17.6	B	SIGNAL	19.2	B
60	Perris Blvd/Alessandro Blvd	D	SIGNAL	32.4	C	SIGNAL	33.9	C
61	Frederick Str/Cactus Ave	D	SIGNAL	9.8	A	SIGNAL	10.3	B
62	Graham Str/Cactus Ave	D	SIGNAL	12.9	B	SIGNAL	13.6	B

Table 4.15.AD-1: Existing (2012) plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2012 No Project			2012 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
63	Heacock Str/Cactus Ave	D	SIGNAL	30.1	C	SIGNAL	30.8	C
64	Indian Str/Cactus Ave	C	SIGNAL	24.4	C	SIGNAL	25.4	C
65	Perris Blvd/Cactus Ave	D	SIGNAL	26.9	C	SIGNAL	26.6	C
66	Alessandro Blvd/Sycamore Canyon Blvd	D	SIGNAL	25.8	C	SIGNAL	26.4	C
67	I-215 SB Ramps/Alessandro Blvd	D	SIGNAL	6.4	A	SIGNAL	6.9	A
68	I-215 NB Ramps/Alessandro Blvd	D	SIGNAL	19.4	B	SIGNAL	20.2	C
69	Old 215 Frontage Rd/Alessandro Blvd	D	SIGNAL	18.2	B	SIGNAL	18.2	B
70	Day Str/Alessandro Blvd	D	SIGNAL	4.6	A	SIGNAL	6.1	A
71	Elsworth Str/Alessandro Blvd	D	SIGNAL	19.2	B	SIGNAL	19.5	B
72	I-215 SB Ramps/Cactus Ave	D	SIGNAL	12.1	B	SIGNAL	19.1	B
73	I-215 NB Ramps/Cactus Ave	D	SIGNAL	11.1	B	SIGNAL	10.2	B
74	Elsworth Str/Cactus Ave	D	SIGNAL	26.7	C	SIGNAL	30.8	C
75	Central Ave/Lochmoor Dr.	D	SIGNAL	10.9	B	SIGNAL	11.8	B
76	Sycamore Canyon Blvd/Central Ave	D	SIGNAL	22.2	C	SIGNAL	24.6	C
77	SR-60 EB Ramps/Central Ave	D	SIGNAL	7.3	A	SIGNAL	8.4	A
78	SR-60 WB Ramps/Central Ave	D	SIGNAL	6.8	A	SIGNAL	7.4	A
79	Alessandro Blvd/Trautwein Rd.	D	SIGNAL	28.4	C	SIGNAL	30.1	C
80	Alessandro Blvd/Mission Grove Pkwy	D	SIGNAL	18.8	B	SIGNAL	21.1	C
81	Martin Luther King Blvd/Chicago Ave	D	SIGNAL	43.2	D	SIGNAL	46.2	D
82	Martin Luther King Blvd/Iowa Ave	D	SIGNAL	9.0	A	SIGNAL	9.4	A
83	Martin Luther King Blvd/Canyon Crest Dr	D	SIGNAL	43.2	D	SIGNAL	49.1	D
84	Martin Luther King Blvd/I-215 SB Ramps	D	SIGNAL	8.6	A	SIGNAL	9.0	A
85	Martin Luther King Blvd/I-215 NB Ramps	D	AWS	24.3	C	AWS	27.4	D
86	Central Ave/Chicago Ave	D	SIGNAL	23.4	C	SIGNAL	25.9	C
87	Central Ave/El Cerrito Dr	D	SIGNAL	11.7	B	SIGNAL	13.0	B
88	Central Ave/Canyon Crest Dr	D	SIGNAL	27.8	C	SIGNAL	29.4	C
89	Chicago Ave/Country Club Dr	D	SIGNAL	6.3	A	SIGNAL	7.2	A
90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	SIGNAL	31.3	C	SIGNAL	32.4	C
91	Arlington Ave/Indiana Ave/SR-91 NB Ramps	D	SIGNAL	21.0	C	SIGNAL	21.2	C
92	Arlington Ave/Maude St	D	SIGNAL	13.8	B	SIGNAL	14.3	B
93	Horace St/Arlington Ave	D	SIGNAL	12.3	B	SIGNAL	14.3	B

Table 4.15.AD-1: Existing (2012) plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2012 No Project			2012 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
94	Arlington Ave/Victoria Ave	D	SIGNAL	54.8	D	SIGNAL	59.5	**E**
95	Alessandro Blvd/Chicago Ave	D	SIGNAL	40.7	D	SIGNAL	48.1	D
96	Alessandro Blvd/Century Ave	D	SIGNAL	16.7	B	SIGNAL	19.0	B
97	Alessandro Blvd/Via Vista Dr	D	SIGNAL	30.7	C	SIGNAL	32.8	C
98	Alessandro Blvd/Canyon Crest Dr	D	SIGNAL	20.4	C	SIGNAL	27.1	C
99	Harley Knox Blvd/Perris Blvd	D	SIGNAL	15.4	B	SIGNAL	16.6	B
100	Harley Knox Blvd/Evan Rd		N/A	Non-Existent		N/A	Non-Existent	
101	Ramona Expy/Indian St	E	SIGNAL	3.9	A	SIGNAL	4.8	A
102	Ramona Expy/Perris Blvd	E	SIGNAL	31.7	C	SIGNAL	33.0	C
103	Ramona Expy/Evans Rd	E	SIGNAL	54.5	D	SIGNAL	63.5	E
104	Perris Blvd/Morgan St	D	SIGNAL	11.9	B	SIGNAL	13.4	B
105	Evans Rd/Morgan St	C	SIGNAL	32.5	C	SIGNAL	32.5	C
106	Perris Blvd/Rider St	C	SIGNAL	23.8	C	SIGNAL	23.8	C
107	Evans Rd/Rider St	C	SIGNAL	34.9	C	SIGNAL	35.2	**D**
108	Perris Blvd/Mid-County Pkwy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
109	Perris Blvd/Mid-County Pkwy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
110	Evans Rd/Mid-County Pkwy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
111	Evans Rd/Mid-County Pkwy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
112	Placentia Ave/Perris Blvd	D	SIGNAL	30.1	C	SIGNAL	29.6	C
113	Evans Rd/Placentia Ave		N/A	Non-Existent		N/A	Non-Existent	
114	Evans Rd/Orange Ave	C	AWS	12.5	B	AWS	13.6	B
115	Evans Rd/Nuevo Rd	C	SIGNAL	23.3	C	SIGNAL	23.5	C
116	Evans Rd/Ellis Ave		N/A	Non-Existent		N/A	Non-Existent	
117	Ellis Ave/I-215 SB Ramps		N/A	Non-Existent		N/A	Non-Existent	
118	Ellis Ave/SR-215 NB Ramps		N/A	Non-Existent		N/A	Non-Existent	
119	Evans Rd/San Jacinto Ave		N/A	Non-Existent		N/A	Non-Existent	
120	Park Center Blvd/Ramona Expy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
121	Park Center Blvd/Ramona Expy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
122	Bridge St/Ramona Expy	C	AWS	22.4	C	AWS	35.3	**E**
123	Gilman Springs Rd/Bridge Str	C	CSS	26.6	**D**	CSS	> 50	**F**
124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	C	CSS	34.7	**D**	CSS	> 50	**F**

Table 4.15.AD-1: Existing (2012) plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2012 No Project			2012 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	C	CSS	29.2	**D**	CSS	44.7	**E**
126	Ramona Expy/Sanderson Ave	D	SIGNAL	27.1	C	SIGNAL	30.3	C
127	Potrero Blvd/SR-60 WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
128	Potrero Blvd/SR-60 EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
129	W 6th St/California Ave	C	AWS	13.5	B	AWS	15.8	C
130	W 6th St/Beaumont Ave	C	SIGNAL	13.2	B	SIGNAL	13.3	B
131	Reche Canyon Rd/Reche Vista Dr	C	SIGNAL	9.4	A	SIGNAL	11.5	B
132	San Timoteo Canyon Rd/Alessandro Rd	D	AWS	> 50	**F**	AWS	225.5	**F**
133	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	**F**	AWS	163.3	**F**
134	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	**F**	AWS	196.6	**F**
135	W Crescent Ave/Alessandro Rd	D	CSS	14.0	B	CSS	19.6	C
136	W Sunset Dr/Alessandro Rd	D	AWS	8.9	A	AWS	10.4	B

denotes LOS exceeding the target threshold

Notes: "CSS" means cross-street is stop-controlled
"AWS" means all-way stop
"LT" and "RT" denote left turn and right turn respectively
"NB" and "SB" denote northbound and southbound respectively
"EB" and "WB" denote eastbound and westbound respectively
"RABT" means roundabout

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.AD-2: Existing (2012) plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2012 No Project			2012 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
1	Theodore St/Street F	D	N/A	Non-Existent		RABT	41.8	D
2	Street D/Street E	D	N/A	Non-Existent		SIGNAL	13.8	B
3	Theodore Ave/Alessandro (Str A/Str C/Str E)	D	CSS	10.1	B	RABT	12.8	B
4	Street C/Street F	D	N/A	Non-Existent		RABT	9.9	A
5	Street C/Street H	D	N/A	Non-Existent		SIGNAL	15.1	B
6	Alessandro Blvd (Street C)/Gilman Springs Rd	D	CSS	15.7	C	SIGNAL	28.8	C
7	Street F/Street G	D	N/A	Non-Existent		SIGNAL	13.8	B
8	Alessandro Blvd (Street G)/Street H	D	N/A	Non-Existent		AWS	12.9	B
9	Gilman Springs Rd/Eucalytpus Ave	D	N/A	Non-Existent		SIGNAL	5.9	A
10	Redlands Blvd/Locust Ave	C	CSS	42.8	**E**	CSS	862.9	**F**

Table 4.15.AD-2: Existing (2012) plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2012 No Project			2012 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
11	Redlands Blvd/Ironwood Ave	D	SIGNAL	37.3	D	SIGNAL	34.8	C
12	Theodore Street/Ironwood Avenue	D	CSS	9.8	A	CSS	31.3	D
13	Redlands Blvd/SR-60 WB ramps	D	CSS	54.0	**F**	CSS	1281.4	**F**
14	Redlands Blvd/SR-60 EB ramps	D	SIGNAL	14.4	B	SIGNAL	39.6	D
15	Theodore Str/SR-60 WB ramps	D	CSS	9.6	A	SIGNAL	16.7	B
16	Theodore Str/SR-60 EB ramps	D	CSS	9.4	A	SIGNAL	7.4	A
17	Quincy Str/Fir Ave		N/A	Non-Existent		N/A	Non-Existent	
18	Redlands Blvd/Eucalyptus Ave (Fir)	D	N/A	Non-Existent		SIGNAL	25	C
19	Theodore Ave/Fir Ave (Eucalyptus)	D	CSS	9.8	A	SIGNAL	18.6	B
20	Oliver Str/Alessandro Blvd	C	CSS	14.7	B	CSS	20.2	C
21	Moreno Beach Dr/Alessandro Blvd	D	SIGNAL	28.2	C	SIGNAL	41.6	D
22	Quincy Str/Alessandro Blvd		N/A	Non-Existent		N/A	Non-Existent	
23	Redlands Blvd/Alessandro Blvd	C	AWS	13.8	B	AWS	19.3	C
24	Oliver Str/Cactus Ave	D	SIGNAL	17.3	B	SIGNAL	18.3	B
25	Moreno Beach Dr/Cactus Ave	C	SIGNAL	17.0	B	SIGNAL	19.6	B
26	Quincy Str/Cactus Ave		N/A	Non-Existent		N/A	Non-Existent	
27	Redlands Blvd/Cactus Ave	C	AWS	8.2	A	AWS	324.3	**F**
28	Moreno Beach Dr/John Kennedy Dr	D	SIGNAL	13.8	B	SIGNAL	109.5	**F**
29	Heacock Str/Ironwood Ave	D	SIGNAL	31.9	C	SIGNAL	32.3	C
30	Heacock Str/SR-60 WB Ramps	D	SIGNAL	21.5	C	SIGNAL	22.1	C
31	Heacock St/SR-60 EB Ramps	D	SIGNAL	15.9	B	SIGNAL	16.2	B
32	Sunnymead Blvd & Perris Blvd	D	SIGNAL	36.0	D	SIGNAL	36.3	D
33	Perris Blvd/SR-60 WB Ramps	D	SIGNAL	19.7	B	SIGNAL	22.7	C
34	Perris Blvd/Eucalyptus Ave	D	SIGNAL	23.4	C	SIGNAL	23.8	C
35	Moreno Beach Dr/Locust Ave	C	CSS	8.6	A	CSS	9.1	A
36	Moreno Beach Drive & Ironwood Avenue	D	SIGNAL	40.0	D	SIGNAL	44.2	D
37	Moreno Beach Dr/SR-60 EB Ramps	D	SIGNAL	76.6	**E**	SIGNAL	98.8	**F**
38	Perris Blvd/John F. Kennedy Dr	D	SIGNAL	31.2	C	SIGNAL	32.3	C
39	Iris Ave/Perris Blvd	D	SIGNAL	36.5	D	SIGNAL	37.1	D
40	Kitching St/Iris Ave	C	SIGNAL	17.5	B	SIGNAL	27.9	C
41	Lasselle Str/Iris Ave	D	SIGNAL	26.6	C	SIGNAL	31.7	C

Table 4.15.AD-2: Existing (2012) plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2012 No Project			2012 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
42	Nason Str/Iris Ave		N/A	Non-Existent		N/A	Non-Existent	
43	Oliver Str/Iris Ave	D	SIGNAL	15.8	B	SIGNAL	18.1	B
44	Via Dell Lago/Iris Ave	C	SIGNAL	6.5	A	SIGNAL	7.3	A
45	Krameria Ave/Perris Blvd	D	SIGNAL	29.3	C	SIGNAL	35.4	D
46	Kitching Str/Krameria Ave	D	SIGNAL	19.4	B	SIGNAL	22.5	C
47	Lasselle Str/Krameria Ave	D	SIGNAL	13.5	B	SIGNAL	13.7	B
48	Kitching Str/Alessandro Blvd	D	SIGNAL	24.7	C	SIGNAL	25.6	C
49	Lasselle Str/Alessandro Blvd	D	SIGNAL	26.6	C	SIGNAL	29.5	C
50	Morrison Str/Alessandro Blvd	D	SIGNAL	7.8	A	SIGNAL	8.3	A
51	Nason Str/Alessandro Blvd	D	SIGNAL	16.9	B	SIGNAL	18.7	B
52	Kitching Str/Cactus Ave	C	SIGNAL	22.6	C	SIGNAL	22.3	C
53	Lasselle Str/Cactus Ave	C	SIGNAL	38.6	**D**	SIGNAL	38.4	**D**
54	Morrison Str/Cactus Ave		N/A	Non-Existent		N/A	Non-Existent	
55	Nason Str/Cactus Ave	D	SIGNAL	21.0	C	SIGNAL	22.7	C
56	Frederick Str/Alessandro Blvd	D	SIGNAL	25.6	C	SIGNAL	25.9	C
57	Graham Str/Alessandro Blvd	D	SIGNAL	24.2	C	SIGNAL	26.1	C
58	Heacock Str/Alessandro Blvd	D	SIGNAL	23.6	C	SIGNAL	23.7	C
59	Indian Str/Alessandro Blvd	D	SIGNAL	27.9	C	SIGNAL	28.2	C
60	Perris Blvd/Alessandro Blvd	D	SIGNAL	42.3	D	SIGNAL	45.9	D
61	Frederick Str/Cactus Ave	D	SIGNAL	11.7	B	SIGNAL	13.7	B
62	Graham Str/Cactus Ave	D	SIGNAL	17.4	B	SIGNAL	18.3	B
63	Heacock Str/Cactus Ave	D	SIGNAL	20.3	C	SIGNAL	22.5	C
64	Indian Str/Cactus Ave	C	SIGNAL	19.6	B	SIGNAL	19.6	B
65	Perris Blvd/Cactus Ave	D	SIGNAL	30.7	C	SIGNAL	30.8	C
66	Alessandro Blvd/Sycamore Canyon Blvd	D	SIGNAL	18.0	B	SIGNAL	18.3	B
67	I-215 SB Ramps/Alessandro Blvd	D	SIGNAL	12.6	B	SIGNAL	12.8	B
68	I-215 NB Ramps/Alessandro Blvd	D	SIGNAL	24.1	C	SIGNAL	25.6	C
69	Old 215 Frontage Rd/Alessandro Blvd	D	SIGNAL	18.6	B	SIGNAL	21.2	C
70	Day Str/Alessandro Blvd	D	SIGNAL	8.2	A	SIGNAL	10.3	B
71	Elsworth Str/Alessandro Blvd	D	SIGNAL	27.6	C	SIGNAL	29.4	C
72	I-215 SB Ramps/Cactus Ave	D	SIGNAL	19.7	B	SIGNAL	40.0	D

Table 4.15.AD-2: Existing (2012) plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2012 No Project			2012 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
73	I-215 NB Ramps/Cactus Ave	D	SIGNAL	3.7	A	SIGNAL	4.3	A
74	Elsworth Str/Cactus Ave	D	SIGNAL	29.5	C	SIGNAL	29.7	C
75	Central Ave/Lochmoor Dr.	D	SIGNAL	6.7	A	SIGNAL	8.0	A
76	Sycamore Canyon Blvd/Central Ave	D	SIGNAL	17.6	B	SIGNAL	19.1	B
77	SR-60 EB Ramps/Central Ave	D	SIGNAL	10.3	B	SIGNAL	11.0	B
78	SR-60 WB Ramps/Central Ave	D	SIGNAL	8.2	A	SIGNAL	8.3	A
79	Alessandro Blvd/Trautwein Rd.	D	SIGNAL	14.8	B	SIGNAL	14.9	B
80	Alessandro Blvd/Mission Grove Pkwy	D	SIGNAL	34.9	C	SIGNAL	41.4	D
81	Martin Luther King Blvd/Chicago Ave	D	SIGNAL	36.5	D	SIGNAL	39.8	D
82	Martin Luther King Blvd/Iowa Ave	D	SIGNAL	13.0	B	SIGNAL	13.6	B
83	Martin Luther King Blvd/Canyon Crest Dr	D	SIGNAL	28.0	C	SIGNAL	29.4	C
84	Martin Luther King Blvd/I-215 SB Ramps	D	SIGNAL	4.7	A	SIGNAL	5.7	A
85	Martin Luther King Blvd/I-215 NB Ramps	D	AWS	12.2	B	AWS	13.5	B
86	Central Ave/Chicago Ave	D	SIGNAL	23.1	C	SIGNAL	27.8	C
87	Central Ave/El Cerrito Dr	D	SIGNAL	12.0	B	SIGNAL	12.7	B
88	Central Ave/Canyon Crest Dr	D	SIGNAL	35.2	D	SIGNAL	37.4	D
89	Chicago Ave/Country Club Dr	D	SIGNAL	4.9	A	SIGNAL	5.0	A
90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	SIGNAL	30.7	C	SIGNAL	31.2	C
91	Arlington Ave/Indiana Ave/SR-91 NB Ramps	D	SIGNAL	20.8	C	SIGNAL	21.1	C
92	Arlington Ave/Maude St	D	SIGNAL	11.1	B	SIGNAL	11.7	B
93	Horace St/Arlington Ave	D	SIGNAL	7.2	A	SIGNAL	7.6	A
94	Arlington Ave/Victoria Ave	D	SIGNAL	30.9	C	SIGNAL	35.3	D
95	Alessandro Blvd/Chicago Ave	D	SIGNAL	65.9	**E**	SIGNAL	71.5	**E**
96	Alessandro Blvd/Century Ave	D	SIGNAL	7.6	A	SIGNAL	8.7	A
97	Alessandro Blvd/Via Vista Dr	D	SIGNAL	18.9	B	SIGNAL	18.9	B
98	Alessandro Blvd/Canyon Crest Dr	D	SIGNAL	17.9	B	SIGNAL	18.1	B
99	Harley Knox Blvd/Perris Blvd	D	SIGNAL	15.1	B	SIGNAL	15.4	B
100	Harley Knox Blvd/Evan Rd		N/A	Non-Existent		N/A	Non-Existent	
101	Ramona Expy/Indian St	E	SIGNAL	7.8	A	SIGNAL	10.4	B
102	Ramona Expy/Perris Blvd	E	SIGNAL	34.7	C	SIGNAL	35.1	D
103	Ramona Expy/Evans Rd	E	SIGNAL	28.8	C	SIGNAL	29.0	C

Table 4.15.AD-2: Existing (2012) plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2012 No Project			2012 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
104	Perris Blvd/Morgan St	D	SIGNAL	6.7	A	SIGNAL	8.5	A
105	Evans Rd/Morgan St	C	SIGNAL	20.6	C	SIGNAL	20.2	C
106	Perris Blvd/Rider St	C	SIGNAL	23.0	C	SIGNAL	26.5	C
107	Evans Rd/Rider St	C	SIGNAL	28.3	C	SIGNAL	27.6	C
108	Perris Blvd/Mid-County Pkwy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
109	Perris Blvd/Mid-County Pkwy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
110	Evans Rd/Mid-County Pkwy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
111	Evans Rd/Mid-County Pkwy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
112	Placentia Ave/Perris Blvd	D	SIGNAL	14.0	B	SIGNAL	14.9	B
113	Evans Rd/Placentia Ave		N/A	Non-Existent		N/A	Non-Existent	
114	Evans Rd/Orange Ave	C	AWS	10.1	B	AWS	10.7	B
115	Evans Rd/Nuevo Rd	C	SIGNAL	22.6	C	SIGNAL	22.6	C
116	Evans Rd/Ellis Ave		N/A	Non-Existent		N/A	Non-Existent	
117	Ellis Ave/I-215 SB Ramps		N/A	Non-Existent		N/A	Non-Existent	
118	Ellis Ave/SR-215 NB Ramps		N/A	Non-Existent		N/A	Non-Existent	
119	Evans Rd/San Jacinto Ave		N/A	Non-Existent		N/A	Non-Existent	
120	Park Center Blvd/Ramona Expy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
121	Park Center Blvd/Ramona Expy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
122	Bridge St/Ramona Expy	C	AWS	20.6	C	AWS	26.8	**D**
123	Gilman Springs Rd/Bridge Str	C	CSS	20.8	C	CSS	26.1	**D**
124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	C	CSS	30.7	**D**	CSS	57.8	**F**
125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	C	CSS	48.2	**E**	CSS	75.7	**F**
126	Ramona Expy/Sanderson Ave	D	SIGNAL	29.3	C	SIGNAL	34.2	C
127	Potrero Blvd/SR-60 WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
128	Potrero Blvd/SR-60 EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
129	W 6th St/California Ave	C	AWS	18.0	C	AWS	22.0	C
130	W 6th St/Beaumont Ave	C	SIGNAL	12.8	B	SIGNAL	12.8	B
131	Reche Canyon Rd/Reche Vista Dr	C	SIGNAL	5.6	A	SIGNAL	5.7	A
132	San Timoteo Canyon Rd/Alessandro Rd	D	AWS	23.9	C	AWS	103.4	**F**
133	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	60.2	**F**	AWS	196.2	**F**
134	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	80.5	**F**	AWS	229.9	**F**

Table 4.15.AD-2: Existing (2012) plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2012 No Project			2012 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
135	W Crescent Ave/Alessandro Rd	D	CSS	11.5	B	CSS	14.9	B
136	W Sunset Dr/Alessandro Rd	D	AWS	9.0	A	AWS	10.2	B

denotes LOS exceeding the target threshold

Notes: "CSS" means cross-street is stop-controlled
"AWS" means all-way stop
"RABT" means roundabout
"NB" and "SB" denote northbound and southbound respectively
"EB" and "WB" denote eastbound and westbound respectively
"LT" and "RT" denote left turn and right turn respectively

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- Gilman Springs Road/Bridge Street;
- SR-79 (Sanderson Avenue) Northbound/Gilman Springs Road;
- SR-79 (Sanderson Avenue) Southbound/Gilman Springs Road;
- San Timoteo Canyon Road/Alessandro Road;
- San Timoteo Canyon Road/Live Oak Canyon Road; and
- Redlands Boulevard/San Timoteo Canyon Road.

A project-specific significant impact would occur at the following 6 intersections under existing with project conditions:

- Redlands Boulevard/Cactus Avenue;
- Moreno Beach Drive/John Kennedy Drive;
- Moreno Beach Drive/Ironwood Avenue;
- Arlington Avenue/Victoria Avenue;
- Evans Road/Rider Street; and
- Bridge Street/Ramona Expressway.

Roadway Analysis. Existing baseline (year 2012) with project roadway segment levels of service for the study area are summarized in Table 4.15.AE, which shows three roadway segments would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at two roadway segments and, therefore, have a significant cumulative impact at these locations. At one roadway segment, the project would create a significant impact since the project would decrease the LOS from satisfactory to unsatisfactory conditions.

The project would worsen the existing LOS deficiency at the following two roadway segments under existing with project conditions:

- Gilman Springs Road between Alessandro Boulevard and Bridge Street; and
- Gilman Springs Road between SR-60 and Alessandro Boulevard.

A project-specific significant impact would occur at the following roadway segment under existing with project conditions:

- Cactus Avenue Redlands Boulevard to Street D.

Freeway Segment Analysis. Existing (2012) with project freeway segment levels of service for the study area are summarized in Table 4.15.AF, which shows 10 freeway segments would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at 7 locations and, therefore, have a cumulative impact at these locations. At three freeway segments, the project would create a significant impact since the project would decrease the LOS from satisfactory to unsatisfactory.

The project would worsen the existing LOS deficiency at the following 8 freeway segments under existing with project conditions:

Table 4.15.AE: Existing (2012) plus Project Roadway Segment Levels of Service

	Roadway	From	To	LOS Standard***	Existing			Existing Plus Project			Project Significant Impact?	Mitigation Measures Required to Reduce Project Impacts to Less-Than-Significant	LOS After Mitigation
					Roadway Section*	Daily Volume	LOS	Roadway Section*	Daily Volume	LOS			
S-1	Theodore Street (A)	SR-60 WB Ramps	Ironwood Avenue	D	2U	650	A	2U	3,615	A	No		
S-2	Theodore Street (A)	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	2U	2,018	A	6D	34,617	B	No		
S-3	Fir (Eucalyptus) Ave.	Redlands Blvd	Theodore Street (A)	D	2U**	1,841	A	4D	4,168	A	No		
S-4	Eucalyptus Ave (B)	Theodore Street (A)	Gilman Springs Rd	N/A	Future Road			4D	2,415	A	No		
S-5	Theodore Street (A)	Fir (Eucalyptus) Ave.	Street E	D	2U	337	A	6D	37,388	B	No		
S-6	Street E	Theodore Street (A)	Street D	N/A	Future Road			4U	13,549	A	No		
S-7	Street F	Theodore Street (A)	Alessandro Blvd (Street C)	N/A	Future Road			2U	4,677	A	No		
S-8	Theodore Street (A)	Fir (Eucalyptus) Ave.	Alessandro Blvd (Street C)	D	2U	396	A	4D	17,013	A	No		
S-9	Alessandro Blvd (Street E)	Merwin Street	Theodore Street (A)	D	2U	1,487	A	4U	14,073	A	No		
S-10	Street D	Alessandro Blvd (Street E)	Cactus Ave.	N/A	Future Road			4U	14,754	A	No		
S-11	Alessandro Blvd (Street C)	Theodore Street (A)	Street F	D	2U	2,561	A	4U	16,074	B	No		
S-12	Street F	Street C	Street G	N/A	Future Road			2U	8,427	B	No		
S-13	Alessandro Blvd (Street C)	Street F	Gilman Springs Rd	D	2U	2,561	A	4U	8,050	B	No		
S-14	Street G	Street F	Street H	N/A	Future Road			2U	3,178	A	No		
S-15	Street H	Street G	Alessandro Blvd (Street C)	N/A	Future Road			2U	6,767	A	No		
S-16	Gilman Springs Rd	Alessandro Blvd (Street C)	Bridge Street	D	2U	13,134	**E**	2U	13,919	**E**	Yes	Widen to 4 lanes	A
S-17	Gilman Springs Rd	SR-60	Alessandro Blvd (Street C)	D	2U	11,973	**E**	2U	14,193	**E**	Yes	Widen to 4 lanes	A
S-18	Redlands Blvd	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	2U	7,338	A	2U	11,133	D	No		
S-19	Redlands Blvd	Fir (Eucalyptus) Ave.	Alessandro Blvd	C	2U	7,588	B	2U	4,172	A	No		
S-20	Alessandro Blvd	Redlands Blvd	Merwin Street	C	2U	2,537	A	2U	565	A	No		
S-21	Redlands Blvd	Alessandro Blvd	Cactus Ave.	C	2U	6,537	A	2U	3,263	A	No		
S-22	Cactus Ave.	Redlands Blvd	Street D	C	2U**	343	A	2U	14,754	**E**	Yes	Widen to 4 lanes	A

* Section is the number of lanes, with "U" for "undivided" and "D" for "Divided" roadways

** Road currently has 2 lanes in one direction and 1 lane in the other. The capacity shown is based on the narrower direction.

*** LOS Standard is "C" in residential areas and "D" for roads in employment-generating areas or near freeways

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.AF: Existing (2012) plus Project Freeway Mainline Levels of Service

ID	Freeway	Segment	2012 No Project						2012 Plus Project					
			Northbound / Eastbound						Northbound / Eastbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-2	SR-60	S Reservoir Rd to Ramona Ave	6,024	24.5	C	7,822	33.0	D	6,340	26.7	D	7,720	32.8	D
F-3	SR-60	Ramona Ave to Central Ave	5,687	22.8	C	9,400	47.3	**F**	6,030	25.0	C	9,280	46.9	**F**
F-4	SR-60	Central Ave to Mountain Ave	6,339	26.1	D	9,338	46.5	**F**	6,690	28.7	D	9,220	46.2	**F**
F-5	SR-60	Mountain Ave to Euclid Ave	6,205	25.4	C	6,664	26.1	D	6,570	28.0	D	6,530	25.9	C
F-6	SR-60	Euclid Ave to Grove Ave	7,650	34.7	D	9,091	43.8	**E**	8,020	38.5	**E**	8,950	43.2	**E**
F-7	SR-60	Grove Ave to Vineyard Ave	6,923	29.6	D	9,400	47.3	**F**	7,290	32.5	D	9,250	46.6	**F**
F-8	SR-60	Vineyard Ave to Archibald Ave	6,823	28.7	D	9,400	47.3	**F**	7,190	31.8	D	9,230	46.3	**F**
F-9	SR-60	Archibald Ave to Haven Ave	6,268	25.6	C	6,471	25.1	C	6,660	28.4	D	6,280	24.6	C
F-10	SR-60	Haven Ave to Miliken Ave	6,096	19.1	C	6,864	20.6	C	6,480	20.7	C	6,660	20.3	C
F-11	SR-60	Miliken Ave to I-15	4,234	16.5	B	4,529	16.9	B	4,590	18.3	C	4,350	16.6	B
F-12	SR-60	I-15 to Etiwanda Ave	2,593	10.2	A	2,910	10.8	A	3,040	12.4	B	2,660	10.3	A
F-13	SR-60	Etiwanda Ave to Mission	3,026	11.9	B	3,968	14.8	B	3,500	14.3	B	3,760	14.4	B
F-14	SR-60	Mission Blvd/Country Village	2,596	10.2	A	3,061	11.4	B	3,070	12.6	B	2,870	11.1	B
F-15	SR-60	Pedley Rd to Pyrite St	2,813	11.1	B	3,334	12.4	B	3,330	13.6	B	3,020	11.7	B
F-16	SR-60	Pyrite St to Valley Way	3,348	13.2	B	3,642	13.6	B	3,870	15.7	B	3,320	12.8	B
F-17	SR-60	Valley Way to Rubidoux Blvd	4,398	23.7	C	4,252	21.4	C	4,930	28.4	D	3,940	20.3	C
F-18	SR-60	Rubidoux Blvd to Market St	4,943	27.6	D	4,706	24.3	C	5,500	33.6	D	4,510	23.9	C
F-19	SR-60	Market St to Main St	4,498	24.4	C	7,050	47.8	**F**	5,050	29.4	D	6,850	46.7	**F**
F-20	SR-60	Main to SR-91	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-24	SR-60	Martin Luther King Blvd to Central Ave	5,865	24.6	C	8,976	45.7	**F**	6,620	34.4	D	8,760	50.9	**F**
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	4,332	16.9	B	6,795	26.6	D	4,920	20.3	C	6,700	27.1	D
F-27	SR-60	I-215 to Day St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	2,702	21.6	C	3,713	30.1	D	3,340	32.1	D	3,820	34.9	D
F-30	SR-60	Heacock St to Perris Blvd	2,349	18.5	C	3,355	26.1	D	3,230	30.5	D	3,480	30.2	D
F-31	SR-60	Perris Blvd to Nason St	1,812	14.3	B	2,344	17.4	B	2,770	25.2	C	2,550	21.0	C
F-32	SR-60	Nason St to Moreno Beach Dr	1,619	12.8	B	2,038	15.1	B	2,430	22.0	C	2,260	18.7	C
F-33	SR-60	Moreno Beach Dr to Redlands Blvd	1,326	10.5	A	1,397	10.3	A	2,160	19.5	C	1,750	14.8	B
F-34	SR-60	Redlands Blvd to Theodore St	1,614	12.7	B	1,920	14.2	B	2,600	23.3	C	2,390	19.8	C
F-35	SR-60	Theodore St to Gilman Springs Rd	1,521	12.0	B	1,915	14.2	B	1,550	12.7	B	1,820	13.9	B
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	1,213	11.2	B	1,484	12.3	B	1,180	12.2	B	1,680	16.0	B
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	1,215	9.6	A	1,482	11.0	A	1,180	9.5	A	1,680	12.8	B
F-38	SR-60	Potrero Blvd to I-10	1,215	9.6	A	1,482	11.0	A	1,180	9.5	A	1,680	12.8	B
F-39	SR-91	I-15 to McKinley St	5,914	22.6	C	9,400	53.3	**F**	6,130	23.9	C	9,310	52.6	**F**
F-40	SR-91	McKinley St to Pierce St	5,382	29.1	D	5,427	31.4	D	5,610	31.5	D	5,320	30.9	D
F-41	SR-91	Pierce St to Magnolia Ave	4,888	25.5	C	4,922	27.2	D	5,120	27.7	D	4,820	26.8	D

Table 4.15.AF: Existing (2012) plus Project Freeway Mainline Levels of Service

ID	Freeway	Segment	2012 No Project						2012 Plus Project					
			Northbound / Eastbound						Northbound / Eastbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-42	SR-91	Magnolia Ave to La Sierra Ave	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-43	SR-91	La Sierra Ave to Tyler St	4,585	23.5	C	4,939	27.3	D	4,790	25.3	C	4,860	27.1	D
F-44	SR-91	Tyler St to Van Buren Blvd	5,704	21.7	C	5,851	23.5	C	5,900	22.8	C	5,780	23.4	C
F-45	SR-91	Van Buren Blvd to Adam St	5,841	22.3	C	4,999	19.6	C	6,010	23.3	C	4,940	19.6	C
F-46	SR-91	Adam St to Madison St	6,531	26.1	D	4,742	18.7	C	6,690	27.3	D	4,700	18.8	C
F-47	SR-91	Madison St to Indiana	5,879	22.8	C	4,530	17.9	B	6,020	23.8	C	4,500	17.9	B
F-49	SR-91	Central Ave to 14th St	6,021	34.8	D	5,391	30.8	D	6,100	36.5	**E**	5,410	31.5	D
F-51	SR-91	University Ave to Spruce St (off-ramp)	7,244	22.1	C	6,394	20.0	C	7,300	22.5	C	6,420	20.2	C
F-52	I-10	SR-60 to Beaumont Ave	3,037	11.9	B	4,252	16.4	B	3,050	12.0	B	4,380	17.0	B
F-53	I-10	Beaumont Ave to Pennsylvania Ave	3,087	12.1	B	4,322	16.7	B	3,070	12.0	B	4,410	17.1	B
F-54	I-10	Pennsylvania Ave to Highland Springs	3,236	12.6	B	4,531	17.5	B	3,200	12.6	B	4,610	17.9	B
F-55	I-10	Highland Springs Ave to Sunset Ave	3,112	12.2	B	4,357	16.8	B	3,060	12.0	B	4,420	17.2	B
F-56	I-10	Sunset Ave to 22nd St	3,037	11.9	B	4,252	16.4	B	2,970	11.7	B	4,320	16.8	B
F-57	I-10	22nd St to S 8th St	2,987	11.7	B	4,182	16.2	B	2,920	11.5	B	4,240	16.5	B
F-58	I-10	S 8th St to S Hargrave St	2,987	11.7	B	4,182	16.2	B	2,910	11.4	B	4,240	16.5	B
F-59	I-10	S Hargrave St to Field Rd	2,689	10.5	A	3,764	14.5	B	2,600	10.2	A	3,820	14.8	B
F-60	I-10	Field Rd to Main St (Cabazon)	2,564	10.0	A	3,590	13.9	B	2,470	9.7	A	3,650	14.2	B
F-61	I-10	Main St (Cabazon) to Main St	2,265	8.8	A	3,172	12.3	B	2,190	8.6	A	3,230	12.5	B
F-62	I-10	Main St to Haugen-Lehmann Way	2,265	8.8	A	3,172	12.3	B	2,180	8.6	A	3,240	12.6	B
F-64	I-10	SR-111 to Tipton Rd	1,967	7.7	A	2,753	10.6	A	1,890	7.4	A	2,810	10.9	A
F-65	I-10	Tipton Rd to SR-62	1,967	7.7	A	2,753	10.6	A	1,920	7.5	A	2,810	10.9	A
F-66	I-215	Scott Rd to Newport Rd	2,739	22.0	C	3,285	25.8	C	2,660	21.4	C	3,280	25.9	C
F-68	I-215	Newport Rd to MacCall Blvd	1,900	15.0	B	2,047	15.3	B	1,840	14.7	B	2,040	15.4	B
F-69	I-215	MacCall Blvd to Ethanac Rd	2,457	19.5	C	3,293	25.8	C	2,350	18.7	C	3,290	26.0	C
F-70	I-215	Ethanac Rd to SR-74	3,787	34.5	D	3,150	24.4	C	3,680	33.1	D	3,160	24.7	C
F-71	I-215	SR-74/Case Rd to Redlands Blvd	3,350	28.4	D	4,181	37.4	**E**	3,230	27.2	D	4,230	38.6	**E**
F-74	I-215	Columbia Ave to Center St	5,587	33.5	D	5,150	27.3	D	5,520	33.1	D	5,290	28.6	D
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	5,474	32.4	D	5,034	26.5	D	5,410	32.0	D	5,160	27.6	D
F-76	I-215	Iowa Ave to Barton Rd	5,341	31.2	D	5,164	27.4	D	5,260	30.7	D	5,290	28.6	D
F-77	I-215	Barton Rd to Mt Vernon Ave	5,738	35.1	**E**	5,533	30.3	D	5,630	34.2	D	5,680	31.8	D
F-78	I-215	Mt Vernon Ave to I-10	5,582	22.5	C	5,420	20.5	C	5,450	21.9	C	5,590	21.3	C
F-80	I-215	Auto Plaza Dr to Mill St	4,319	17.1	B	4,533	17.0	B	4,180	16.6	B	4,620	17.4	B
F-83	I-215	Baseline Rd to Highland Ave	3,023	24.8	C	3,355	26.5	D	2,920	23.9	C	3,440	27.6	D

Indicates that the LOS exceeds the target level

Table 4.15.AF: Existing (2012) plus Project Freeway Mainline Levels of Service

ID	Freeway	Segment	2012 No Project						2012 Plus Project					
			Southbound / Westbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-2	SR-60	S Reservoir Rd to Ramona Ave	8,762	41.4	**E**	6,381	25.6	C	8,590	40.2	**E**	6,580	27.1	D
F-3	SR-60	Ramona Ave to Central Ave	8,283	37.1	**E**	5,925	23.4	C	8,080	35.8	**E**	6,140	24.9	C
F-4	SR-60	Central Ave to Mountain Ave	6,336	24.7	C	6,076	24.1	C	6,120	24.0	C	6,300	25.7	C
F-5	SR-60	Mountain Ave to Euclid Ave	6,259	24.4	C	6,495	26.3	D	6,060	23.7	C	6,710	28.0	D
F-6	SR-60	Euclid Ave to Grove Ave	6,461	25.4	C	6,302	25.2	C	6,250	24.6	C	6,530	27.0	D
F-7	SR-60	Grove Ave to Vineyard Ave	6,274	24.3	C	6,699	27.4	D	6,050	23.5	C	6,930	29.1	D
F-8	SR-60	Vineyard Ave to Archibald Ave	7,658	32.1	D	6,245	25.0	C	7,400	30.9	D	6,490	26.7	D
F-9	SR-60	Archibald Ave to Haven Ave	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-10	SR-60	Haven Ave to Miliken Ave	5,804	17.4	B	5,698	17.5	B	5,500	16.6	B	5,970	18.6	C
F-11	SR-60	Miliken Ave to I-15	5,456	20.5	C	5,111	19.5	C	5,070	19.2	C	5,390	21.2	C
F-12	SR-60	I-15 to Etiwanda Ave	4,490	13.4	B	4,275	13.0	B	4,150	12.6	B	4,600	14.3	B
F-13	SR-60	Etiwanda Ave to Mission	4,220	15.7	B	3,881	14.8	B	3,840	14.6	B	4,300	16.8	B
F-14	SR-60	Mission Blvd/Country Village	4,172	15.5	B	3,963	15.1	B	3,810	14.5	B	4,370	17.0	B
F-15	SR-60	Pedley Rd to Pyrite St	3,216	12.0	B	3,068	11.7	B	2,850	10.9	A	3,450	13.6	B
F-16	SR-60	Pyrite St to Valley Way	2,653	9.9	A	2,567	9.8	A	2,300	8.9	A	2,970	11.7	B
F-17	SR-60	Valley Way to Rubidoux Blvd	4,532	23.1	C	4,725	24.9	C	4,140	21.2	C	5,130	28.8	D
F-18	SR-60	Rubidoux Blvd to Market St	3,568	17.7	B	3,868	19.7	C	3,250	16.5	B	4,330	23.2	C
F-19	SR-60	Market St to Main St	5,631	30.9	D	5,109	27.6	D	5,290	28.8	D	5,550	32.4	D
F-20	SR-60	Main to SR-91	5,248	27.9	D	4,720	24.9	C	4,990	26.7	D	5,080	28.6	D
F-24	SR-60	Martin Luther King Blvd to Central Ave	7,050	30.6	D	5,800	24.1	C	6,800	30.8	D	6,430	31.7	D
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	7,461	31.1	D	6,376	25.6	C	7,130	30.1	D	7,040	30.9	D
F-27	SR-60	I-215 to Day St.	7,050	47.9	**F**	3,093	15.9	B	7,000	50.0	**F**	3,540	19.7	C
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	3,013	23.1	C	3,254	26.5	D	2,980	24.5	C	3,780	37.1	**E**
F-30	SR-60	Heacock St to Perris Blvd	2,638	19.9	C	2,671	20.8	C	2,710	21.9	C	3,330	30.5	D
F-31	SR-60	Perris Blvd to Nason St	1,910	14.3	B	2,045	15.8	B	2,130	17.3	B	2,850	25.0	C
F-32	SR-60	Nason St to Moreno Beach Dr	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-33	SR-60	Moreno Beach Dr to Redlands Blvd	988	7.4	A	1,336	10.3	A	1,340	11.4	B	2,080	18.2	C
F-34	SR-60	Redlands Blvd to Theodore St	1,193	8.9	A	1,498	11.6	B	1,670	14.0	B	2,310	19.5	C
F-35	SR-60	Theodore St to Gilman Springs Rd	1,183	8.9	A	1,393	10.7	A	1,090	8.6	A	1,510	12.3	B
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	837	7.0	A	1,002	9.1	A	1,080	11.3	B	980	10.7	A
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	837	6.3	A	1,002	7.7	A	1,080	8.4	A	980	7.8	A
F-38	SR-60	Potrero Blvd to I-10	837	6.3	A	1,002	7.7	A	1,080	8.4	A	980	7.8	A
F-39	SR-91	I-15 to McKinley St	6,402	25.1	C	5,971	24.1	C	6,240	24.4	C	6,170	25.4	C
F-40	SR-91	McKinley St to Pierce St	4,788	25.0	C	5,183	29.3	D	4,610	24.1	C	5,370	31.4	D
F-41	SR-91	Pierce St to Magnolia Ave	4,629	23.9	C	7,050	53.3	**F**	4,460	23.2	C	7,230	58.8	**F**

Table 4.15.AF: Existing (2012) plus Project Freeway Mainline Levels of Service

ID	Freeway	Segment	2012 No Project						2012 Plus Project					
			Southbound / Westbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-42	SR-91	Magnolia Ave to La Sierra Ave	4,894	25.7	C	7,050	53.3	**F**	4,730	24.9	C	7,210	58.4	**F**
F-43	SR-91	La Sierra Ave to Tyler St	4,467	22.9	C	5,167	29.2	D	4,280	22.1	C	5,340	31.1	D
F-44	SR-91	Tyler St to Van Buren Blvd	5,769	22.1	C	6,661	27.8	D	5,630	21.7	C	6,810	29.1	D
F-45	SR-91	Van Buren Blvd to Adam St	5,342	20.2	C	6,401	26.3	D	5,230	20.0	C	6,560	27.6	D
F-46	SR-91	Adam St to Madison St	4,939	18.6	C	5,453	21.5	C	4,840	18.4	C	5,590	22.4	C
F-47	SR-91	Madison St to Indiana	4,218	21.4	C	4,711	25.5	C	4,130	21.2	C	4,830	26.9	D
F-49	SR-91	Central Ave to 14th St	4,737	24.7	C	4,940	27.2	D	4,700	24.7	C	5,030	28.5	D
F-51	SR-91	University Ave to Spruce St (off-ramp)	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-52	I-10	SR-60 to Beaumont Ave	4,288	18.1	C	3,675	13.8	B	4,340	18.5	C	3,740	14.1	B
F-53	I-10	Beaumont Ave to Pennsylvania Ave	4,358	18.4	C	3,736	14.0	B	4,430	18.8	C	3,750	14.1	B
F-54	I-10	Pennsylvania Ave to Highland Springs	4,569	19.4	C	3,916	14.7	B	4,630	19.8	C	3,910	14.7	B
F-55	I-10	Highland Springs Ave to Sunset Ave	4,393	18.6	C	3,766	14.1	B	4,460	19.0	C	3,750	14.1	B
F-56	I-10	Sunset Ave to 22nd St	4,288	18.1	C	3,675	13.8	B	4,360	18.5	C	3,640	13.7	B
F-57	I-10	22nd St to S 8th St	4,218	17.8	B	3,615	13.5	B	4,290	18.2	C	3,580	13.5	B
F-58	I-10	S 8th St to S Hargrave St	4,218	17.8	B	3,615	13.5	B	4,280	18.2	C	3,570	13.4	B
F-59	I-10	S Hargrave St to Field Rd	3,796	16.0	B	3,254	12.2	B	3,860	16.4	B	3,190	12.0	B
F-60	I-10	Field Rd to Main St (Cabazon)	3,620	15.3	B	3,103	11.6	B	3,680	15.6	B	3,040	11.4	B
F-61	I-10	Main St (Cabazon) to Main St	3,198	13.5	B	2,741	10.3	A	3,270	13.9	B	2,680	10.1	A
F-62	I-10	Main St to Haugen-Lehmann Way	3,198	13.5	B	2,741	10.3	A	3,270	13.9	B	2,680	10.1	A
F-64	I-10	SR-111 to Tipton Rd	2,777	11.7	B	2,380	8.9	A	2,840	12.1	B	2,340	8.8	A
F-65	I-10	Tipton Rd to SR-62	2,777	11.7	B	2,380	8.9	A	2,840	12.1	B	2,340	8.8	A
F-66	I-215	Scott Rd to Newport Rd	2,294	17.2	B	2,318	17.2	B	2,270	17.1	B	2,240	16.7	B
F-68	I-215	Newport Rd to MacCall Blvd	2,528	19.0	C	3,111	23.7	C	2,530	19.1	C	3,040	23.2	C
F-69	I-215	MacCall Blvd to Ethanac Rd	3,069	23.6	C	2,539	18.9	C	3,080	23.9	C	2,490	18.6	C
F-70	I-215	Ethanac Rd to SR-74	2,882	21.9	C	3,854	31.9	D	2,900	22.2	C	3,840	32.0	D
F-71	I-215	SR-74/Case Rd to Redlands Blvd	4,569	44.2	**E**	3,710	30.1	D	4,600	45.5	**F**	3,650	29.6	D
F-74	I-215	Columbia Ave to Center St	5,191	27.6	D	4,917	25.4	C	5,320	28.8	D	4,870	25.2	C
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	5,541	30.4	D	5,235	27.6	D	5,700	32.0	D	5,180	27.4	D
F-76	I-215	Iowa Ave to Barton Rd	5,414	29.4	D	5,196	27.3	D	5,530	30.5	D	5,160	27.2	D
F-77	I-215	Barton Rd to Mt Vernon Ave	5,435	29.5	D	5,256	27.7	D	5,560	30.8	D	5,210	27.6	D
F-78	I-215	Mt Vernon Ave to I-10	5,776	22.0	C	5,606	21.0	C	5,900	22.7	C	5,550	20.8	C
F-80	I-215	Auto Plaza Dr to Mill St	4,022	15.1	B	4,090	15.2	B	4,120	15.5	B	4,000	14.9	B
F-83	I-215	Baseline Rd to Highland Ave	4,537	44.1	**E**	4,700	46.7	**F**	4,630	46.7	**F**	4,940	53.6	**F**

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Northbound and Eastbound Sections:

  - SR-60 Euclid Avenue to Grove Avenue;
  - SR-60 Martin Luther King Boulevard to Central Avenue; and
  - I-215 SR-74/Case Road to Redlands Avenue;
- Southbound and Westbound Sections:
  - SR-60 I-215 to Day Street;
  - SR-91 Pierce Street to Magnolia Avenue;
  - SR-91 Magnolia Avenue to La Sierra Avenue;
  - I-215 SR-74/Case Road to Redlands Avenue; and
  - I-215 Baseline Road to Highland Avenue/SR-210.

A significant project impact would occur at the following two freeway segments under existing with project conditions:

- Northbound and Eastbound Sections:
  - SR-91 Central Avenue to 14th Street.
- Southbound and Westbound Sections:
  - SR-60 Pigeon Pass Road/Frederick Street to Heacock Street.

Freeway Weaving Analysis. Existing (2012) with project freeway weaving segment levels of service for the study area are summarized in Table 4.15.AG, which shows eight freeway weaving segments would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at five freeway weaving segments and, therefore, have a cumulative impact at these locations. At two freeway weaving segments, the project would create a significant impact since the project would decrease the LOS from satisfactory to unsatisfactory.

The project would worsen the existing LOS deficiency at the following six freeway weaving segments under existing with project conditions:

- Northbound and Eastbound:
  - SR-60 SR-71/S. Garey Avenue to S. Reservoir Road;
  - SR-60 SR-91 to W. Blaine St/3rd Street;
  - SR-60 W Blaine Street/3rd Street to University Avenue; and
  - SR-91 Arlington Avenue to Central Avenue.
- Southbound and Westbound:
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road; and
  - SR-91 14th Street to University Avenue.

A project-specific significant impact would occur at the following freeway weaving segment under existing with project conditions:

- Northbound and Eastbound:
  - SR-60 from Central Avenue to Fair Isle Drive/Box Springs Road.

Table 4.15.AG: Existing (2012) plus Project Freeway Weaving Segments Levels of Service

ID	Freeway	Weaving Segment	2012 No Project												2012 Plus Project											
			Northbound / Eastbound												Northbound / Eastbound											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS
			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F		
W-1	SR-60	SR-71/S Garey Ave to S Reservoir Rd	4,568	167	301	949	24.0	C	6,963	195	351	1,107	35.6	**E**	4,844	174	306	986	26.1	C	6,811	201	349	1,139	35.7	**E**
W-9	SR-60	Haven Ave to Archibald Ave	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-20	SR-60	Main St to SR-91	4,381	65	608	366	25.8	C	5,997	48	736	269	33.6	D	4,838	68	613	383	29.1	D	5,831	51	739	289	33.6	D
W-21	SR-60	SR-91 to W Blaine St/3rd St	2,364	201	183	1,137	14.9	B	7,625	234	214	1,327	39.0	**E**	2,959	219	181	1,241	18.8	B	7,469	239	212	1,352	39.4	**E**
W-22	SR-60	W Blaine St/3rd St to University Ave	3,300	17	290	314	18.7	B	5,747	50	307	946	37.4	**E**	3,897	17	293	323	25.4	C	5,620	50	310	950	39.3	**E**
W-23	SR-60	University Ave to Martin Luther King Blvd	3,875	12	406	235	20.4	C	4,803	46	208	875	25.7	C	4,465	15	415	285	24.9	C	4,587	47	234	884	25.7	C
W-25	SR-60	Central Ave to Fair Isle Dr/Box Springs Rd	3,110	18	392	336	14.5	B	6,525	45	409	861	32.4	D	3,835	25	386	466	21.1	C	6,410	50	410	950	35.5	**E**
W-27	SR-60	I-215 to Day St	2,314	18	552	104	11.0	B	3,899	25	640	140	16.7	B	2,868	78	492	442	18.0	B	3,989	29	642	162	19.6	B
W-28	SR-60	Day St to Pigeon Pass Rd/Frederick St	1,720	10	1,070	195	12.8	B	3,033	24	1,236	456	20.7	C	2,441	11	1,070	200	17.1	B	3,004	24	1,246	456	21.3	C
W-32	SR-60	Moreno Beach Dr to Nason St.	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-42	SR-91	Magnolia Ave to La Sierra Ave	4,020	34	746	645	24.6	C	3,889	47	863	885	27.4	C	4,224	34	746	646	25.9	C	3,787	47	863	893	27.1	C
W-48	SR-91	Arlington Ave to Central Ave	6,022	23	577	428	35.3	**E**	3,104	14	686	269	19.6	B	6,133	23	627	437	37.0	**E**	3,105	15	696	276	20.0	B
W-50	SR-91	14th St to University Ave	3,700	15	645	283	21.8	C	3,339	18	753	333	21.9	C	3,735	15	655	285	22.4	C	3,348	18	752	342	22.2	C
W-51	SR-91	SR-60 to Mission Inn Ave/University Ave (off-ramp)	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-63	I-10	Haugen-Lehmann Way to SR-111	1,305	13	876	71	7.5	A	2,431	10	677	54	10.5	B	1,214	14	877	77	7.2	A	2,491	11	680	60	10.8	B
W-73	I-215	SR-60 to Columbia Ave	4,137	300	120	1,703	34.6	D	3,759	252	108	1,429	27.9	C	4,065	305	126	1,726	34.6	D	3,753	263	168	1,488	29.4	D
W-79	I-215	I-10 to Auto Plaza Dr/Orange Show Rd	3,226	62	765	349	16.3	B	2,954	86	622	485	14.5	B	3,073	63	767	357	15.9	B	2,927	87	743	493	15.2	B
W-81	I-215	Mill St to 2nd St	3,969	18	717	340	23.0	C	4,035	23	607	430	22.5	C	3,838	18	722	342	22.5	C	4,003	23	717	437	23.0	C
W-82	I-215	5th St to Baseline Rd	2,956	14	518	266	16.5	B	2,906	12	444	228	14.9	B	2,844	14	526	266	16.0	B	2,874	14	526	266	15.5	B

Indicates that the LOS exceeds the target level

Table 4.15.AG: Existing (2012) plus Project Freeway Weaving Segments Levels of Service

ID	Freeway	Weaving Segment	2012 No Project												2012 Plus Project											
			Southbound / Westbound												Southbound / Westbound											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS
			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F		
W-1	SR-60	SR-71/S Garey Ave to S Reservoir Rd	4,643	66	1,040	376	21.4	C	4,590	63	885	354	20.8	C	4,428	68	1,073	383	21.0	C	4,753	63	917	357	21.9	C
W-9	SR-60	Haven Ave to Archibald Ave	5,276	26	485	501	23.5	C	4,889	39	399	744	23.5	C	4,977	27	493	513	22.6	C	5,120	40	411	751	25.1	C
W-20	SR-60	Main St to SR-91	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-21	SR-60	SR-91 to W Blaine St/3rd St	6,154	105	877	593	28.6	D	5,677	122	720	692	27.3	C	5,695	105	965	595	27.7	C	6,113	123	847	697	30.7	D
W-22	SR-60	W Blaine St/3rd St to University Ave	5,104	6	498	106	20.1	C	5,460	16	416	312	23.0	C	4,736	6	504	114	20.4	C	6,057	17	444	314	28.3	D
W-23	SR-60	University Ave to Martin Luther King Blvd	4,237	39	584	741	28.0	C	5,101	13	521	241	28.0	C	3,910	40	591	751	26.9	C	5,481	21	560	390	33.0	D
W-25	SR-60	Central Ave to Fair Isle Dr/Box Springs Rd	5,515	61	323	1,151	37.0	**E**	5,043	29	410	544	29.3	D	5,291	61	339	1,159	38.2	**E**	5,471	31	419	589	35.3	**E**
W-27	SR-60	I-215 to Day St	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-28	SR-60	Day St to Pigeon Pass Rd/Frederick St	3,287	39	626	748	31.0	D	3,050	30	540	577	27.2	C	3,160	40	631	751	30.7	D	3,467	37	574	694	33.6	D
W-32	SR-60	Moreno Beach Dr to Nason St.	864	36	30	679	9.2	A	1,089	28	99	537	10.2	B	1,146	36	54	684	11.8	B	1,704	34	116	646	16.2	B
W-42	SR-91	Magnolia Ave to La Sierra Ave	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-48	SR-91	Arlington Ave to Central Ave	3,893	15	454	280	21.1	C	4,485	12	390	231	23.8	C	3,765	15	455	285	20.7	C	4,574	14	396	266	25.0	C
W-50	SR-91	14th St to University Ave	4,397	8	622	152	24.1	C	6,202	16	524	308	35.5	**E**	4,448	8	622	152	24.6	C	6,208	18	523	333	36.2	**E**
W-51	SR-91	SR-60 to Mission Inn Ave/University Ave (off-ramp)	2,904	147	343	835	14.5	B	6,201	126	294	716	26.9	C	2,867	161	330	910	14.8	B	6,122	146	275	825	27.3	C
W-63	I-10	Haugen-Lehmann Way to SR-111	2,787	19	23	369	11.8	B	1,370	67	33	1,271	10.3	B	2,840	20	30	380	12.2	B	1,307	67	33	1,273	10.1	B
W-73	I-215	SR-60 to Columbia Ave	4,131	72	1,266	408	26.4	C	3,458	84	1,477	476	24.6	C	4,134	74	1,387	417	32.9	D	3,366	86	1,505	485	29.6	D
W-79	I-215	I-10 to Auto Plaza Dr/Orange Show Rd	3,616	34	1,050	190	16.8	B	3,379	69	752	391	16.4	B	3,695	35	1,056	196	17.3	B	3,252	72	758	408	16.1	B
W-81	I-215	Mill St to 2nd St	3,546	28	332	536	19.6	B	3,335	33	387	625	19.4	B	3,639	29	332	542	20.2	C	3,233	33	397	627	19.0	B
W-82	I-215	5th St to Baseline Rd	2,689	30	318	570	15.6	B	2,410	35	371	665	15.1	B	2,781	31	320	580	16.2	B	2,316	36	375	675	14.8	B

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Freeway Ramp Analysis. Existing (2012) with project freeway ramp levels of service for the study area are summarized in Table 4.15.AH, which shows the SR-60 eastbound on-ramp from Central Avenue currently operates at LOS F in the p.m. peak hour and would also operate at LOS F under Existing Plus Project conditions, but with a higher traffic density. This would be considered a significant cumulative impact.

4.15.6.2 Year 2017 With Project Conditions Traffic and Level of Service Impacts

Threshold:	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit. Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? A significant project-specific traffic impact would occur if the project would cause a decrease from satisfactory LOS (based on local agency adopted standards) to an unsatisfactory LOS on a study area intersection, roadway segment, freeway mainline lane, freeway weaving segment or freeway ramp. A significant cumulative traffic impact would occur if the project contributes traffic toward those facilities operating at unsatisfactory LOS in the pre-project condition. The adopted LOS standards are as follows: Roadway segments and intersections: LOS C and LOS D as outlined in previously referenced Table 4.15.E. • Freeway mainline: LOS D. • Freeway Ramp Merge/Diverge: LOS D.

Intersection Analysis. Year 2017 with project intersection levels of service for the study area intersections are summarized in Table 4.15.AI, which shows 30 study intersections would operate at unsatisfactory LOS in the 2017 with project condition. Twenty-seven of these intersections would exceed the threshold of significance under 2017 No-Project conditions and would therefore be considered significant cumulative impacts. Three would be considered a significant project impact.

The project would have a significant cumulative impact at the following 27 intersections under year 2017 with project conditions:

- Redlands Boulevard/Locust Avenue;
- Redlands Boulevard/SR-60 Westbound Ramps;
- Oliver Street/Alessandro Boulevard;
- Moreno Beach Drive/Ironwood Avenue;
- Iris Avenue/Perris Boulevard;
- Krameria Avenue/Perris Boulevard;
- Lasselle Street/Cactus Avenue;
- Nason Street/Cactus Avenue;
- Graham Street/Alessandro Boulevard;

Table 4.15.AH: Existing (2012) plus Project Freeway Ramp Levels of Service

ID	Freeway / Direction	Ramp Segment	Ramp No. of Lanes	2012 No Project								2012 Plus Project							
				AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
				Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS
R-1	SR-60 EB	On-Ramp from Martin Luther King Blvd	1	4,110	242	17.0	B	5,678	906	26.6	C	4,750	350	20.9	C	5,470	1,300	29.7	D
R-2	SR-60 EB	On-Ramp from Central Ave	1	5,796	349	18.5	B	8,868	904	31.8	**F**	6,530	490	23.0	C	8,630	1,000	32.5	**F**
R-3	SR-60 EB	Off-Ramp to Redlands Blvd	1	1,326	119	3.3	A	1,397	30	3.2	A	2,160	400	14.1	B	1,750	450	8.6	A
R-4	SR-60 EB	Loop On-Ramp from Redlands Blvd	1	1,207	26	14.5	B	1,367	25	15.1	B	1,760	80	21.8	C	1,300	110	16.9	B
R-5	SR-60 EB	Direct On-Ramp from Redlands Blvd	0	Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario			
R-6	SR-60 EB	Off-Ramp to Theodore St	1	1,614	207	17.3	B	1,920	434	19.1	B	2,600	1,190	18.6	B	2,390	820	16.2	B
R-7	SR-60 EB	Loop On-Ramp from Theodore St	1	1,407	70	16.5	B	1,486	71	16.5	B	1,410	10	17.4	B	1,570	10	18.1	B
R-8	SR-60 EB	Direct On-Ramp from Theodore St	1	Does not Exist in this Scenario				Does not Exist in this Scenario				1,420	120	18.5	B	1,580	260	20.4	C
R-9	SR-60 EB	Off-Ramp to Gilman Spring Rd	1	1,521	330	16.8	B	1,915	385	19.5	B	1,550	420	17.7	B	1,820	430	19.1	B
R-10	SR-60 EB	On-Ramp from Gilman Spring Rd	1	1,191	7	14.5	B	1,530	8	16.6	B	1,130	30	14.6	B	1,390	60	16.3	B
R-11	SR-60 WB	Off-Ramp to Gilman Spring Rd	1	837	11	10.0	B	1,002	9	11.7	B	1,080	100	12.6	B	980	30	11.8	B
R-12	SR-60 WB	On-Ramp from Gilman Spring Rd	1	826	357	13.8	B	993	306	14.9	B	980	410	16.0	B	950	470	16.6	B
R-13	SR-60 WB	Off-Ramp to Theodore St	1	1,183	24	12.7	B	1,393	26	14.9	B	1,090	210	7.0	A	1,510	90	10.1	A
R-14	SR-60 WB	On-Ramp from Theodore St	1	1,159	34	11.8	B	1,367	131	14.5	B	880	750	16.8	B	1,420	870	22.7	C
R-15	SR-60 WB	Off-Ramp to Redlands Blvd	1	1,193	49	12.8	B	1,498	38	15.9	B	1,670	100	18.9	B	2,310	60	25.3	C
R-16	SR-60 WB	Loop On-Ramp from Redlands Blvd	1	1,144	329	15.8	B	1,460	361	19.0	B	1,570	350	21.1	C	2,250	600	29.8	D
R-17	SR-60 WB	Direct On-Ramp from Redlands Blvd	0	Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario			
R-18	SR-60 WB	Off-Ramp to Central Ave	2	7,050	384	32.6	D	6,026	439	28.5	D	6,850	400	32.5	D	6,510	450	31.8	D
R-19	SR-60 WB	Off-Ramp to Martin Luther King Blvd	1	7,050	474	31.8	D	5,800	337	26.7	C	6,800	510	20.7	C	6,430	370	19.4	B

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.AI-1: Year 2017 plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2017 No Project			2017 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
1	Theodore St/Street F	D	N/A	Non-Existent		RABT	9.1	A
2	Street D/Street E	D	N/A	Non-Existent		SIGNAL	10.9	B
3	Theodore Ave/Alessandro (Str A/Str C/Str E)	D	CSS	10.5	B	RABT	8.5	A
4	Street C/Street F	D	N/A	Non-Existent		RABT	5.8	A
5	Street C/Street H	D	N/A	Non-Existent		N/A	Non-Existent	
6	Alessandro Blvd (Street C)/Gilman Springs Rd	D	CSS	7.4	A	SIGNAL	8.3	A
7	Street F/Street G	D	N/A	Non-Existent		N/A	Non-Existent	
8	Alessandro Blvd (Street G)/Street H	D	N/A	Non-Existent		N/A	Non-Existent	
9	Gilman Springs Rd/Eucalytpus Ave	D	N/A	Non-Existent		N/A	Non-Existent	
10	Redlands Blvd/Locust Ave	C	CSS	> 50	**F**	CSS	> 50	**F**
11	Redlands Blvd/Ironwood Ave	D	SIGNAL	36.8	D	SIGNAL	25.7	C
12	Theodore Street/Ironwood Avenue	D	CSS	9.9	A	CSS	20.7	C
13	Redlands Blvd/SR-60 WB ramps	D	CSS	> 50	**F**	CSS	> 50	**F**
14	Redlands Blvd/SR-60 EB ramps	D	SIGNAL	10.6	B	SIGNAL	11.8	B
15	Theodore Str/SR-60 WB ramps	D	CSS	10.3	B	SIGNAL	12.5	B
16	Theodore Str/SR-60 EB ramps	D	CSS	10.8	B	SIGNAL	5.2	A
17	Quincy Str/Fir Ave		N/A	Non-Existent		N/A	Non-Existent	
18	Redlands Blvd/Eucalyptus Ave (Fir)	D	N/A	Non-Existent		N/A	Non-Existent	
19	Theodore Ave/Fir Ave (Eucalyptus)	D	CSS	10.1	B	SIGNAL	12.5	B
20	Oliver Str/Alessandro Blvd	C	CSS	> 50	**F**	CSS	> 50	**F**
21	Moreno Beach Dr/Alessandro Blvd	D	SIGNAL	20.1	C	SIGNAL	20.1	C
22	Quincy Str/Alessandro Blvd		N/A	Non-Existent		N/A	Non-Existent	
23	Redlands Blvd/Alessandro Blvd	C	AWS	39.2	**E**	AWS	17.1	C
24	Oliver Str/Cactus Ave	D	SIGNAL	35.9	D	SIGNAL	41.4	D
25	Moreno Beach Dr/Cactus Ave	C	SIGNAL	18.4	B	SIGNAL	19.2	B
26	Quincy Str/Cactus Ave		N/A	Non-Existent		N/A	Non-Existent	
27	Redlands Blvd/Cactus Ave	C	AWS	13.6	B	AWS	> 50	**F**
28	Moreno Beach Dr/John Kennedy Dr	D	SIGNAL	20.2	C	SIGNAL	21.1	C
29	Heacock Str/Ironwood Ave	D	SIGNAL	30.1	C	SIGNAL	30.1	C
30	Heacock Str/SR-60 WB Ramps	D	SIGNAL	30.4	C	SIGNAL	30.9	C
31	Heacock St/SR-60 EB Ramps	D	SIGNAL	16.9	B	SIGNAL	17.2	B

Table 4.15.AI-1: Year 2017 plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2017 No Project			2017 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
32	Sunnymead Blvd & Perris Blvd	D	SIGNAL	30.1	C	SIGNAL	30.3	C
33	Perris Blvd/SR-60 WB Ramps	D	SIGNAL	27.2	C	SIGNAL	29.0	C
34	Perris Blvd/Eucalyptus Ave	D	SIGNAL	26.1	C	SIGNAL	26.0	C
35	Moreno Beach Dr/Locust Ave	C	CSS	9.0	A	CSS	9.2	A
36	Moreno Beach Drive & Ironwood Avenue	D	SIGNAL	> 50	**F**	SIGNAL	> 50	**F**
37	Moreno Beach Dr/SR-60 EB Ramps	D	SIGNAL	41.6	D	SIGNAL	53.6	D
38	Perris Blvd/John F. Kennedy Dr	D	SIGNAL	42.5	D	SIGNAL	43.8	D
39	Iris Ave/Perris Blvd	D	SIGNAL	55.1	**E**	SIGNAL	58.1	**E**
40	Kitching St/Iris Ave	C	SIGNAL	27.3	C	SIGNAL	28.0	C
41	Lasselle Str/Iris Ave	D	SIGNAL	30.9	C	SIGNAL	36.4	D
42	Nason Str/Iris Ave	C	SIGNAL	8.5	A	SIGNAL	8.0	A
43	Oliver Str/Iris Ave	D	SIGNAL	31.4	C	SIGNAL	31.1	C
44	Via Dell Lago/Iris Ave	C	SIGNAL	9.0	A	SIGNAL	8.6	A
45	Krameria Ave/Perris Blvd	D	SIGNAL	> 50	**F**	SIGNAL	> 50	**F**
46	Kitching Str/Krameria Ave	D	SIGNAL	24.5	C	SIGNAL	27.0	C
47	Lasselle Str/Krameria Ave	D	SIGNAL	35.2	D	SIGNAL	35.7	D
48	Kitching Str/Alessandro Blvd	D	SIGNAL	31.3	C	SIGNAL	31.2	C
49	Lasselle Str/Alessandro Blvd	D	SIGNAL	42.5	D	SIGNAL	43.5	D
50	Morrison Str/Alessandro Blvd	D	SIGNAL	9.3	A	SIGNAL	9.4	A
51	Nason Str/Alessandro Blvd	D	SIGNAL	26.2	C	SIGNAL	26.8	C
52	Kitching Str/Cactus Ave	C	SIGNAL	33.7	C	SIGNAL	33.7	C
53	Lasselle Str/Cactus Ave	C	SIGNAL	61.4	**E**	SIGNAL	64.9	**E**
54	Morrison Str/Cactus Ave		N/A	Non-Existent		N/A	Non-Existent	
55	Nason Str/Cactus Ave	D	SIGNAL	27.0	C	SIGNAL	26.9	C
56	Frederick Str/Alessandro Blvd	D	SIGNAL	24.1	C	SIGNAL	24.3	C
57	Graham Str/Alessandro Blvd	D	SIGNAL	24.0	C	SIGNAL	24.2	C
58	Heacock Str/Alessandro Blvd	D	SIGNAL	37.0	D	SIGNAL	37.2	D
59	Indian Str/Alessandro Blvd	D	SIGNAL	24.4	C	SIGNAL	24.6	C
60	Perris Blvd/Alessandro Blvd	D	SIGNAL	38.9	D	SIGNAL	42.0	D
61	Frederick Str/Cactus Ave	D	SIGNAL	12.5	B	SIGNAL	13.0	B
62	Graham Str/Cactus Ave	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**

Table 4.15.AI-1: Year 2017 plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2017 No Project			2017 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
63	Heacock Str/Cactus Ave	D	SIGNAL	40.5	D	SIGNAL	40.6	D
64	Indian Str/Cactus Ave	C	SIGNAL	26.8	C	SIGNAL	26.9	C
65	Perris Blvd/Cactus Ave	D	SIGNAL	31.3	C	SIGNAL	31.0	C
66	Alessandro Blvd/Sycamore Canyon Blvd	D	SIGNAL	41.6	D	SIGNAL	41.9	D
67	I-215 SB Ramps/Alessandro Blvd	D	SIGNAL	11.7	B	SIGNAL	11.7	B
68	I-215 NB Ramps/Alessandro Blvd	D	SIGNAL	27.2	C	SIGNAL	27.2	C
69	Old 215 Frontage Rd/Alessandro Blvd	D	SIGNAL	17.4	B	SIGNAL	17.5	B
70	Day Str/Alessandro Blvd	D	SIGNAL	6.0	A	SIGNAL	5.9	A
71	Elsworth Str/Alessandro Blvd	D	SIGNAL	15.3	B	SIGNAL	15.1	B
72	I-215 SB Ramps/Cactus Ave	D	SIGNAL	25.1	C	SIGNAL	26.8	C
73	I-215 NB Ramps/Cactus Ave	D	SIGNAL	9.6	A	SIGNAL	9.3	A
74	Elsworth Str/Cactus Ave	D	SIGNAL	54.4	D	SIGNAL	56.6	**E**
75	Central Ave/Lochmoor Dr.	D	SIGNAL	22.2	C	SIGNAL	24.1	C
76	Sycamore Canyon Blvd/Central Ave	D	SIGNAL	30.3	C	SIGNAL	33.2	C
77	SR-60 EB Ramps/Central Ave	D	SIGNAL	10.5	B	SIGNAL	10.9	B
78	SR-60 WB Ramps/Central Ave	D	SIGNAL	7.8	A	SIGNAL	8.5	A
79	Alessandro Blvd/Trautwein Rd.	D	SIGNAL	42.1	D	SIGNAL	42.1	D
80	Alessandro Blvd/Mission Grove Pkwy	D	SIGNAL	24.8	C	SIGNAL	26.1	C
81	Martin Luther King Blvd/Chicago Ave	D	SIGNAL	30.8	C	SIGNAL	32.8	C
82	Martin Luther King Blvd/Iowa Ave	D	SIGNAL	10.1	B	SIGNAL	10.0	A
83	Martin Luther King Blvd/Canyon Crest Dr	D	SIGNAL	67.3	**E**	SIGNAL	68.9	**E**
84	Martin Luther King Blvd/I-215 SB Ramps	D	SIGNAL	10.1	B	SIGNAL	10.5	B
85	Martin Luther King Blvd/I-215 NB Ramps	D	AWS	35.9	**E**	AWS	37.9	**E**
86	Central Ave/Chicago Ave	D	SIGNAL	28.8	C	SIGNAL	30.0	C
87	Central Ave/El Cerrito Dr	D	SIGNAL	13.0	B	SIGNAL	12.9	B
88	Central Ave/Canyon Crest Dr	D	SIGNAL	37.7	D	SIGNAL	39.4	D
89	Chicago Ave/Country Club Dr	D	SIGNAL	7.3	A	SIGNAL	7.5	A
90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	SIGNAL	34.7	C	SIGNAL	35.3	D
91	Arlington Ave/Indiana Ave/SR-91 NB Ramps	D	SIGNAL	22.0	C	SIGNAL	22.1	C
92	Arlington Ave/Maude St	D	SIGNAL	15.3	B	SIGNAL	15.4	B
93	Horace St/Arlington Ave	D	SIGNAL	16.2	B	SIGNAL	17.9	B

Table 4.15.AI-1: Year 2017 plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2017 No Project			2017 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
94	Arlington Ave/Victoria Ave	D	SIGNAL	78.3	**E**	SIGNAL	> 80	**F**
95	Alessandro Blvd/Chicago Ave	D	SIGNAL	> 80	**F**	SIGNAL	96.8	**F**
96	Alessandro Blvd/Century Ave	D	SIGNAL	37.4	D	SIGNAL	37.1	D
97	Alessandro Blvd/Via Vista Dr	D	SIGNAL	49.1	D	SIGNAL	48.8	D
98	Alessandro Blvd/Canyon Crest Dr	D	SIGNAL	44.8	D	SIGNAL	44.5	D
99	Harley Knox Blvd/Perris Blvd	D	SIGNAL	21.4	C	SIGNAL	23.3	C
100	Harley Knox Blvd/Evan Rd		N/A	Non-Existent		N/A	Non-Existent	
101	Ramona Expy/Indian St	E	SIGNAL	16.5	B	SIGNAL	17.3	B
102	Ramona Expy/Perris Blvd	E	SIGNAL	33.6	C	SIGNAL	34.6	C
103	Ramona Expy/Evans Rd	E	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
104	Perris Blvd/Morgan St	D	SIGNAL	15.5	B	SIGNAL	15.2	B
105	Evans Rd/Morgan St	C	SIGNAL	33.8	C	SIGNAL	33.5	C
106	Perris Blvd/Rider St	C	SIGNAL	23.3	C	SIGNAL	23.4	C
107	Evans Rd/Rider St	C	SIGNAL	36.5	**D**	SIGNAL	36.9	**D**
108	Perris Blvd/Mid-County Pkwy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
109	Perris Blvd/Mid-County Pkwy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
110	Evans Rd/Mid-County Pkwy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
111	Evans Rd/Mid-County Pkwy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
112	Placentia Ave/Perris Blvd	D	SIGNAL	29.8	C	SIGNAL	29.4	C
113	Evans Rd/Placentia Ave		N/A	Non-Existent		N/A	Non-Existent	
114	Evans Rd/Orange Ave	C	AWS	16.7	C	AWS	16.7	C
115	Evans Rd/Nuevo Rd	C	SIGNAL	24.1	C	SIGNAL	24.1	C
116	Evans Rd/Ellis Ave		N/A	Non-Existent		N/A	Non-Existent	
117	Ellis Ave/I-215 SB Ramps		N/A	Non-Existent		N/A	Non-Existent	
118	Ellis Ave/SR-215 NB Ramps		N/A	Non-Existent		N/A	Non-Existent	
119	Evans Rd/San Jacinto Ave		N/A	Non-Existent		N/A	Non-Existent	
120	Park Center Blvd/Ramona Expy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
121	Park Center Blvd/Ramona Expy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
122	Bridge St/Ramona Expy	C	AWS	33.3	**D**	AWS	> 50	**E**
123	Gilman Springs Rd/Bridge Str	C	CSS	40.2	**E**	CSS	> 50	**F**
124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	C	CSS	> 50	**F**	CSS	> 50	**F**

Table 4.15.AI-1: Year 2017 plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2017 No Project			2017 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	C	CSS	> 50	**F**	CSS	> 50	**F**
126	Ramona Expy/Sanderson Ave	D	SIGNAL	34.5	C	SIGNAL	35.0	C
127	Potrero Blvd/SR-60 WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
128	Potrero Blvd/SR-60 EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
129	W 6th St/California Ave	C	AWS	15.6	C	AWS	15.9	C
130	W 6th St/Beaumont Ave	C	SIGNAL	11.5	B	SIGNAL	11.5	B
131	Reche Canyon Rd/Reche Vista Dr	C	SIGNAL	22.9	C	SIGNAL	22.3	C
132	San Timoteo Canyon Rd/Alessandro Rd	D	AWS	> 50	**F**	AWS	> 50	**F**
133	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
134	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
135	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	F	AWS	> 50	F
136	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	F	AWS	> 50	F
Notes:	"CSS" means cross-street is stop-controlled	"AWS" means all-way stop			"RABT" means roundabout			

"Non-Existent" indicates that the intersection exists in some scenarios but not in the scenario being reported

denotes LOS exceeding the target threshold

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.AI-2: Year 2017 plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2017 No Project			2017 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
1	Theodore St/Street F	D	N/A	Non-Existent		RABT	10.9	B
2	Street D/Street E	D	N/A	Non-Existent		SIGNAL	15.4	B
3	Theodore Ave/Alessandro (Str A/Str C/Str E)	D	CSS	22.3	C	RABT	9.2	A
4	Street C/Street F	D	N/A	Non-Existent		RABT	5.7	A
5	Street C/Street H	D	N/A	Non-Existent		N/A	Non-Existent	
6	Alessandro Blvd (Street C)/Gilman Springs Rd	D	CSS	13.3	B	SIGNAL	16.0	B
7	Street F/Street G	D	N/A	Non-Existent		N/A	Non-Existent	
8	Alessandro Blvd (Street G)/Street H	D	N/A	Non-Existent		N/A	Non-Existent	
9	Gilman Springs Rd/Eucalyptus Ave	D	N/A	Non-Existent		N/A	Non-Existent	
10	Redlands Blvd/Locust Ave	C	CSS	> 50	**F**	CSS	> 50	**F**
11	Redlands Blvd/Ironwood Ave	D	SIGNAL	34.7	C	SIGNAL	32.1	C
12	Theodore Street/Ironwood Avenue	D	CSS	11.8	B	CSS	33.2	D

Table 4.15.AI-2: Year 2017 plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2017 No Project			2017 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
13	Redlands Blvd/SR-60 WB ramps	D	CSS	> 50	F	CSS	> 50	**F**
14	Redlands Blvd/SR-60 EB ramps	D	SIGNAL	19.4	B	SIGNAL	20.5	C
15	Theodore Str/SR-60 WB ramps	D	CSS	12.3	B	SIGNAL	20.3	C
16	Theodore Str/SR-60 EB ramps	D	CSS	13.1	B	SIGNAL	8.8	A
17	Quincy Str/Fir Ave		N/A	Non-Existent		N/A	Non-Existent	
18	Redlands Blvd/Eucalyptus Ave (Fir)	D	N/A	Non-Existent		N/A	Non-Existent	
19	Theodore Ave/Fir Ave (Eucalyptus)	D	CSS	> 50	**F**	SIGNAL	35.2	D
20	Oliver Str/Alessandro Blvd	C	CSS	> 50	**F**	CSS	> 50	**F**
21	Moreno Beach Dr/Alessandro Blvd	D	SIGNAL	19.7	B	SIGNAL	22.2	C
22	Quincy Str/Alessandro Blvd		N/A	Non-Existent		N/A	Non-Existent	
23	Redlands Blvd/Alessandro Blvd	C	AWS	20.1	C	AWS	16.2	C
24	Oliver Str/Cactus Ave	D	SIGNAL	24.9	C	SIGNAL	26.9	C
25	Moreno Beach Dr/Cactus Ave	C	SIGNAL	19.2	B	SIGNAL	20.0	B
26	Quincy Str/Cactus Ave		N/A	Non-Existent		N/A	Non-Existent	
27	Redlands Blvd/Cactus Ave	C	AWS	8.8	A	AWS	> 50	**F**
28	Moreno Beach Dr/John Kennedy Dr	D	SIGNAL	17.2	B	SIGNAL	21.1	C
29	Heacock Str/Ironwood Ave	D	SIGNAL	34.2	C	SIGNAL	34.4	C
30	Heacock Str/SR-60 WB Ramps	D	SIGNAL	25.2	C	SIGNAL	26.3	C
31	Heacock St/SR-60 EB Ramps	D	SIGNAL	21.4	C	SIGNAL	22.2	C
32	Sunnymead Blvd & Perris Blvd	D	SIGNAL	37.1	D	SIGNAL	37.1	D
33	Perris Blvd/SR-60 WB Ramps	D	SIGNAL	21.7	C	SIGNAL	23.2	C
34	Perris Blvd/Eucalyptus Ave	D	SIGNAL	29.1	C	SIGNAL	30.3	C
35	Moreno Beach Dr/Locust Ave	C	CSS	9.2	A	CSS	9.2	A
36	Moreno Beach Drive & Ironwood Avenue	D	SIGNAL	49.5	D	SIGNAL	51.3	D
37	Moreno Beach Dr/SR-60 EB Ramps	D	SIGNAL	27.2	C	SIGNAL	29.8	C
38	Perris Blvd/John F. Kennedy Dr	D	SIGNAL	41.4	D	SIGNAL	43.7	D
39	Iris Ave/Perris Blvd	D	SIGNAL	37.5	D	SIGNAL	37.1	D
40	Kitching St/Iris Ave	C	SIGNAL	22.1	C	SIGNAL	24.5	C
41	Lasselle Str/Iris Ave	D	SIGNAL	42.7	D	SIGNAL	55.0	D
42	Nason Str/Iris Ave	C	SIGNAL	8.5	A	SIGNAL	12.0	B
43	Oliver Str/Iris Ave	D	SIGNAL	21.8	C	SIGNAL	22.4	C
44	Via Dell Lago/Iris Ave	C	SIGNAL	7.7	A	SIGNAL	7.4	A
45	Krameria Ave/Perris Blvd	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**

Table 4.15.AI-2: Year 2017 plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2017 No Project			2017 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
46	Kitching Str/Krameria Ave	D	SIGNAL	30.6	C	SIGNAL	36.5	D
47	Lasselle Str/Krameria Ave	D	SIGNAL	14.0	B	SIGNAL	14.0	B
48	Kitching Str/Alessandro Blvd	D	SIGNAL	25.8	C	SIGNAL	26.0	C
49	Lasselle Str/Alessandro Blvd	D	SIGNAL	36.1	D	SIGNAL	36.8	D
50	Morrison Str/Alessandro Blvd	D	SIGNAL	9.5	A	SIGNAL	9.6	A
51	Nason Str/Alessandro Blvd	D	SIGNAL	31.2	C	SIGNAL	31.2	C
52	Kitching Str/Cactus Ave	C	SIGNAL	23.8	C	SIGNAL	23.4	C
53	Lasselle Str/Cactus Ave	C	SIGNAL	42.4	**D**	SIGNAL	43.7	**D**
54	Morrison Str/Cactus Ave		N/A	Non-Existent		N/A	Non-Existent	
55	Nason Str/Cactus Ave	D	SIGNAL	61.1	**E**	SIGNAL	62.2	**E**
56	Frederick Str/Alessandro Blvd	D	SIGNAL	47.4	D	SIGNAL	49.9	D
57	Graham Str/Alessandro Blvd	D	SIGNAL	61.4	**E**	SIGNAL	64.5	**E**
58	Heacock Str/Alessandro Blvd	D	SIGNAL	31.7	C	SIGNAL	33.4	C
59	Indian Str/Alessandro Blvd	D	SIGNAL	31.9	C	SIGNAL	32.7	C
60	Perris Blvd/Alessandro Blvd	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
61	Frederick Str/Cactus Ave	D	SIGNAL	13.1	B	SIGNAL	13.2	B
62	Graham Str/Cactus Ave	D	SIGNAL	55.9	**E**	SIGNAL	58.5	**E**
63	Heacock Str/Cactus Ave	D	SIGNAL	22.3	C	SIGNAL	23.0	C
64	Indian Str/Cactus Ave	C	SIGNAL	18.3	B	SIGNAL	18.0	B
65	Perris Blvd/Cactus Ave	D	SIGNAL	30.5	C	SIGNAL	31.7	C
66	Alessandro Blvd/Sycamore Canyon Blvd	D	SIGNAL	35.1	D	SIGNAL	36.8	D
67	I-215 SB Ramps/Alessandro Blvd	D	SIGNAL	9.6	A	SIGNAL	9.4	A
68	I-215 NB Ramps/Alessandro Blvd	D	SIGNAL	27.1	C	SIGNAL	28.4	C
69	Old 215 Frontage Rd/Alessandro Blvd	D	SIGNAL	18.7	B	SIGNAL	18.8	B
70	Day Str/Alessandro Blvd	D	SIGNAL	11.2	B	SIGNAL	12.6	B
71	Elsworth Str/Alessandro Blvd	D	SIGNAL	28.4	C	SIGNAL	29.2	C
72	I-215 SB Ramps/Cactus Ave	D	SIGNAL	36.4	D	SIGNAL	38.2	D
73	I-215 NB Ramps/Cactus Ave	D	SIGNAL	9.6	A	SIGNAL	9.8	A
74	Elsworth Str/Cactus Ave	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
75	Central Ave/Lochmoor Dr.	D	SIGNAL	32.2	C	SIGNAL	36.4	D
76	Sycamore Canyon Blvd/Central Ave	D	SIGNAL	19.8	B	SIGNAL	20.6	C
77	SR-60 EB Ramps/Central Ave	D	SIGNAL	11.0	B	SIGNAL	11.1	B
78	SR-60 WB Ramps/Central Ave	D	SIGNAL	7.4	A	SIGNAL	7.3	A

Table 4.15.AI-2: Year 2017 plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2017 No Project			2017 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
79	Alessandro Blvd/Trautwein Rd.	D	SIGNAL	16.3	B	SIGNAL	16.2	B
80	Alessandro Blvd/Mission Grove Pkwy	D	SIGNAL	52.0	D	SIGNAL	53.1	D
81	Martin Luther King Blvd/Chicago Ave	D	SIGNAL	46.9	D	SIGNAL	49.3	D
82	Martin Luther King Blvd/Iowa Ave	D	SIGNAL	15.1	B	SIGNAL	15.5	B
83	Martin Luther King Blvd/Canyon Crest Dr	D	SIGNAL	33.2	C	SIGNAL	33.7	C
84	Martin Luther King Blvd/I-215 SB Ramps	D	SIGNAL	5.9	A	SIGNAL	6.0	A
85	Martin Luther King Blvd/I-215 NB Ramps	D	AWS	15.1	C	AWS	16.6	C
86	Central Ave/Chicago Ave	D	SIGNAL	34.9	C	SIGNAL	39.3	D
87	Central Ave/El Cerrito Dr	D	SIGNAL	14.4	B	SIGNAL	14.8	B
88	Central Ave/Canyon Crest Dr	D	SIGNAL	49.5	D	SIGNAL	49.9	D
89	Chicago Ave/Country Club Dr	D	SIGNAL	5.2	A	SIGNAL	5.2	A
90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	SIGNAL	32.1	C	SIGNAL	32.2	C
91	Arlington Ave/Indiana Ave/SR-91 NB Ramps	D	SIGNAL	22.5	C	SIGNAL	22.7	C
92	Arlington Ave/Maude St	D	SIGNAL	10.5	B	SIGNAL	10.5	B
93	Horace St/Arlington Ave	D	SIGNAL	11.5	B	SIGNAL	11.5	B
94	Arlington Ave/Victoria Ave	D	SIGNAL	79.9	**E**	SIGNAL	> 80	**F**
95	Alessandro Blvd/Chicago Ave	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
96	Alessandro Blvd/Century Ave	D	SIGNAL	11.4	B	SIGNAL	11.5	B
97	Alessandro Blvd/Via Vista Dr	D	SIGNAL	25.3	C	SIGNAL	25.1	C
98	Alessandro Blvd/Canyon Crest Dr	D	SIGNAL	25.3	C	SIGNAL	27.3	C
99	Harley Knox Blvd/Perris Blvd	D	SIGNAL	16.6	B	SIGNAL	17.8	B
100	Harley Knox Blvd/Evan Rd		N/A	Non-Existent		N/A	Non-Existent	
101	Ramona Expy/Indian St	E	SIGNAL	45.2	D	SIGNAL	51.4	D
102	Ramona Expy/Perris Blvd	E	SIGNAL	44.3	D	SIGNAL	45.6	D
103	Ramona Expy/Evans Rd	E	SIGNAL	32.8	C	SIGNAL	33.1	C
104	Perris Blvd/Morgan St	D	SIGNAL	11.3	B	SIGNAL	11.3	B
105	Evans Rd/Morgan St	C	SIGNAL	22.1	C	SIGNAL	21.7	C
106	Perris Blvd/Rider St	C	SIGNAL	27.8	C	SIGNAL	28.6	C
107	Evans Rd/Rider St	C	SIGNAL	29.2	C	SIGNAL	28.9	C
108	Perris Blvd/Mid-County Pkwy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
109	Perris Blvd/Mid-County Pkwy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
110	Evans Rd/Mid-County Pkwy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
111	Evans Rd/Mid-County Pkwy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	

Table 4.15.AI-2: Year 2017 plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2017 No Project			2017 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
112	Placentia Ave/Perris Blvd	D	SIGNAL	14.3	B	SIGNAL	14.4	B
113	Evans Rd/Placentia Ave		N/A	Non-Existent		N/A	Non-Existent	
114	Evans Rd/Orange Ave	C	AWS	12.0	B	AWS	12.1	B
115	Evans Rd/Nuevo Rd	C	SIGNAL	23.2	C	SIGNAL	23.5	C
116	Evans Rd/Ellis Ave		N/A	Non-Existent		N/A	Non-Existent	
117	Ellis Ave/I-215 SB Ramps		N/A	Non-Existent		N/A	Non-Existent	
118	Ellis Ave/SR-215 NB Ramps		N/A	Non-Existent		N/A	Non-Existent	
119	Evans Rd/San Jacinto Ave		N/A	Non-Existent		N/A	Non-Existent	
120	Park Center Blvd/Ramona Expy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
121	Park Center Blvd/Ramona Expy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
122	Bridge St/Ramona Expy	C	AWS	> 50	**F**	AWS	> 50	**F**
123	Gilman Springs Rd/Bridge Str	C	CSS	38.9	**E**	CSS	38.5	**E**
124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	C	CSS	> 50	**F**	CSS	> 50	**F**
125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	C	CSS	> 50	**F**	CSS	> 50	**F**
126	Ramona Expy/Sanderson Ave	D	SIGNAL	25.7	**C**	SIGNAL	25.9	**C**
127	Potrero Blvd/SR-60 WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
128	Potrero Blvd/SR-60 EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
129	W 6th St/California Ave	C	AWS	16.5	C	AWS	17.6	C
130	W 6th St/Beaumont Ave	C	SIGNAL	13.7	B	SIGNAL	13.8	B
131	Reche Canyon Rd/Reche Vista Dr	C	SIGNAL	7.3	A	SIGNAL	7.2	A
132	San Timoteo Canyon Rd/Alessandro Rd	D	AWS	> 50	**F**	AWS	> 50	**F**
133	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
134	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
135	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
136	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**

Notes: "CSS" means cross-street is stop-controlled "AWS" means all-way stop "RABT" means roundabout

"Non-Existent" indicates that the intersection exists in some scenarios but not in the scenario being reported

denotes LOS exceeding the target threshold

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- Perris Boulevard/Alessandro Boulevard;
- Graham Street/Cactus Avenue;
- Elsworth Street/Cactus Avenue;
- Martin Luther King Boulevard/Canyon Crest Drive;
- Martin Luther King Boulevard/I-215 Northbound Ramps;
- Arlington Avenue/Victoria Avenue;
- Alessandro Boulevard/Chicago Avenue;
- Ramona Expressway/Evans Road;
- Evans Road/Rider Street;
- Bridge Street/Ramona Expressway;
- Gilman Springs Road/Bridge Street;
- SR-79 (Sanderson Avenue) Northbound/Gilman Springs Road;
- SR-79 (Sanderson Avenue) Southbound/Gilman Springs Road;
- San Timoteo Canyon Road/Alessandro Road;
- San Timoteo Canyon Road/Live Oak Canyon Road;
- Redlands Boulevard/San Timoteo Canyon Road;
- San Timoteo Canyon Road/Live Oak Canyon Road; and
- Redlands Boulevard/San Timoteo Canyon Road.

A significant direct project impact would occur at the following two intersections under year 2017 with project conditions:

- Redlands Boulevard/Alessandro Boulevard; and
- Redlands Boulevard/Cactus Avenue.

Roadway Analysis. Year 2017 with project roadway segment levels of service for the study area intersections are summarized in Table 4.15.AJ, which shows three roadway segments would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at two roadway segments and, therefore, have a significant cumulative impact at these locations. One significant project impact would occur on roadway segments under year 2017 with project conditions.

The project would have a cumulative impact at the following roadway segments under year 2017 with project conditions:

- Gilman Springs Road between Alessandro Boulevard to Bridge Street; and
- Gilman Springs Road between SR-60 and Alessandro Boulevard.

The project would cause a significant impact at the following roadway segment under year 2017 with project conditions:

- Cactus Avenue Redlands Boulevard to D Street.

Table 4.15.AJ: Year 2017 plus Project Roadway Levels of Service

	Roadway	From	To	LOS Standard***	2017 No-Project			2017 Plus Project			Project Significant Impact?	Mitigation Measures Required to Reduce Project Impacts to Less-Than-Significant	LOS After Mitigation
					Roadway Section*	Daily Volume	LOS	Roadway Section*	Daily Volume	LOS			
S-1	Theodore Street (A)	SR-60 WB Ramps	Ironwood Avenue	D	2U	1,333	A	2U	4,583	A	No		
S-2	Theodore Street (A)	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	2U	6,879	A	6D	29,622	A	No		
S-3	Fir (Eucalyptus) Ave.	Redlands Blvd	Theodore Street (A)	D	2U**	6,745	A	4D	8,270	A	No		
S-4	Eucalyptus Ave (B)	Theodore Street (A)	Gilman Springs Rd	N/A	Future Road			Future Road			No		
S-5	Theodore Street (A)	Fir (Eucalyptus) Ave.	Street E	D	2U	1,010	A	6D	25,923	A	No		
S-6	Street E	Theodore Street (A)	Street D	N/A	Future Road			4U	13,738	A	No		
S-7	Street F	Theodore Street (A)	Alessandro Blvd (Street C)	N/A	Future Road			2U	1,726	A	No		
S-8	Theodore Street (A)	Fir (Eucalyptus) Ave.	Alessandro Blvd (Street C)	D	2U	1,069	A	4D	11,059	A	No		
S-9	Alessandro Blvd (Street E)	Merwin Street	Theodore Street (A)	D	2U	2,288	A	4U	7,288	A	No		
S-10	Street D	Alessandro Blvd (Street E)	Cactus Ave.	N/A	Future Road			4U	10,701	A	No		
S-11	Alessandro Blvd (Street C)	Theodore Street (A)	Street F	D	2U	4,774	A	4U	9,596	A	No		
S-12	Street F	Street C	Street G	N/A	Future Road			Future Road			No		
S-13	Alessandro Blvd (Street C)	Street F	Gilman Springs Rd	D	2U	4,774	A	4U	7,294	A	No		
S-14	Street G	Street F	Street H	N/A	Future Road			Future Road			No		
S-15	Street H	Street G	Alessandro Blvd (Street C)	N/A	Future Road			Future Road			No		
S-16	Gilman Springs Rd	Alessandro Blvd (Street C)	Bridge Street	D	2U	17,371	**E**	2U	22,045	**E**	Yes	Widen to 4 lanes	A
S-17	Gilman Springs Rd	SR-60	Alessandro Blvd (Street C)	D	2U	15,213	**E**	2U	15,326	**E**	Yes	Widen to 4 lanes	A
S-18	Redlands Blvd	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	2U	8,712	B	2U	8,797	B	No		
S-19	Redlands Blvd	Fir (Eucalyptus) Ave.	Alessandro Blvd	C	2U	7,588	B	2U	3,781	A	No		
S-20	Alessandro Blvd	Redlands Blvd	Merwin Street	C	2U	4,191	A	2U	668	A	No		
S-21	Redlands Blvd	Alessandro Blvd	Cactus Ave.	C	2U	6,551	A	2U	3,547	A	No		
S-22	Cactus Ave.	Redlands Blvd	Street D	C	2U**	342	A	2U	10,701	**E**	Yes	Widen to 4 lanes	A

* Section is the number of lanes, with "U" for "undivided" and "D" for "Divided" roadways

** Road currently has 2 lanes in one direction and 1 lane in the other. The capacity shown is based on the narrower direction.

*** LOS Standard is "C" in residential areas and "D" for roads in employment-generating areas or near freeways

Indicates LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Freeway Segment Analysis. Year 2017 with project freeway segment levels of service for the study area are summarized in Table 4.15.AK, which shows 30 freeway segments would operate at unsatisfactory levels of service in the year 2017 with project condition. The project would contribute toward the worsening of an already unsatisfactory LOS at 24 freeway segments and, therefore, have a cumulative impact at these locations. At six freeway segments, the project would create a project-specific significant impact since the project would decrease the LOS from satisfactory to unsatisfactory.

The project would have a significant cumulative impact at the following 27 freeway segments under year 2017 with project conditions:

- Northbound or Eastbound Sections:
  - SR-60 Euclid Avenue to Grove Avenue;
  - SR-60 Grove Avenue to Vineyard Avenue;
  - SR-60 Vineyard Avenue to Archibald Avenue;
  - SR-60 Rubidoux Boulevard to Market Street;
  - SR-60 Market Street to Main Street;
  - SR-60 Martin Luther King Boulevard to Central Avenue;
  - SR-60 Pigeon Pass Road/Frederick Street to Heacock Street;
  - SR-60 Heacock Street to Perris Boulevard;
  - SR-91 McKinley Street to Pierce Street;
  - I-215 Columbia Avenue to Center Street;
  - I-215 Iowa Avenue/La Cadena Drive to Barton Road; and
  - I-215 Barton Road to Mt. Vernon Avenue.
- Southbound or Westbound Sections:
  - SR-60 Market Street to Main Street;
  - SR-60 Main Street to SR-91;
  - SR-60 Martin Luther King Boulevard to Central Avenue;
  - SR-60 Fair Isle Drive/Box Springs Road to I-215;
  - SR-60 I-215 to Day Street;
  - SR-91 McKinley Street to Pierce Street;
  - SR-91 Pierce Street to Magnolia Avenue;
  - SR-91 Magnolia Avenue to La Sierra Avenue;
  - SR-91 La Sierra Avenue to Tyler Street;
  - I-215 Ethanac Road to SR-74;
  - I-215 SR-74/Case Road to Redlands Boulevard;
  - I-215 Columbia Avenue to Center Street;
  - I-215 Center Street to Iowa Avenue/La Cadena Drive;
  - I-215 Iowa Avenue/La Cadena Drive to Barton Road; and
  - I-215 Barton Road to Mt. Vernon Avenue.

Table 4.15.AK-1: Year 2017 plus Project Freeway Mainline Levels of Service (Northbound/Eastbound)

			2017 No Project						2017 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-2	SR-60	S Reservoir Rd to Ramona Ave	6,850	28.0	D	8,610	41.7	**E**	7,060	29.7	D	8,540	41.4	**E**
F-3	SR-60	Ramona Ave to Central Ave	6,490	26.1	D	10,340	67.8	**F**	6,690	27.5	D	10,260	67.1	**F**
F-4	SR-60	Central Ave to Mountain Ave	7,220	30.3	D	10,270	66.2	**F**	7,420	32.1	D	10,200	65.8	**F**
F-5	SR-60	Mountain Ave to Euclid Ave	7,080	29.4	D	7,330	31.2	D	7,290	31.2	D	7,260	31.0	D
F-6	SR-60	Euclid Ave to Grove Ave	8,680	42.4	**E**	10,000	60.7	**F**	8,890	45.2	**F**	9,930	60.4	**F**
F-7	SR-60	Grove Ave to Vineyard Ave	7,880	34.9	D	10,340	67.8	**F**	8,080	37.2	**E**	10,270	67.4	**F**
F-8	SR-60	Vineyard Ave to Archibald Ave	7,780	34.1	D	10,340	67.8	**F**	7,990	36.1	**E**	10,260	67.1	**F**
F-9	SR-60	Archibald Ave to Haven Ave	7,210	30.0	D	7,120	29.9	D	7,410	31.8	D	7,020	29.5	D
F-10	SR-60	Haven Ave to Miliken Ave	7,030	21.8	C	7,550	23.9	C	7,240	22.7	C	7,450	23.7	C
F-11	SR-60	Miliken Ave to I-15	4,970	19.1	C	4,980	19.2	C	5,160	19.9	C	4,900	19.1	C
F-12	SR-60	I-15 to Etiwanda Ave	3,370	12.9	B	3,200	12.3	B	3,610	14.1	B	3,100	12.1	B
F-13	SR-60	Etiwanda Ave to Mission Blvd/Country Village Rd	3,870	14.9	B	4,360	16.8	B	4,090	15.9	B	4,300	16.7	B
F-14	SR-60	Mission Blvd/Country Village Rd to Pedley Rd	3,350	12.9	B	3,370	12.9	B	3,630	14.2	B	3,210	12.5	B
F-15	SR-60	Pedley Rd to Pyrite St	3,580	13.8	B	3,670	14.1	B	3,850	15.0	B	3,480	13.6	B
F-16	SR-60	Pyrite St to Valley Way	4,170	16.0	B	4,010	15.4	B	4,460	17.4	B	3,840	15.0	B
F-17	SR-60	Valley Way to Rubidoux Blvd	5,400	30.2	D	4,680	24.9	C	5,680	33.2	D	4,570	24.5	C

Table 4.15.AK-1: Year 2017 plus Project Freeway Mainline Levels of Service (Northbound/Eastbound)

			2017 No Project						2017 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-18	SR-60	Rubidoux Blvd to Market St	6,070	36.6	**E**	5,180	28.8	D	6,340	40.6	**E**	5,070	28.3	D
F-19	SR-60	Market St to Main St	5,590	31.8	D	7,760	69.1	**F**	5,890	35.3	**E**	7,620	67.1	**F**
F-20	SR-60	Main to SR-91	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-24	SR-60	Martin Luther King Blvd to Central Ave	7,960	37.0	**E**	9,880	64.7	**F**	8,160	42.2	**E**	9,680	66.4	**F**
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	5,670	21.9	C	7,480	32.0	D	6,020	24.1	C	7,300	31.5	D
F-27	SR-60	I-215 to Day St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	3,240	26.2	D	4,350	42.1	**E**	3,430	30.1	D	4,290	43.1	**E**
F-30	SR-60	Heacock St to Perris Blvd	2,840	22.2	C	4,150	38.4	**E**	3,180	27.2	D	4,240	42.0	**E**
F-31	SR-60	Perris Blvd to Nason St	2,220	17.1	B	3,090	24.5	C	2,600	21.4	C	3,200	26.9	D
F-32	SR-60	Moreno Beach Dr to Nason St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-33	SR-60	Moreno Beach Dr to Redlands Blvd	1,620	12.4	B	2,200	16.7	B	1,980	16.4	B	2,320	18.6	C
F-34	SR-60	Redlands Blvd to Theodore St	2,030	15.5	B	2,890	22.4	C	2,450	20.2	C	3,110	25.9	C
F-35	SR-60	Theodore St to Gilman Springs Rd	1,830	14.0	B	2,620	20.1	C	1,900	14.8	B	2,760	21.5	C
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	1,550	12.4	B	2,170	17.4	B	1,540	12.7	B	2,250	18.0	C
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	1,580	12.1	B	2,200	16.7	B	1,600	12.4	B	2,310	17.8	B
F-38	SR-60	Potrero Blvd to I-10	1,580	12.1	B	2,200	16.7	B	1,600	12.4	B	2,310	17.8	B
F-39	SR-91	I-15 to McKinley St	6,800	27.8	D	10,920	82.2	**F**	6,960	28.9	D	10,800	78.4	**F**
F-40	SR-91	McKinley St to Pierce St	6,090	36.8	**E**	6,060	36.5	**E**	6,230	38.8	**E**	5,940	35.5	**E**

Table 4.15.AK-1: Year 2017 plus Project Freeway Mainline Levels of Service (Northbound/Eastbound)

			2017 No Project						2017 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-41	SR-91	Pierce St to Magnolia Ave	5,530	31.3	D	5,510	31.1	D	5,670	32.8	D	5,400	30.4	D
F-42	SR-91	Magnolia Ave to La Sierra Ave	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-43	SR-91	La Sierra Ave to Tyler St	5,180	28.4	D	5,430	30.4	D	5,300	29.6	D	5,290	29.5	D
F-44	SR-91	Tyler St to Van Buren Blvd	6,420	25.7	C	6,250	24.8	C	6,520	26.4	D	6,120	24.3	C
F-45	SR-91	Van Buren Blvd to Adam St	6,560	26.4	D	5,410	20.9	C	6,650	27.1	D	5,280	20.4	C
F-46	SR-91	Adam St to Madison St	7,300	31.5	D	5,070	19.8	C	7,380	32.3	D	4,960	19.4	C
F-47	SR-91	Madison St to Indiana Ave/Arlington Ave	6,620	27.3	D	4,980	19.3	C	6,690	27.9	D	4,870	18.9	C
F-49	SR-91	Central Ave to 14th St	5,880	34.6	D	5,120	27.9	D	5,900	35.1	**E**	5,030	27.4	D
F-51	SR-91	University Ave to Spruce St (off-ramp)	8,320	27.0	D	7,530	23.6	C	8,270	26.7	D	7,490	23.4	C
F-52	I-10	SR-60 to Beaumont Ave	3,340	12.8	B	5,050	19.3	C	3,350	12.8	B	5,080	19.5	C
F-53	I-10	Beaumont Ave to Pennsylvania Ave	3,400	13.0	B	4,990	19.0	C	3,400	13.0	B	5,030	19.3	C
F-54	I-10	Pennsylvania Ave to Highland Springs Ave	3,560	13.6	B	5,210	19.9	C	3,540	13.5	B	5,250	20.2	C
F-55	I-10	Highland Springs Ave to Sunset Ave	3,420	13.1	B	4,960	18.9	C	3,400	13.0	B	5,000	19.2	C
F-56	I-10	Sunset Ave to 22nd St	3,340	12.8	B	4,830	18.4	C	3,310	12.7	B	4,870	18.6	C
F-57	I-10	22nd St to S 8th St	3,290	12.6	B	4,740	18.0	C	3,250	12.4	B	4,780	18.3	C
F-58	I-10	S 8th St to S Hargrave St	3,290	12.6	B	4,720	18.0	B	3,240	12.4	B	4,760	18.2	C

Table 4.15.AK-1: Year 2017 plus Project Freeway Mainline Levels of Service (Northbound/Eastbound)

			2017 No Project						2017 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-59	I-10	S Hargrave St to Field Rd	2,960	11.3	B	4,240	16.1	B	2,910	11.1	B	4,280	16.4	B
F-60	I-10	Field Rd to Main St (Cabazon)	2,820	10.8	A	4,050	15.4	B	2,770	10.6	A	4,090	15.6	B
F-61	I-10	Main St (Cabazon) to Main St	2,490	9.5	A	3,580	13.6	B	2,440	9.4	A	3,620	13.8	B
F-62	I-10	Main St to Haugen-Lehmann Way	2,490	9.5	A	3,580	13.6	B	2,450	9.4	A	3,630	13.9	B
F-64	I-10	SR-111 to Tipton Rd	2,160	8.3	A	3,110	11.8	B	2,130	8.2	A	3,150	12.0	B
F-65	I-10	Tipton Rd to SR-62	2,160	8.3	A	3,110	11.8	B	2,130	8.2	A	3,150	12.0	B
F-66	I-215	Scott Rd to Newport Rd	3,110	24.5	C	3,610	30.3	D	3,130	24.9	C	3,590	30.1	D
F-68	I-215	Newport Rd to MacCall Blvd	2,300	17.5	B	2,250	17.2	B	2,300	17.6	B	2,230	17.1	B
F-69	I-215	MacCall Blvd to Ethanac Rd	2,850	22.1	C	3,620	30.4	D	2,810	21.8	C	3,600	30.2	D
F-70	I-215	Ethanac Rd to SR-74	4,430	43.4	**E**	3,470	28.6	D	4,370	42.6	**E**	3,450	28.4	D
F-71	I-215	SR-74/Case Rd to Redlands Blvd	3,960	34.9	D	4,600	47.8	**F**	3,900	34.3	D	4,590	47.6	**F**
F-74	I-215	Columbia Ave to Center St	6,150	37.5	**E**	5,990	35.7	**E**	6,140	37.4	**E**	6,040	36.3	**E**
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	6,020	36.1	**E**	5,830	34.1	D	6,010	36.0	**E**	5,880	34.6	D
F-76	I-215	Iowa Ave/La Cadena Dr to Barton Rd	5,880	34.6	D	6,000	35.8	**E**	5,860	34.4	D	6,050	36.4	**E**
F-77	I-215	Barton Rd to Mt Vernon Ave	6,310	39.4	**E**	6,410	40.6	**E**	6,300	39.3	**E**	6,480	41.5	**E**
F-78	I-215	Mt Vernon Ave/Washington St to I-10	6,140	24.3	C	6,330	25.2	C	6,130	24.2	C	6,390	25.5	C

Table 4.15.AK-1: Year 2017 plus Project Freeway Mainline Levels of Service (Northbound/Eastbound)

ID	Freeway	Segment	2017 No Project						2017 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-80	I-215	Auto Plaza Dr/Orange Show Rd to Mill St	4,750	18.2	C	5,160	19.8	C	4,740	18.1	C	5,230	20.1	C
F-83	I-215	Baseline Rd to Highland Ave/SR-210	3,330	17.0	B	3,820	19.6	C	3,310	16.9	B	3,870	19.8	C

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.AK-2: Year 2017 plus Project Freeway Mainline Levels of Service (Southbound/Westbound)

ID	Freeway	Segment	2017 No Project						2017 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-2	SR-60	S Reservoir Rd to Ramona Ave	9,640	54.6	**F**	7,200	30.4	D	9,520	53.5	**F**	7,280	31.2	D
F-3	SR-60	Ramona Ave to Central Ave	9,110	47.2	**F**	6,720	27.3	D	9,000	46.4	**F**	6,800	28.2	D
F-4	SR-60	Central Ave to Mountain Ave	6,970	29.0	D	6,900	28.6	D	6,850	28.4	D	7,000	29.4	D
F-5	SR-60	Mountain Ave to Euclid Ave	6,890	28.5	D	7,350	31.1	D	6,760	27.9	D	7,450	32.3	D
F-6	SR-60	Euclid Ave to Grove Ave	7,110	29.8	D	7,160	29.9	D	6,980	29.2	D	7,270	31.1	D
F-7	SR-60	Grove Ave to Vineyard Ave	6,900	28.4	D	7,620	33.0	D	6,770	27.8	D	7,730	34.3	D
F-8	SR-60	Vineyard Ave to Archibald Ave	8,420	39.4	**E**	7,130	29.7	D	8,280	38.6	**E**	7,240	30.9	D
F-9	SR-60	Archibald Ave to Haven Ave	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-10	SR-60	Haven Ave to Miliken Ave	6,390	19.6	C	6,550	20.2	C	6,190	19.1	C	6,690	20.9	C
F-11	SR-60	Miliken Ave to I-15	6,000	23.4	C	6,010	23.4	C	5,780	22.5	C	6,200	24.6	C

Table 4.15.AK-2: Year 2017 plus Project Freeway Mainline Levels of Service (Southbound/Westbound)

			2017 No Project						2017 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-12	SR-60	I-15 to Etiwanda Ave	4,940	15.0	B	5,230	15.8	B	4,770	14.6	B	5,330	16.4	B
F-13	SR-60	Etiwanda Ave to Mission Blvd/Country Village Rd	4,640	17.7	B	4,840	18.4	C	4,390	16.9	B	5,070	19.6	C
F-14	SR-60	Mission Blvd/Country Village Rd to Pedley Rd	4,590	17.5	B	5,000	19.1	C	4,320	16.6	B	5,100	19.7	C
F-15	SR-60	Pedley Rd to Pyrite St	3,540	13.5	B	4,010	15.2	B	3,310	12.7	B	4,000	15.4	B
F-16	SR-60	Pyrite St to Valley Way	2,920	11.1	B	3,480	13.2	B	2,690	10.4	A	3,630	14.0	B
F-17	SR-60	Valley Way to Rubidoux Blvd	4,990	26.8	D	5,860	34.1	D	4,730	25.3	C	6,030	36.5	**E**
F-18	SR-60	Rubidoux Blvd to Market St	3,930	20.1	C	4,980	26.7	D	3,660	18.8	C	5,120	28.1	D
F-19	SR-60	Market St to Main St	6,200	37.7	**E**	6,410	40.2	**E**	6,080	36.7	**E**	6,460	41.7	**E**
F-20	SR-60	Main to SR-91	5,770	33.2	D	6,140	37.0	**E**	5,830	34.1	D	6,320	39.9	**E**
F-24	SR-60	Martin Luther King Blvd to Central Ave	7,760	37.2	**E**	7,470	33.9	D	7,680	38.4	**E**	7,870	40.3	**E**
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	8,210	37.9	**E**	7,990	35.8	**E**	8,080	37.5	**E**	8,390	40.3	**E**
F-27	SR-60	I-215 to Day St.	7,760	66.8	**F**	3,700	19.0	C	7,750	68.9	**F**	4,040	21.6	C
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	3,500	28.9	D	3,770	32.7	D	3,450	29.4	D	4,040	39.3	**E**
F-30	SR-60	Heacock St to Perris Blvd	3,310	26.8	D	3,250	26.3	D	3,340	28.0	D	3,560	31.5	D
F-31	SR-60	Perris Blvd to Nason St	2,700	20.9	C	2,480	19.1	C	2,790	22.4	C	2,850	23.6	C
F-32	SR-60	Moreno Beach Dr to Nason St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		

Table 4.15.AK-2: Year 2017 plus Project Freeway Mainline Levels of Service (Southbound/Westbound)

			2017 No Project						2017 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-33	SR-60	Moreno Beach Dr to Redlands Blvd	1,610	12.3	B	1,650	12.6	B	1,740	14.0	B	2,080	17.0	B
F-34	SR-60	Redlands Blvd to Theodore St	2,000	15.2	B	2,000	15.3	B	2,290	18.2	C	2,510	20.5	C
F-35	SR-60	Theodore St to Gilman Springs Rd	1,960	14.9	B	1,730	13.2	B	2,050	15.9	B	1,760	13.7	B
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	1,550	12.4	B	1,300	10.4	A	1,630	13.5	B	1,280	10.6	A
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	1,570	11.9	B	1,310	10.0	A	1,680	13.0	B	1,340	10.4	A
F-38	SR-60	Potrero Blvd to I-10	1,570	11.9	B	1,310	10.0	A	1,680	13.0	B	1,340	10.4	A
F-39	SR-91	I-15 to McKinley St	7,040	29.4	D	7,200	29.9	D	6,890	28.7	D	7,330	31.0	D
F-40	SR-91	McKinley St to Pierce St	5,270	29.3	D	6,230	38.1	**E**	5,130	28.4	D	6,330	39.6	**E**
F-41	SR-91	Pierce St to Magnolia Ave	5,090	27.9	D	8,270	83.9	**F**	4,960	27.1	D	8,360	90.1	**F**
F-42	SR-91	Magnolia Ave to La Sierra Ave	5,380	30.2	D	8,260	83.4	**F**	5,250	29.4	D	8,350	89.6	**F**
F-43	SR-91	La Sierra Ave to Tyler St	4,910	26.5	D	6,050	36.1	**E**	4,790	25.8	C	6,140	37.7	**E**
F-44	SR-91	Tyler St to Van Buren Blvd	6,350	25.5	C	7,740	33.8	D	6,210	24.9	C	7,810	34.4	D
F-45	SR-91	Van Buren Blvd to Adam St	5,880	23.1	C	7,400	31.5	D	5,760	22.7	C	7,470	31.9	D
F-46	SR-91	Adam St to Madison St	5,430	21.1	C	6,400	25.4	C	5,330	20.8	C	6,470	26.0	C
F-47	SR-91	Madison St to Indiana Ave/Arlington Ave	4,640	24.7	C	5,670	32.3	D	4,540	24.1	C	5,740	33.2	D
F-49	SR-91	Central Ave to 14th St	4,440	23.5	C	4,520	23.6	C	4,390	23.3	C	4,590	24.3	C
F-51	SR-91	University Ave to Spruce St (off-ramp)	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		

Table 4.15.AK-2: Year 2017 plus Project Freeway Mainline Levels of Service (Southbound/Westbound)

			2017 No Project						2017 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-52	I-10	SR-60 to Beaumont Ave	4,880	18.6	C	4,090	15.6	B	4,930	18.9	C	4,130	15.8	B
F-53	I-10	Beaumont Ave to Pennsylvania Ave	4,920	18.8	C	4,110	15.7	B	4,970	19.1	C	4,130	15.9	B
F-54	I-10	Pennsylvania Ave to Highland Springs Ave	5,150	19.7	C	4,310	16.5	B	5,190	20.0	C	4,310	16.5	B
F-55	I-10	Highland Springs Ave to Sunset Ave	4,930	18.8	C	4,140	15.8	B	4,970	19.1	C	4,130	15.9	B
F-56	I-10	Sunset Ave to 22nd St	4,800	18.3	C	4,040	15.4	B	4,850	18.6	C	4,030	15.4	B
F-57	I-10	22nd St to S 8th St	4,720	18.0	B	3,980	15.2	B	4,770	18.3	C	3,950	15.2	B
F-58	I-10	S 8th St to S Hargrave St	4,710	17.9	B	3,980	15.2	B	4,760	18.2	C	3,950	15.1	B
F-59	I-10	S Hargrave St to Field Rd	4,240	16.1	B	3,580	13.7	B	4,280	16.4	B	3,540	13.6	B
F-60	I-10	Field Rd to Main St (Cabazon)	4,040	15.4	B	3,410	13.0	B	4,090	15.6	B	3,380	13.0	B
F-61	I-10	Main St (Cabazon) to Main St	3,570	13.6	B	3,020	11.5	B	3,610	13.8	B	2,980	11.4	B
F-62	I-10	Main St to Haugen-Lehmann Way	3,570	13.6	B	3,020	11.5	B	3,620	13.8	B	2,980	11.4	B
F-64	I-10	SR-111 to Tipton Rd	3,100	11.8	B	2,620	10.0	A	3,150	12.0	B	2,600	10.0	A
F-65	I-10	Tipton Rd to SR-62	3,100	11.8	B	2,620	10.0	A	3,150	12.0	B	2,600	10.0	A
F-66	I-215	Scott Rd to Newport Rd	2,520	19.3	C	2,670	20.5	C	2,500	19.2	C	2,670	20.6	C
F-68	I-215	Newport Rd to MacCall Blvd	2,780	21.6	C	3,640	30.5	D	2,770	21.5	C	3,630	30.6	D
F-69	I-215	MacCall Blvd to Ethanac Rd	3,380	27.5	D	3,020	23.6	C	3,360	27.3	D	3,020	23.8	C
F-70	I-215	Ethanac Rd to SR-74	3,170	25.3	C	4,480	44.4	**E**	3,160	25.2	C	4,490	45.2	**F**

Table 4.15.AK-2: Year 2017 plus Project Freeway Mainline Levels of Service (Southbound/Westbound)

			2017 No Project						2017 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-71	I-215	SR-74/Case Rd to Redlands Blvd	4,990	59.5	**F**	4,310	41.0	**E**	4,990	59.5	**F**	4,300	41.2	**E**
F-74	I-215	Columbia Ave to Center St	6,110	37.0	**E**	5,410	30.3	D	6,140	37.4	**E**	5,380	30.0	D
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	6,520	42.1	**E**	5,760	33.4	D	6,580	42.9	**E**	5,740	33.2	D
F-76	I-215	Iowa Ave/La Cadena Dr to Barton Rd	6,340	39.7	**E**	5,720	33.0	D	6,380	40.3	**E**	5,700	32.8	D
F-77	I-215	Barton Rd to Mt Vernon Ave	6,340	39.7	**E**	5,780	33.6	D	6,370	40.1	**E**	5,770	33.5	D
F-78	I-215	Mt Vernon Ave/Washington St to I-10	6,690	27.1	D	6,170	24.4	C	6,740	27.4	D	6,150	24.3	C
F-80	I-215	Auto Plaza Dr/Orange Show Rd to Mill St	4,570	17.5	B	4,500	17.2	B	4,620	17.7	B	4,470	17.1	B
F-83	I-215	Baseline Rd to Highland Ave/SR-210	5,080	27.6	D	5,540	31.4	D	5,120	27.9	D	5,500	31.0	D

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

The project would have a significant project impact at the following three freeway segments under year 2017 with project conditions:

- Northbound or Eastbound Section:
  - SR-91 Central Avenue to 14th Street.
- Southbound or Westbound Sections:
  - SR-60 Valley Way to Rubidoux Boulevard; and
  - SR-60 Pigeon Pass Road/Frederick Street to Heacock Street.

Freeway Weaving Analysis. Year 2017 with project freeway weaving segment levels of service for the study area intersections are summarized in Table 4.15.AL, which shows nine freeway weaving segments would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at all nine freeway weaving segments and, therefore, would have a cumulative impact at these locations. The project would not have a significant project impact at a freeway weaving segment under year 2017 with project conditions.

The project would have a cumulative impact at the following nine freeway weaving segments under year 2017 with project conditions:

- Northbound or Eastbound:
  - SR-60 SR-71/S. Garey Avenue to S. Reservoir Road;
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road;
  - SR-91 Arlington Avenue to Central Avenue; and
  - I-215 SR-60 to Columbia Avenue.
- Southbound or Westbound:
  - SR-60 SR-91 to W. Blaine Street/3rd Street;
  - SR-60 University Avenue to Martin Luther King Boulevard;
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road;
  - SR-60 Day Street to Pigeon Pass Road/Frederick Street; and
  - SR-91 14th Street to University Avenue.

Freeway Ramp Analysis: Year 2017 with project freeway ramp merge/diverge levels of service are summarized in Table 4.15.AM, which shows three freeway ramps would operate at unsatisfactory levels of service. The project would have a significant cumulative impact on two of those ramps:

- SR-60 Westbound Off-Ramp to Central Avenue; and
- SR-60 Westbound Off-Ramp to Martin Luther King Boulevard.

The project would not cause a direct project impact to any freeway ramps in the year 2017 plus project condition.

Table 4.15.AL-1: Year 2017 plus Project Weaving Segment Levels of Service (Northbound/Eastbound)

ID	Freeway	Weaving Segment	2017 No Project												2017 Plus Project											
			Northbound / Eastbound												Northbound / Eastbound											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density	LOS	Weaving Movement Volume				Density	LOS	Weaving Movement Volume				Density	LOS	Weaving Movement Volume				Density	LOS
			F-F	R-R	F-R	R-F	(pc/mi/ln)		F-F	R-R	F-R	R-F	(pc/mi/ln)		F-F	R-R	F-R	R-F	(pc/mi/ln)		F-F	R-R	F-R	R-F	(pc/mi/ln)	
W-1	SR-60	SR-71/S Garey Ave to S Reservoir Rd	5,226	186	344	1,054	27.7	C	7,665	215	386	1,216	42.0	**E**	5,411	191	340	1,080	29.0	D	7,559	219	401	1,241	42.2	**E**
W-9	SR-60	Haven Ave to Archibald Ave	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-20	SR-60	Main St to SR-91	5,587	87	683	493	33.2	D	6,463	53	938	298	39.9	**E**	5,677	87	683	493	34.0	D	6,403	53	928	298	39.8	**E**
W-21	SR-60	SR-91 to W Blaine St/3rd St	3,541	261	199	1,479	22.0	C	8,388	258	232	1,462	45.9	**E**	3,654	264	206	1,496	23.0	C	8,148	258	232	1,462	45.1	**E**
W-22	SR-60	W Blaine St/3rd St to University Ave	4,668	18	322	342	25.7	C	6,325	55	335	1,045	43.9	**E**	4,719	19	311	361	27.6	C	6,085	55	325	1,045	43.3	**E**
W-23	SR-60	University Ave to Martin Luther King Blvd	5,391	21	449	399	28.8	D	5,281	51	240	960	29.6	D	5,394	24	456	456	29.8	D	5,081	51	250	960	29.0	D
W-25	SR-60	Central Ave to Fair Isle Dr/Box Springs Rd	4,363	23	827	437	22.6	C	6,983	53	598	998	39.2	**E**	4,556	26	804	494	25.2	C	6,903	53	598	998	39.8	**E**
W-27	SR-60	I-215 to Day St	2,817	27	633	153	13.2	B	4,637	27	703	153	20.5	C	3,070	50	611	281	16.3	B	4,462	72	678	408	22.8	C
W-28	SR-60	Day St to Pigeon Pass Rd/Frederick St	2,182	12	1,219	219	15.5	B	3,498	28	1,362	532	24.7	C	2,412	12	1,219	219	17.0	B	3,557	27	1,353	513	25.1	C
W-32	SR-60	Moreno Beach Dr to Nason St.	1,000	10	801	181	12.0	B	1,549	9	1,061	171	17.5	B	1,309	9	832	162	14.7	B	1,650	10	1,051	181	18.7	B
W-42	SR-91	Magnolia Ave to La Sierra Ave	4,519	39	832	732	28.8	D	4,212	52	948	988	30.0	D	4,629	39	832	732	29.5	D	4,072	52	958	988	29.4	D
W-48	SR-91	Arlington Ave to Central Ave	5,876	26	885	485	39.3	**E**	2,548	18	753	333	17.6	B	5,925	25	886	466	39.6	**E**	2,448	18	773	333	17.3	B
W-50	SR-91	14th St to University Ave	3,907	17	784	314	24.8	C	3,390	20	931	371	23.7	C	3,777	17	804	314	24.4	C	3,290	20	931	371	23.3	C
W-51	SR-91	SR-60 to Mission Inn Ave/University Ave (off-ramp)	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-63	I-10	Haugen-Lehmann Way to SR-111	1,434	14	967	77	8.2	A	2,751	11	760	60	11.8	B	1,395	15	955	85	8.1	A	2,801	11	760	60	12.0	B
W-73	I-215	SR-60 to Columbia Ave	4,540	330	150	1,870	38.5	**E**	4,215	305	226	1,726	35.6	**E**	4,522	332	139	1,879	38.5	**E**	4,219	309	221	1,751	36.0	**E**
W-79	I-215	I-10 to Auto Plaza Dr/Orange Show Rd	3,539	69	841	391	17.8	B	3,315	95	816	536	17.5	B	3,491	71	850	400	17.7	B	3,385	95	816	536	17.8	B
W-81	I-215	Mill St to 2nd St	4,370	20	791	371	19.6	B	4,485	25	785	475	20.7	C	4,330	20	790	380	19.5	B	4,545	25	785	475	21.0	C
W-82	I-215	5th St to Baseline Rd	3,246	16	575	295	14.1	B	3,236	16	575	295	14.0	B	3,226	16	575	295	14.0	B	3,296	16	564	304	14.3	B

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.AL-2: Year 2017 plus Project Weaving Segment Levels of Service (Southbound/Westbound)

ID	Freeway	Weaving Segment	2017 No Project												2017 Plus Project											
			Southbound / Westbound												Southbound / Westbound											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS
			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F		
W-1	SR-60	SR-71/S Garey Ave to S Reservoir Rd	5,104	74	1,147	417	24.3	C	5,239	69	971	391	23.9	C	4,965	75	1,155	425	24.0	C	5,272	72	988	408	24.4	C
W-9	SR-60	Haven Ave to Archibald Ave	5,800	30	531	561	27.0	C	5,633	43	437	817	27.6	C	5,590	30	530	570	26.3	C	5,753	43	438	808	28.3	D
W-20	SR-60	Main St to SR-91	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-21	SR-60	SR-91 to W Blaine St/3rd St	6,756	116	975	655	32.8	D	7,211	141	939	799	35.8	**E**	6,644	114	976	646	32.6	D	7,531	141	979	799	37.9	**E**
W-22	SR-60	W Blaine St/3rd St to University Ave	5,626	6	544	114	22.8	C	7,089	19	541	361	30.5	D	5,526	6	554	114	23.1	C	7,489	19	542	352	33.6	D
W-23	SR-60	University Ave to Martin Luther King Blvd	4,653	43	647	817	32.2	D	6,372	22	658	418	38.2	**E**	4,544	44	647	827	31.9	D	6,723	23	678	428	41.3	**E**
W-25	SR-60	Central Ave to Fair Isle Dr/Box Springs Rd	5,999	69	392	1,302	43.2	**E**	6,244	54	456	1,026	41.2	**E**	5,838	68	402	1,292	43.2	**E**	6,506	56	455	1,055	45.1	**E**
W-27	SR-60	I-215 to Day St	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-28	SR-60	Day St to Pigeon Pass Rd/Frederick St	3,534	44	787	827	36.2	**E**	3,555	35	595	665	32.5	D	3,552	42	788	798	36.5	**E**	3,807	37	593	703	35.6	**E**
W-32	SR-60	Moreno Beach Dr to Nason St.	1,401	41	50	770	13.5	B	1,247	37	154	694	12.7	B	1,578	38	62	722	14.7	B	1,587	37	144	694	15.4	B
W-42	SR-91	Magnolia Ave to La Sierra Ave	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-48	SR-91	Arlington Ave to Central Ave	3,717	17	554	314	21.6	C	4,260	20	480	380	24.2	C	3,605	15	555	285	21.0	C	4,273	23	488	428	24.9	C
W-50	SR-91	14th St to University Ave	4,169	9	681	171	24.2	C	6,062	22	578	418	35.8	**E**	4,219	9	692	162	24.6	C	6,103	23	587	437	36.5	**E**
W-51	SR-91	SR-60 to Mission Inn Ave/University Ave (off-ramp)	2,609	164	377	927	14.3	B	6,120	162	308	918	27.1	C	2,649	164	387	927	14.6	B	6,145	168	302	952	27.6	C
W-63	I-10	Haugen-Lehmann Way to SR-111	3,102	22	28	418	12.2	B	1,514	74	37	1,397	11.6	B	3,152	22	28	418	12.5	B	1,483	73	37	1,387	11.5	B
W-73	I-215	SR-60 to Columbia Ave	4,603	83	1,658	468	32.0	D	3,786	96	1,624	544	28.2	D	4,583	83	1,678	468	32.1	D	3,756	96	1,624	544	28.8	D
W-79	I-215	I-10 to Auto Plaza Dr/Orange Show Rd	4,148	38	1,153	213	19.7	B	3,717	77	824	434	18.8	B	4,188	38	1,163	213	19.9	B	3,705	75	815	425	18.6	B
W-81	I-215	Mill St to 2nd St	4,061	31	369	589	18.2	B	3,676	36	424	684	17.5	B	4,092	32	369	599	18.3	B	3,636	36	434	684	17.4	B
W-82	I-215	5th St to Baseline Rd	3,094	34	346	646	14.6	B	2,639	39	411	741	13.7	B	3,134	34	346	646	14.7	B	2,610	40	411	751	13.6	B

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.AM: Year 2017 plus Project Freeway Ramp Levels of Service

ID	Freeway / Direction	Ramp Segment		Ramp No. of Lanes	2017 No Project								2017 Plus Project							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS
R-1	SR-60 EB	On-Ramp from Martin Luther King Blvd	EB SR-60 On-Ramp from Martin Luther King Blvd	1	5,790	460	24.0	C	6,240	1,410	33.0	D	5,850	570	25.6	C	6,040	1,430	32.8	D
R-2	SR-60 EB	On-Ramp from Central Ave	EB SR-60 On-Ramp from Central Ave	1	7,680	460	25.2	C	9,750	1,050	36.8	**F**	7,840	520	26.6	C	9,550	1,050	36.5	**F**
R-3	SR-60 EB	Off-Ramp to Redlands Blvd	EB SR-60 Off-Ramp to Redlands Blvd	1	1,620	240	5.7	A	2,200	520	10.9	B	1,980	310	10.5	B	2,320	520	13.2	B
R-4	SR-60 EB	Loop On-Ramp from Redlands Blvd	EB SR-60 Loop On-Ramp from Redlands Blvd	1	1,380	80	16.1	B	1,680	110	18.7	B	1,670	100	19.9	B	1,800	130	20.8	C
R-5	SR-60 EB	Direct On-Ramp from Redlands Blvd	EB SR-60 Direct On-Ramp from Redlands Blvd	0	Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario			
R-6	SR-60 EB	Off-Ramp to Theodore St	EB SR-60 Off-Ramp to Theodore St	1	2,030	260	20.7	C	2,890	340	28.5	D	2,450	820	26.1	C	3,110	620	31.8	D
R-7	SR-60 EB	Loop On-Ramp from Theodore St	EB SR-60 Loop On-Ramp from Theodore St	1	1,770	60	19.2	B	2,550	80	25.7	C	1,630	110	19.4	B	2,490	260	27.7	C
R-8	SR-60 EB	Direct On-Ramp from Theodore St	EB SR-60 Direct On-Ramp from Theodore St	1	Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario			
R-9	SR-60 EB	Off-Ramp to Gilman Spring Rd	EB SR-60 Off-Ramp to Gilman Spring Rd	1	1,830	400	19.3	B	2,620	440	26.5	C	1,900	450	20.3	C	2,760	460	28.0	C
R-10	SR-60 EB	On-Ramp from Gilman Spring Rd	EB SR-60 On-Ramp from Gilman Spring Rd	1	1,430	140	17.3	B	2,180	80	23.0	C	1,450	140	17.7	B	2,300	80	24.1	C
R-11	SR-60 WB	Off-Ramp to Gilman Spring Rd	WB SR-60 Off-Ramp to Gilman Spring Rd	1	1,560	120	16.7	B	1,410	80	15.4	B	1,680	120	18.1	B	1,440	80	16.0	B
R-12	SR-60 WB	On-Ramp from Gilman Spring Rd	WB SR-60 On-Ramp from Gilman Spring Rd	1	1,440	520	20.2	C	1,330	400	18.4	B	1,560	490	21.4	C	1,360	400	19.0	B
R-13	SR-60 WB	Off-Ramp to Theodore St	WB SR-60 Off-Ramp to Theodore St	1	1,960	70	20.0	B	1,730	40	17.9	B	2,050	280	21.2	C	1,760	80	18.5	B
R-14	SR-60 WB	On-Ramp from Theodore St	WB SR-60 On-Ramp from Theodore St	1	1,890	100	18.6	B	1,690	300	18.5	B	1,770	500	21.8	C	1,680	980	25.4	C
R-15	SR-60 WB	Off-Ramp to Redlands Blvd	WB SR-60 Off-Ramp to Redlands Blvd	1	2,000	120	20.3	C	2,000	60	20.4	C	2,290	170	23.9	C	2,510	100	26.5	C
R-16	SR-60 WB	Loop On-Ramp from Redlands Blvd	WB SR-60 Loop On-Ramp from Redlands Blvd	1	1,880	420	22.8	C	1,940	410	23.3	C	2,120	420	25.6	C	2,410	450	28.8	D
R-17	SR-60 WB	Direct On-Ramp from Redlands Blvd	WB SR-60 Direct On-Ramp from Redlands Blvd	0	Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario			
R-18	SR-60 WB	Off-Ramp to Central Ave	WB SR-60 Off-Ramp to Central Ave	2	7,760	460	36.7	**E**	7,780	510	36.6	**E**	7,600	470	36.3	**E**	8,070	510	38.5	**E**
R-19	SR-60 WB	Off-Ramp to Martin Luther King Blvd	WB SR-60 Off-Ramp to Martin Luther King Blvd	1	7,760	540	35.6	**E**	7,470	440	23.0	C	7,680	550	35.5	**E**	7,870	450	36.0	**E**

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

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4.15.6.3 Year 2022 Cumulative With Project Conditions Traffic and Level of Service Impacts

Threshold:	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit. Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? A significant project-specific traffic impact would occur if the project would cause a decrease from satisfactory LOS (based on local agency adopted standards) to an unsatisfactory LOS on a study area intersection, roadway segment, freeway mainline lane, freeway weaving segment or freeway ramp. A significant cumulative traffic impact would occur if the project contributes traffic toward those facilities operating at unsatisfactory LOS in the pre-project condition. The adopted LOS standards are as follows: • Roadway segments and intersections: LOS C; and LOS D as outlined in previously referenced Table 4.15.E. • Freeway mainline: LOS D. • Freeway Ramp Merge/Diverge: LOS D.

Intersection Analysis. Year 2022 with project intersection levels of service for the study area intersections are summarized in Table 4.15.AN, which shows 41 intersections would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at 30 intersections and, therefore, have a cumulative impact. At 11 intersections, the project would create a significant impact since the project would decrease the LOS from satisfactory to unsatisfactory.

The project would have a cumulative impact at the following 30 intersections under year 2022 with project conditions:

- Redlands Boulevard/Locust Avenue;
- Redlands Boulevard/SR-60 Westbound Ramps;
- Oliver Street/Alessandro Boulevard;
- Moreno Beach Drive/Ironwood Avenue;
- Moreno Beach Drive/SR-60 Eastbound Ramps;
- Lasselle Street/Iris Avenue;
- Krameria Avenue/Perris Boulevard;
- Lasselle Street/Alessandro Boulevard;
- Lasselle Street/Cactus Avenue;
- Frederick Street/Alessandro Boulevard;
- Graham Street/Alessandro Boulevard;

Table 4.15.AN: Year 2022 plus Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	2022 No Project			2022 With Project		
			Traffic Control	AM Peak Hour		Traffic Control	AM Peak Hour	
				Delay	LOS		Delay	LOS
IN-1	Theodore St/Street F	D	N/A	Non-Existent		RABT	11	B
IN-2	Street D/Street E	D	N/A	Non-Existent		SIGNAL	12.1	B
IN-3	Theodore Ave/Alessandro (Str A/Str C/Str E)	D	CSS	10.0	A	RABT	10.1	B
IN-4	Street C/Street F	D	N/A	Non-Existent		RABT	8.9	A
IN-5	Street C/Street H	D	N/A	Non-Existent		SIGNAL	9.9	A
IN-6	Alessandro Blvd (Street C)/Gilman Springs Rd	D	CSS	5.8	A	SIGNAL	26.1	C
IN-7	Street F/Street G	D	N/A	Non-Existent		SIGNAL	10.1	B
IN-8	Alessandro Blvd (Street G)/Street H	D	N/A	Non-Existent		AWS	15.1	C
IN-9	Gilman Springs Rd/Eucalytpus Ave	D	N/A	Non-Existent		SIGNAL	6.6	A
IN-10	Redlands Blvd/Locust Ave	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-11	Redlands Blvd/Ironwood Ave	D	SIGNAL	34.9	C	SIGNAL	27.2	C
IN-12	Theodore Street/Ironwood Avenue	D	CSS	13.0	B	CSS	22.8	C
IN-13	Redlands Blvd/SR-60 WB ramps	D	CSS	> 50	**F**	CSS	> 50	**F**
IN-14	Redlands Blvd/SR-60 EB ramps	D	SIGNAL	8.9	A	SIGNAL	17.4	B
IN-15	Theodore Str/SR-60 WB ramps	D	CSS	12.2	B	SIGNAL	16.9	B
IN-16	Theodore Str/SR-60 EB ramps	D	CSS	12.2	B	SIGNAL	2.5	A
IN-17	Quincy Str/Fir Ave		N/A	Non-Existent		N/A	Non-Existent	
IN-18	Redlands Blvd/Eucalyptus Ave (Fir)	D	N/A	Non-Existent		SIGNAL	10.3	B
IN-19	Theodore Ave/Fir Ave (Eucalyptus)	D	CSS	9.8	A	SIGNAL	27.7	C
IN-20	Oliver Str/Alessandro Blvd	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-21	Moreno Beach Dr/Alessandro Blvd	D	SIGNAL	17.6	B	SIGNAL	18.8	B
IN-22	Quincy Str/Alessandro Blvd		N/A	Non-Existent		N/A	Non-Existent	
IN-23	Redlands Blvd/Alessandro Blvd	C	AWS	25.2	**D**	AWS	25.0	C
IN-24	Oliver Str/Cactus Ave	D	SIGNAL	32.5	C	SIGNAL	40.3	D
IN-25	Moreno Beach Dr/Cactus Ave	C	SIGNAL	18.5	B	SIGNAL	19.4	B
IN-26	Quincy Str/Cactus Ave		N/A	Non-Existent		N/A	Non-Existent	
IN-27	Redlands Blvd/Cactus Ave	C	AWS	13.4	B	AWS	> 50	**F**
IN-28	Moreno Beach Dr/John Kennedy Dr	D	SIGNAL	19.8	B	SIGNAL	33.8	C
IN-29	Heacock Str/Ironwood Ave	D	SIGNAL	30.9	C	SIGNAL	31.1	C
IN-30	Heacock Str/SR-60 WB Ramps	D	SIGNAL	33.7	C	SIGNAL	35.3	D
IN-31	Heacock St/SR-60 EB Ramps	D	SIGNAL	21.1	C	SIGNAL	22.1	C
IN-32	Sunnymead Blvd & Perris Blvd	D	SIGNAL	29.9	C	SIGNAL	29.9	C
IN-33	Perris Blvd/SR-60 WB Ramps	D	SIGNAL	31.8	C	SIGNAL	36.5	D
IN-34	Perris Blvd/Eucalyptus Ave	D	SIGNAL	27.7	C	SIGNAL	29.2	C
IN-35	Moreno Beach Dr/Locust Ave	C	CSS	9.2	A	CSS	9.6	A
IN-36	Moreno Beach Drive & Ironwood Avenue	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-37	Moreno Beach Dr/SR-60 EB Ramps	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-38	Perris Blvd/John F. Kennedy Dr	D	SIGNAL	50.8	D	SIGNAL	58.3	**E**
IN-39	Iris Ave/Perris Blvd	D	SIGNAL	54.0	D	SIGNAL	57.8	**E**
IN-40	Kitching St/Iris Ave	C	SIGNAL	28.9	C	SIGNAL	31.5	C
IN-41	Lasselle Str/Iris Ave	D	SIGNAL	32.8	C	SIGNAL	49.7	D
IN-42	Nason Str/Iris Ave	C	SIGNAL	9.3	A	SIGNAL	8.5	A
IN-43	Oliver Str/Iris Ave	D	SIGNAL	28.9	C	SIGNAL	28.3	C
IN-44	Via Dell Lago/Iris Ave	C	SIGNAL	8.8	A	SIGNAL	9.7	A
IN-45	Krameria Ave/Perris Blvd	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-46	Kitching Str/Krameria Ave	D	SIGNAL	29.2	C	SIGNAL	61.4	**E**

Table 4.15.AN: Year 2022 plus Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	2022 No Project			2022 With Project		
			Traffic Control	AM Peak Hour		Traffic Control	AM Peak Hour	
				Delay	LOS		Delay	LOS
IN-47	Lasselle Str/Krameria Ave	D	SIGNAL	32.9	C	SIGNAL	34.7	C
IN-48	Kitching Str/Alessandro Blvd	D	SIGNAL	28.5	C	SIGNAL	29.2	C
IN-49	Lasselle Str/Alessandro Blvd	D	SIGNAL	56.1	E	SIGNAL	58.5	**E**
IN-50	Morrison Str/Alessandro Blvd	D	SIGNAL	9.3	A	SIGNAL	9.4	A
IN-51	Nason Str/Alessandro Blvd	D	SIGNAL	31.5	C	SIGNAL	33.3	C
IN-52	Kitching Str/Cactus Ave	C	SIGNAL	32.2	C	SIGNAL	32.9	C
IN-53	Lasselle Str/Cactus Ave	C	SIGNAL	64.0	**E**	SIGNAL	77.1	**E**
IN-54	Morrison Str/Cactus Ave		N/A	Non-Existent		N/A	Non-Existent	
IN-55	Nason Str/Cactus Ave	D	SIGNAL	30.6	C	SIGNAL	31.6	C
IN-56	Frederick Str/Alessandro Blvd	D	SIGNAL	30.4	C	SIGNAL	30.8	C
IN-57	Graham Str/Alessandro Blvd	D	SIGNAL	32.4	C	SIGNAL	33.5	C
IN-58	Heacock Str/Alessandro Blvd	D	SIGNAL	41.8	D	SIGNAL	43.8	D
IN-59	Indian Str/Alessandro Blvd	D	SIGNAL	24.7	C	SIGNAL	25.8	C
IN-60	Perris Blvd/Alessandro Blvd	D	SIGNAL	50.5	D	SIGNAL	53.3	D
IN-61	Frederick Str/Cactus Ave	D	SIGNAL	19.1	B	SIGNAL	19.8	B
IN-62	Graham Str/Cactus Ave	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-63	Heacock Str/Cactus Ave	D	SIGNAL	42.5	D	SIGNAL	46.4	D
IN-64	Indian Str/Cactus Ave	C	SIGNAL	28.8	C	SIGNAL	30.9	C
IN-65	Perris Blvd/Cactus Ave	D	SIGNAL	35.7	D	SIGNAL	36.3	D
IN-66	Alessandro Blvd/Sycamore Canyon Blvd	D	SIGNAL	38.2	D	SIGNAL	37.5	D
IN-67	I-215 SB Ramps/Alessandro Blvd	D	SIGNAL	10.9	B	SIGNAL	10.9	B
IN-68	I-215 NB Ramps/Alessandro Blvd	D	SIGNAL	25.5	C	SIGNAL	25.7	C
IN-69	Old 215 Frontage Rd/Alessandro Blvd	D	SIGNAL	17.3	B	SIGNAL	17.7	B
IN-70	Day Str/Alessandro Blvd	D	SIGNAL	10.7	B	SIGNAL	10.7	B
IN-71	Elsworth Str/Alessandro Blvd	D	SIGNAL	20.7	C	SIGNAL	20.9	C
IN-72	I-215 SB Ramps/Cactus Ave	D	SIGNAL	30.5	C	SIGNAL	31.3	C
IN-73	I-215 NB Ramps/Cactus Ave	D	SIGNAL	10.8	B	SIGNAL	11.0	B
IN-74	Elsworth Str/Cactus Ave	D	SIGNAL	31.3	C	SIGNAL	32.4	C
IN-75	Central Ave/Lochmoor Dr.	D	SIGNAL	19.6	B	SIGNAL	21.8	C
IN-76	Sycamore Canyon Blvd/Central Ave	D	SIGNAL	29.7	C	SIGNAL	34.5	C
IN-77	SR-60 EB Ramps/Central Ave	D	SIGNAL	11.1	B	SIGNAL	12.0	B
IN-78	SR-60 WB Ramps/Central Ave	D	SIGNAL	6.6	A	SIGNAL	6.9	A
IN-79	Alessandro Blvd/Trautwein Rd.	D	SIGNAL	29.8	C	SIGNAL	30.8	C
IN-80	Alessandro Blvd/Mission Grove Pkwy	D	SIGNAL	33.2	C	SIGNAL	37.1	D
IN-81	Martin Luther King Blvd/Chicago Ave	D	SIGNAL	34.6	C	SIGNAL	36.9	D
IN-82	Martin Luther King Blvd/Iowa Ave	D	SIGNAL	9.2	A	SIGNAL	9.5	A
IN-83	Martin Luther King Blvd/Canyon Crest Dr	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-84	Martin Luther King Blvd/I-215 SB Ramps	D	SIGNAL	9.6	A	SIGNAL	9.6	A
IN-85	Martin Luther King Blvd/I-215 NB Ramps	D	AWS	27.4	D	AWS	29.9	D
IN-86	Central Ave/Chicago Ave	D	SIGNAL	34.5	C	SIGNAL	39.3	D
IN-87	Central Ave/El Cerrito Dr	D	SIGNAL	13.2	B	SIGNAL	13.3	B
IN-88	Central Ave/Canyon Crest Dr	D	SIGNAL	36.3	D	SIGNAL	38.0	D
IN-89	Chicago Ave/Country Club Dr	D	SIGNAL	9.4	A	SIGNAL	10.0	A
IN-90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	SIGNAL	36.9	D	SIGNAL	39.2	D
IN-91	Arlington Ave/Indiana Ave/SR-91 NB Ramps	D	SIGNAL	22.1	C	SIGNAL	22.1	C
IN-92	Arlington Ave/Maude St	D	SIGNAL	14.3	B	SIGNAL	14.3	B

Table 4.15.AN: Year 2022 plus Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	2022 No Project			2022 With Project		
			Traffic Control	AM Peak Hour		Traffic Control	AM Peak Hour	
				Delay	LOS		Delay	LOS
IN-93	Horace St/Arlington Ave	D	SIGNAL	19.7	B	SIGNAL	21.0	C
IN-94	Arlington Ave/Victoria Ave	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-95	Alessandro Blvd/Chicago Ave	D	SIGNAL	64.5	**E**	SIGNAL	73.4	**E**
IN-96	Alessandro Blvd/Century Ave	D	SIGNAL	32.5	C	SIGNAL	32.6	C
IN-97	Alessandro Blvd/Via Vista Dr	D	SIGNAL	29.5	C	SIGNAL	29.8	C
IN-98	Alessandro Blvd/Canyon Crest Dr	D	SIGNAL	30.6	C	SIGNAL	31.4	C
IN-99	Harley Knox Blvd/Perris Blvd	D	SIGNAL	33.3	C	SIGNAL	42.3	D
IN-100	Harley Knox Blvd/Evan Rd		N/A	Non-Existent		N/A	Non-Existent	
IN-101	Ramona Expy/Indian St	E	SIGNAL	18.6	B	SIGNAL	23.2	C
IN-102	Ramona Expy/Perris Blvd	E	SIGNAL	34.3	C	SIGNAL	35.2	D
IN-103	Ramona Expy/Evans Rd	E	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-104	Perris Blvd/Morgan St	D	SIGNAL	14.6	B	SIGNAL	14.4	B
IN-105	Evans Rd/Morgan St	C	SIGNAL	32.8	C	SIGNAL	32.2	C
IN-106	Perris Blvd/Rider St	C	SIGNAL	17.6	B	SIGNAL	17.6	B
IN-107	Evans Rd/Rider St	C	SIGNAL	36.0	**D**	SIGNAL	36.8	**D**
IN-108	Perris Blvd/Mid-County Pkwy WB Ramps	D	SIGNAL	29.2	C	SIGNAL	30.2	C
IN-109	Perris Blvd/Mid-County Pkwy EB Ramps	D	SIGNAL	19.2	B	SIGNAL	30.9	C
IN-110	Evans Rd/Mid-County Pkwy WB Ramps	D	SIGNAL	38.0	D	SIGNAL	36.9	D
IN-111	Evans Rd/Mid-County Pkwy EB Ramps	D	SIGNAL	14.6	B	SIGNAL	14.8	B
IN-112	Placentia Ave/Perris Blvd	D	SIGNAL	40.8	D	SIGNAL	41.0	D
IN-113	Evans Rd/Placentia Ave		N/A	Non-Existent		N/A	Non-Existent	
IN-114	Evans Rd/Orange Ave	C	AWS	22.6	C	AWS	22.1	C
IN-115	Evans Rd/Nuevo Rd	C	SIGNAL	32.0	C	SIGNAL	32.0	C
IN-116	Evans Rd/Ellis Ave		N/A	Non-Existent		N/A	Non-Existent	
IN-117	Ellis Ave/I-215 SB Ramps		N/A	Non-Existent		N/A	Non-Existent	
IN-118	Ellis Ave/SR-215 NB Ramps		N/A	Non-Existent		N/A	Non-Existent	
IN-119	Evans Rd/San Jacinto Ave		N/A	Non-Existent		N/A	Non-Existent	
IN-120	Park Center Blvd/Ramona Expy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
IN-121	Park Center Blvd/Ramona Expy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
IN-122	Bridge St/Ramona Expy		N/A	Non-Existent		N/A	Non-Existent	
IN-123	Gilman Springs Rd/Bridge Str	C	CSS	22.3	C	CSS	38.3	**E**
IN-124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-126	Ramona Expy/Sanderson Ave	D	SIGNAL	35.7	D	SIGNAL	41.3	D
IN-127	Potrero Blvd/SR-60 WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
IN-128	Potrero Blvd/SR-60 EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
IN-129	W 6th St/California Ave	C	AWS	31.8	**D**	AWS	41.4	**E**
IN-130	W 6th St/Beaumont Ave	C	SIGNAL	15.7	B	SIGNAL	16.6	B
IN-131	Reche Canyon Rd/Reche Vista Dr	C	SIGNAL	11.0	B	SIGNAL	10.4	B
IN-132	San Timoteo Canyon Rd/Alessandro Rd	D	AWS	> 50	**F**	AWS	> 50	**F**
IN-133	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
IN-134	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
IN-135	W Crescent Ave/Alessandro Rd	D	CSS	27.7	D	CSS	47.8	**E**
IN-136	W Sunset Dr/Alessandro Rd	D	AWS	10.9	B	AWS	12.6	B

Notes: "NB" and "SB" denote northbound and southbound respectively

"EB" and "WB" denote eastbound and westbound respe "CSS" means cross-street is stop-controlled

"LT" and "RT" denote left turn and right turn respectively "AWS" means all-way stop

Indicates LOS exceeds the target level "RABT" means roundabout

Table 4.15.AN: Year 2022 plus Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	2022 No Project			2022 With Project		
			Traffic Control	PM Peak Hour		Traffic Control	PM Peak Hour	
				Delay	LOS		Delay	LOS
IN-1	Theodore St/Street F	D	N/A	Non-Existent		RABT	19.7	B
IN-2	Street D/Street E	D	N/A	Non-Existent		SIGNAL	13.5	B
IN-3	Theodore Ave/Alessandro (Str A/Str C/Str E)	D	CSS	10.3	B	RABT	10.5	B
IN-4	Street C/Street F	D	N/A	Non-Existent		RABT	10	A
IN-5	Street C/Street H	D	N/A	Non-Existent		SIGNAL	21.5	C
IN-6	Alessandro Blvd (Street C)/Gilman Springs Rd	D	CSS	7.9	A	SIGNAL	28.0	C
IN-7	Street F/Street G	D	N/A	Non-Existent		SIGNAL	12.8	B
IN-8	Alessandro Blvd (Street G)/Street H	D	N/A	Non-Existent		AWS	14.6	B
IN-9	Gilman Springs Rd/Eucalytpus Ave	D	N/A	Non-Existent		SIGNAL	6.4	A
IN-10	Redlands Blvd/Locust Ave	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-11	Redlands Blvd/Ironwood Ave	D	SIGNAL	31.7	C	SIGNAL	23.8	C
IN-12	Theodore Street/Ironwood Avenue	D	CSS	17.8	C	CSS	50.5	F
IN-13	Redlands Blvd/SR-60 WB ramps	D	CSS	> 50	**F**	CSS	> 50	**F**
IN-14	Redlands Blvd/SR-60 EB ramps	D	SIGNAL	15.9	B	SIGNAL	18.5	B
IN-15	Theodore Str/SR-60 WB ramps	D	CSS	19.2	C	SIGNAL	14.4	B
IN-16	Theodore Str/SR-60 EB ramps	D	CSS	23.2	C	SIGNAL	1.9	A
IN-17	Quincy Str/Fir Ave		N/A	Non-Existent		N/A	Non-Existent	
IN-18	Redlands Blvd/Eucalyptus Ave (Fir)	D	N/A	Non-Existent		SIGNAL	25.6	C
IN-19	Theodore Ave/Fir Ave (Eucalyptus)	D	CSS	41.7	**E**	SIGNAL	24.7	C
IN-20	Oliver Str/Alessandro Blvd	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-21	Moreno Beach Dr/Alessandro Blvd	D	SIGNAL	18.5	B	SIGNAL	30.6	C
IN-22	Quincy Str/Alessandro Blvd		N/A	Non-Existent		N/A	Non-Existent	
IN-23	Redlands Blvd/Alessandro Blvd	C	AWS	13.2	B	AWS	24.7	C
IN-24	Oliver Str/Cactus Ave	D	SIGNAL	25.7	C	SIGNAL	27.8	C
IN-25	Moreno Beach Dr/Cactus Ave	C	SIGNAL	18.9	B	SIGNAL	21.4	C
IN-26	Quincy Str/Cactus Ave		N/A	Non-Existent		N/A	Non-Existent	
IN-27	Redlands Blvd/Cactus Ave	C	AWS	9.5	A	AWS	> 50	**F**
IN-28	Moreno Beach Dr/John Kennedy Dr	D	SIGNAL	18.9	B	SIGNAL	57.8	**E**
IN-29	Heacock Str/Ironwood Ave	D	SIGNAL	36.9	D	SIGNAL	38.2	D
IN-30	Heacock Str/SR-60 WB Ramps	D	SIGNAL	47.5	D	SIGNAL	49.3	D
IN-31	Heacock St/SR-60 EB Ramps	D	SIGNAL	24.7	C	SIGNAL	27.5	C
IN-32	Sunnymead Blvd & Perris Blvd	D	SIGNAL	39.2	D	SIGNAL	39.6	D
IN-33	Perris Blvd/SR-60 WB Ramps	D	SIGNAL	21.7	C	SIGNAL	25.0	C
IN-34	Perris Blvd/Eucalyptus Ave	D	SIGNAL	33.4	C	SIGNAL	35.3	D
IN-35	Moreno Beach Dr/Locust Ave	C	CSS	9.6	A	CSS	9.7	A
IN-36	Moreno Beach Drive & Ironwood Avenue	D	SIGNAL	51.0	D	SIGNAL	56.7	**E**
IN-37	Moreno Beach Dr/SR-60 EB Ramps	D	SIGNAL	37.8	D	SIGNAL	43.1	D
IN-38	Perris Blvd/John F. Kennedy Dr	D	SIGNAL	53.5	D	SIGNAL	56.7	**E**
IN-39	Iris Ave/Perris Blvd	D	SIGNAL	38.6	D	SIGNAL	43.1	D
IN-40	Kitching St/Iris Ave	C	SIGNAL	23.9	C	SIGNAL	71.5	**E**
IN-41	Lasselle Str/Iris Ave	D	SIGNAL	68.7	**E**	SIGNAL	> 80	**F**
IN-42	Nason Str/Iris Ave	C	SIGNAL	12.6	B	SIGNAL	15.1	B
IN-43	Oliver Str/Iris Ave	D	SIGNAL	22.0	C	SIGNAL	26.4	C
IN-44	Via Dell Lago/Iris Ave	C	SIGNAL	8.3	A	SIGNAL	8.4	A
IN-45	Krameria Ave/Perris Blvd	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-46	Kitching Str/Krameria Ave	D	SIGNAL	40.0	D	SIGNAL	55.7	**E**

Table 4.15.AN: Year 2022 plus Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	2022 No Project			2022 With Project		
			Traffic Control	PM Peak Hour		Traffic Control	PM Peak Hour	
				Delay	LOS		Delay	LOS
IN-47	Lasselle Str/Krameria Ave	D	SIGNAL	15.3	B	SIGNAL	15.8	B
IN-48	Kitching Str/Alessandro Blvd	D	SIGNAL	25.7	C	SIGNAL	26.8	C
IN-49	Lasselle Str/Alessandro Blvd	D	SIGNAL	41.9	D	SIGNAL	43.2	D
IN-50	Morrison Str/Alessandro Blvd	D	SIGNAL	9.2	A	SIGNAL	9.6	A
IN-51	Nason Str/Alessandro Blvd	D	SIGNAL	29.5	C	SIGNAL	31.6	C
IN-52	Kitching Str/Cactus Ave	C	SIGNAL	26.2	C	SIGNAL	27.0	C
IN-53	Lasselle Str/Cactus Ave	C	SIGNAL	52.8	**D**	SIGNAL	58.7	**E**
IN-54	Morrison Str/Cactus Ave		N/A	Non-Existent		N/A	Non-Existent	
IN-55	Nason Str/Cactus Ave	D	SIGNAL	32.8	C	SIGNAL	35.5	D
IN-56	Frederick Str/Alessandro Blvd	D	SIGNAL	61.7	**E**	SIGNAL	> 80	**F**
IN-57	Graham Str/Alessandro Blvd	D	SIGNAL	76.8	**E**	SIGNAL	79.2	**E**
IN-58	Heacock Str/Alessandro Blvd	D	SIGNAL	48.9	D	SIGNAL	65.3	**E**
IN-59	Indian Str/Alessandro Blvd	D	SIGNAL	33.5	C	SIGNAL	46.7	D
IN-60	Perris Blvd/Alessandro Blvd	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-61	Frederick Str/Cactus Ave	D	SIGNAL	15.6	B	SIGNAL	17.1	B
IN-62	Graham Str/Cactus Ave	D	SIGNAL	66.6	**E**	SIGNAL	72.7	**E**
IN-63	Heacock Str/Cactus Ave	D	SIGNAL	32.9	C	SIGNAL	33.9	C
IN-64	Indian Str/Cactus Ave	C	SIGNAL	22.0	C	SIGNAL	23.0	C
IN-65	Perris Blvd/Cactus Ave	D	SIGNAL	32.7	C	SIGNAL	34.1	C
IN-66	Alessandro Blvd/Sycamore Canyon Blvd	D	SIGNAL	58.3	**E**	SIGNAL	> 80	**F**
IN-67	I-215 SB Ramps/Alessandro Blvd	D	SIGNAL	8.9	A	SIGNAL	8.6	A
IN-68	I-215 NB Ramps/Alessandro Blvd	D	SIGNAL	23.3	C	SIGNAL	29.4	C
IN-69	Old 215 Frontage Rd/Alessandro Blvd	D	SIGNAL	35.4	D	SIGNAL	52.4	D
IN-70	Day Str/Alessandro Blvd	D	SIGNAL	43.0	D	SIGNAL	98.5	F
IN-71	Elsworth Str/Alessandro Blvd	D	SIGNAL	34.7	C	SIGNAL	39.3	D
IN-72	I-215 SB Ramps/Cactus Ave	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-73	I-215 NB Ramps/Cactus Ave	D	SIGNAL	12.6	B	SIGNAL	15.7	B
IN-74	Elsworth Str/Cactus Ave	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-75	Central Ave/Lochmoor Dr.	D	SIGNAL	30.3	C	SIGNAL	34.9	C
IN-76	Sycamore Canyon Blvd/Central Ave	D	SIGNAL	24.8	C	SIGNAL	30.8	C
IN-77	SR-60 EB Ramps/Central Ave	D	SIGNAL	10.2	B	SIGNAL	11.9	B
IN-78	SR-60 WB Ramps/Central Ave	D	SIGNAL	7.4	A	SIGNAL	7.5	A
IN-79	Alessandro Blvd/Trautwein Rd.	D	SIGNAL	15.5	B	SIGNAL	15.3	B
IN-80	Alessandro Blvd/Mission Grove Pkwy	D	SIGNAL	48.3	D	SIGNAL	50.0	D
IN-81	Martin Luther King Blvd/Chicago Ave	D	SIGNAL	48.4	D	SIGNAL	52.0	D
IN-82	Martin Luther King Blvd/Iowa Ave	D	SIGNAL	16.7	B	SIGNAL	17.7	B
IN-83	Martin Luther King Blvd/Canyon Crest Dr	D	SIGNAL	41.2	D	SIGNAL	44.0	D
IN-84	Martin Luther King Blvd/I-215 SB Ramps	D	SIGNAL	5.6	A	SIGNAL	5.8	A
IN-85	Martin Luther King Blvd/I-215 NB Ramps	D	AWS	15.0	B	AWS	18.5	C
IN-86	Central Ave/Chicago Ave	D	SIGNAL	40.8	D	SIGNAL	44.1	D
IN-87	Central Ave/El Cerrito Dr	D	SIGNAL	17.3	B	SIGNAL	17.7	B
IN-88	Central Ave/Canyon Crest Dr	D	SIGNAL	51.2	D	SIGNAL	53.8	D
IN-89	Chicago Ave/Country Club Dr	D	SIGNAL	7.1	A	SIGNAL	7.0	A
IN-90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	SIGNAL	35.4	D	SIGNAL	36.3	D
IN-91	Arlington Ave/Indiana Ave/SR-91 NB Ramps	D	SIGNAL	31.3	C	SIGNAL	31.2	C
IN-92	Arlington Ave/Maude St	D	SIGNAL	13.5	B	SIGNAL	13.5	B

Table 4.15.AN: Year 2022 plus Project Intersection Levels of Service

ID	Study Intersection	LOS Standard	2022 No Project			2022 With Project		
			Traffic Control	PM Peak Hour		Traffic Control	PM Peak Hour	
				Delay	LOS		Delay	LOS
IN-93	Horace St/Arlington Ave	D	SIGNAL	10.1	B	SIGNAL	10.2	B
IN-94	Arlington Ave/Victoria Ave	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-95	Alessandro Blvd/Chicago Ave	D	SIGNAL	> 80	**F**	SIGNAL	> 80	**F**
IN-96	Alessandro Blvd/Century Ave	D	SIGNAL	14.9	B	SIGNAL	15.1	B
IN-97	Alessandro Blvd/Via Vista Dr	D	SIGNAL	20.5	C	SIGNAL	21.3	C
IN-98	Alessandro Blvd/Canyon Crest Dr	D	SIGNAL	30.2	C	SIGNAL	30.4	C
IN-99	Harley Knox Blvd/Perris Blvd	D	SIGNAL	25.5	C	SIGNAL	28.3	C
IN-100	Harley Knox Blvd/Evan Rd		N/A	Non-Existent		N/A	Non-Existent	
IN-101	Ramona Expy/Indian St	E	SIGNAL	39.7	D	SIGNAL	41.4	D
IN-102	Ramona Expy/Perris Blvd	E	SIGNAL	31.2	C	SIGNAL	31.5	C
IN-103	Ramona Expy/Evans Rd	E	SIGNAL	41.6	D	SIGNAL	45.8	D
IN-104	Perris Blvd/Morgan St	D	SIGNAL	12.7	B	SIGNAL	12.6	B
IN-105	Evans Rd/Morgan St	C	SIGNAL	29.7	C	SIGNAL	28.8	C
IN-106	Perris Blvd/Rider St	C	SIGNAL	22.7	C	SIGNAL	23.0	C
IN-107	Evans Rd/Rider St	C	SIGNAL	30.3	C	SIGNAL	29.8	C
IN-108	Perris Blvd/Mid-County Pkwy WB Ramps	D	SIGNAL	20.8	C	SIGNAL	21.4	C
IN-109	Perris Blvd/Mid-County Pkwy EB Ramps	D	SIGNAL	32.4	C	SIGNAL	34.4	C
IN-110	Evans Rd/Mid-County Pkwy WB Ramps	D	SIGNAL	32.2	C	SIGNAL	31.6	C
IN-111	Evans Rd/Mid-County Pkwy EB Ramps	D	SIGNAL	25.9	C	SIGNAL	26.3	C
IN-112	Placentia Ave/Perris Blvd	D	SIGNAL	60.0	**E**	SIGNAL	62.9	**E**
IN-113	Evans Rd/Placentia Ave		N/A	Non-Existent		N/A	Non-Existent	
IN-114	Evans Rd/Orange Ave	C	AWS	16.9	C	AWS	18.3	C
IN-115	Evans Rd/Nuevo Rd	C	SIGNAL	32.2	C	SIGNAL	32.2	C
IN-116	Evans Rd/Ellis Ave		N/A	Non-Existent		N/A	Non-Existent	
IN-117	Ellis Ave/I-215 SB Ramps		N/A	Non-Existent		N/A	Non-Existent	
IN-118	Ellis Ave/SR-215 NB Ramps		N/A	Non-Existent		N/A	Non-Existent	
IN-119	Evans Rd/San Jacinto Ave		N/A	Non-Existent		N/A	Non-Existent	
IN-120	Park Center Blvd/Ramona Expy WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
IN-121	Park Center Blvd/Ramona Expy EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
IN-122	Bridge St/Ramona Expy		N/A	Non-Existent		N/A	Non-Existent	
IN-123	Gilman Springs Rd/Bridge Str	C	CSS	25.7	**D**	CSS	32.2	**D**
IN-124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-126	Ramona Expy/Sanderson Ave	D	SIGNAL	24.4	C	SIGNAL	24.9	C
IN-127	Potrero Blvd/SR-60 WB Ramps		N/A	Non-Existent		N/A	Non-Existent	
IN-128	Potrero Blvd/SR-60 EB Ramps		N/A	Non-Existent		N/A	Non-Existent	
IN-129	W 6th St/California Ave	C	AWS	> 50	**F**	AWS	> 50	**F**
IN-130	W 6th St/Beaumont Ave	C	SIGNAL	25.3	C	SIGNAL	27.3	C
IN-131	Reche Canyon Rd/Reche Vista Dr	C	SIGNAL	5.5	A	SIGNAL	5.5	A
IN-132	San Timoteo Canyon Rd/Alessandro Rd	D	AWS	> 50	**F**	AWS	> 50	**F**
IN-133	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
IN-134	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
IN-135	W Crescent Ave/Alessandro Rd	D	CSS	16.2	C	CSS	20.0	C
IN-136	W Sunset Dr/Alessandro Rd	D	AWS	11.1	B	AWS	11.9	B

Notes: "NB" and "SB" denote northbound and southbound respectively

"EB" and "WB" denote eastbound and westbound respe "CSS" means cross-street is stop-controlled

"LT" and "RT" denote left turn and right turn respectively "AWS" means all-way stop

Indicates LOS exceeds the target level "RABT" means roundabout

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- Perris Boulevard/Alessandro Boulevard;
- Graham Street/Cactus Avenue;
- Alessandro Boulevard/Sycamore Canyon Boulevard;
- I-215 Southbound Ramps/Cactus Avenue;
- Elsworth Street/Cactus Avenue;
- Martin Luther King Boulevard/Canyon Crest Drive;
- Arlington Avenue/Victoria Avenue;
- Alessandro Boulevard/Chicago Avenue;
- Ramona Expressway /Evans Road;
- Evans Road/Rider Street;
- Placentia Avenue/Perris Boulevard;
- Gilman Springs Road/Bridge Street;
- SR-79 (Sanderson Avenue) Northbound/Gilman Springs Road;
- SR-79 (Sanderson Avenue) Southbound/Gilman Springs Road;
- W. 6th Street/California Avenue;
- Ramona Expressway/Sanderson Avenue;
- San Timoteo Canyon Road/Alessandro Road;
- San Timoteo Canyon Road/Live Oak Canyon Road; and
- Redlands Boulevard/San Timoteo Canyon Road.

Project-specific significant impacts would occur at the following ten intersections under year 2022 with project conditions:

- Theodore Street/Ironwood Avenue;
- Redlands Boulevard/Cactus Avenue;
- Moreno Beach Drive/John Kennedy Drive;
- Perris Boulevard/John F. Kennedy Drive;
- Iris Avenue/Perris Boulevard;
- Kitching Street/Iris Avenue;
- Kitching Street/Krameria Avenue;
- Heacock Street/Alessandro Boulevard;
- Day Street/Alessandro Boulevard; and
- W. Crescent Avenue/Alessandro Road.

Roadway Segment Analysis. Year 2022 with project roadway segment levels of service for the study area intersections are summarized in Table 4.15.AO, which shows four roadway segments would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at two roadway segments and, therefore, have a significant cumulative impact at these locations. One significant project impact would occur on roadway segments under year 2022 with project conditions.

Table 4.15.AO: Year 2022 plus Project Roadway Segment Levels of Service

Roadway		From	To	LOS Standard***	2022 No-Project			2022 Plus Project			Project Significant Impact?	Mitigation Measures Required to Reduce Project Impacts to Less-Than-Significant	LOS After Mitigation
					Roadway Section*	Daily Volume	LOS	Roadway Section*	Daily Volume	LOS			
S-1	Theodore Street (A)	SR-60 WB Ramps	Ironwood Avenue	D	2U	3,011	A	2U	6,146	A	No		
S-2	Theodore Street (A)	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	2U	6,661	A	6D	20,633	A	No		
S-3	Fir (Eucalyptus) Ave.	Redlands Blvd	Theodore Street (A)	D	2U**	7,045	A	4D	8,973	A	No		
S-4	Eucalyptus Ave (B)	Theodore Street (A)	Gilman Springs Rd	N/A	Future Road			4D	3,299	A	No		
S-5	Theodore Street (A)	Fir (Eucalyptus) Ave.	Street E	D	2U	574	A	6D	37,123	B	No		
S-6	Street E	Theodore Street (A)	Street D	N/A	Future Road			4U	14,169	A	No		
S-7	Street F	Theodore Street (A)	Alessandro Blvd (Street C)	N/A	Future Road			2U	4,494	A	No		
S-8	Theodore Street (A)	Fir (Eucalyptus) Ave.	Alessandro Blvd (Street C)	D	2U	633	A	4D	15,147	A	No		
S-9	Alessandro Blvd (Street E)	Merwin Street	Theodore Street (A)	D	2U	2,108	A	4U	11,125	A	No		
S-10	Street D	Alessandro Blvd (Street E)	Cactus Ave.	N/A	Future Road			4U	14,551	A	No		
S-11	Alessandro Blvd (Street C)	Theodore Street (A)	Street F	D	2U	2,986	A	4U	13,759	A	No		
S-12	Street F	Street C	Street G	N/A	Future Road			2U	8,359	B	No		
S-13	Alessandro Blvd (Street C)	Street F	Gilman Springs Rd	D	2U	0	A	4U	12,186	A	No		
S-14	Street G	Street F	Street H	N/A	Future Road			2U	3,389	A	No		
S-15	Street H	Street G	Alessandro Blvd (Street C)	N/A	Future Road			2U	7,550	B	No		
S-16	Gilman Springs Rd	Alessandro Blvd (Street C)	Bridge Street	D	2U	14,237	**E**	2U	19,863	**E**	Yes	Widen to 4 lanes	A
S-17	Gilman Springs Rd	SR-60	Alessandro Blvd (Street C)	D	2U	12,819	**E**	2U	19,737	**E**	Yes	Widen to 4 lanes	A
S-18	Redlands Blvd	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	2U	11,042	C	2U	16,823	**E**	Yes	Widen to 4 lanes	A
S-19	Redlands Blvd	Fir (Eucalyptus) Ave.	Alessandro Blvd	C	2U	9,219	C	2U	6,509	A	No		
S-20	Alessandro Blvd	Redlands Blvd	Merwin Street	C	2U	3,886	A	2U	772	A	No		
S-21	Redlands Blvd	Alessandro Blvd	Cactus Ave.	C	2U	8,335	B	2U	4,500	A	No		
S-22	Cactus Ave.	Redlands Blvd	Street D	C	2U**	342	A	2U	14,551	**E**	Yes	Widen to 4 lanes	A

* Section is the number of lanes, with "U" for "undivided" and "D" for "Divided" roadways

** Road currently has 2 lanes in one direction and 1 lane in the other. The capacity shown is based on the narrower direction.

*** LOS Standard is "C" in residential areas and "D" for roads in employment-generating areas or near freeways

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

The project would have a cumulative impact at the following roadway segments under year 2022 with project conditions:

- Gilman Springs Road between Alessandro Boulevard and Bridge Street.
- Gilman Springs Road between SR-60 and Alessandro Boulevard; and

The project would cause a significant impact at the following roadway segments under year 2022 with project conditions:

- Redlands Boulevard from SR-60 eastbound ramps to Fir (future Eucalyptus) Avenue; and
- Cactus Avenue Redlands Boulevard to Street D.

Freeway Segment Analysis. Year 2022 with project freeway segment levels of service for the study area intersections are summarized in Table 4.15.AP, which shows 40 freeway segments would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at 34 freeway segments and, therefore, have a cumulative impact at these locations. At six freeway segments, the project would create a project-specific significant impact since the project would decrease the LOS from satisfactory to unsatisfactory.

The project would have a significant cumulative impact at the following 34 freeway segments under year 2022 cumulative with project conditions:

- Northbound or Eastbound Sections;
    - SR-60 S. Reservoir Road to Ramona Avenue;
    - SR-60 Central Avenue to Mountain Avenue;
    - SR-60 Euclid Avenue to Grove Avenue;
    - SR-60 Grove Avenue to Vineyard Avenue;
    - SR-60 Vineyard Avenue to Archibald Avenue;
    - SR-60 Archibald Avenue to Haven Avenue;
    - SR-60 Valley Way to Rubidoux Boulevard;
    - SR-60 Rubidoux Boulevard to Market Street;
    - SR-60 Market Street to Main Street;
    - SR-60 Martin Luther King Boulevard to Central Avenue;
    - SR-60 Pigeon Pass Road/Frederick Street to Heacock Street;
    - SR-60 Heacock Street to Perris Boulevard;
    - SR-91 McKinley Street to Pierce Street;
    - SR-91 Pierce Street to Magnolia Avenue;
    - I-215 Scott Road to Newport Road;
    - I-215 Columbia Avenue to Center Street;
    - I-215 Iowa Avenue/La Cadena Drive to Barton Road; and
    - I-215 Barton Road to Mt. Vernon Avenue.

Table 4.15.AP-1: Year 2022 plus Project Freeway Mainline Levels of Service (Northbound/Eastbound)

ID	Freeway	Segment	2022 No Project						2022 Plus Project					
			Northbound / Eastbound						Northbound / Eastbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-2	SR-60	S Reservoir Rd to Ramona Ave	7,210	30.5	D	7,830	35.1	E	7,510	33.0	D	7,790	35.4	E
F-3	SR-60	Ramona Ave to Central Ave	6,850	28.2	D	9,380	51.4	F	7,100	30.2	D	9,320	51.2	F
F-4	SR-60	Central Ave to Mountain Ave	7,590	33.0	D	9,350	51.0	F	7,840	35.5	E	9,290	50.8	F
F-5	SR-60	Mountain Ave to Euclid Ave	7,520	32.5	D	6,690	27.5	D	7,790	35.1	E	6,610	27.4	D
F-6	SR-60	Euclid Ave to Grove Ave	8,990	45.8	F	9,280	50.0	F	9,300	50.9	F	9,210	49.7	F
F-7	SR-60	Grove Ave to Vineyard Ave	8,170	37.6	E	9,530	53.6	F	8,480	41.2	E	9,440	53.0	F
F-8	SR-60	Vineyard Ave to Archibald Ave	8,080	36.5	E	9,470	52.7	F	8,400	40.0	E	9,360	51.8	F
F-9	SR-60	Archibald Ave to Haven Ave	7,590	32.8	D	6,630	27.2	D	7,940	36.0	E	6,510	26.9	D
F-10	SR-60	Haven Ave to Miliken Ave	7,400	23.2	C	7,040	22.1	C	7,760	24.9	C	6,880	21.8	C
F-11	SR-60	Miliken Ave to I-15	5,280	20.3	C	4,530	17.4	B	5,630	22.2	C	4,370	17.1	B
F-12	SR-60	I-15 to Etiwanda Ave	4,580	17.6	B	3,440	13.3	B	4,980	19.6	C	3,320	13.2	B
F-13	SR-60	Etiwanda Ave to Mission Blvd	5,070	19.6	C	4,460	17.2	B	5,410	21.5	C	4,320	17.1	B
F-14	SR-60	Mission Blvd to Pedley Rd	4,600	17.7	B	3,560	13.8	B	4,970	19.6	C	3,420	13.6	B
F-15	SR-60	Pedley Rd to Pyrite St	4,620	17.8	B	3,710	14.4	B	5,000	19.7	C	3,590	14.3	B
F-16	SR-60	Pyrite St to Valley Way	5,190	20.1	C	3,990	15.5	B	5,590	22.3	C	3,860	15.3	B
F-17	SR-60	Valley Way to Rubidoux Blvd	6,280	39.4	E	4,530	24.1	C	6,650	45.9	F	4,390	23.8	C
F-18	SR-60	Rubidoux Blvd to Market St	6,920	48.7	F	4,950	27.2	D	7,300	58.5	F	4,780	26.6	D
F-19	SR-60	Market St to Main St	6,450	41.6	E	7,260	56.8	F	7,000	52.0	F	7,210	58.0	F
F-20	SR-60	Main to SR-91	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-24	SR-60	Martin Luther King Blvd to Central Ave	8,440	41.5	E	9,140	53.5	F	9,170	60.9	F	9,270	65.8	F
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	6,450	25.7	C	7,270	30.8	D	6,950	29.9	D	7,360	32.7	D
F-27	SR-60	I-215 to Day St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	3,520	29.2	D	4,200	39.3	E	3,930	39.6	E	4,150	42.6	E
F-30	SR-60	Heacock St to Perris Blvd	3,160	25.0	C	4,050	36.7	E	3,910	39.2	E	4,090	41.4	E
F-31	SR-60	Perris Blvd to Nason St	2,590	19.8	C	3,070	24.3	C	3,390	31.3	D	3,190	28.0	D
F-32	SR-60	Moreno Beach Dr to Nason St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-33	SR-60	Moreno Beach Dr to Redlands Blvd	1,910	14.5	B	2,370	18.0	C	2,670	23.4	C	2,510	21.2	C
F-34	SR-60	Redlands Blvd to Theodore St	2,460	18.7	C	3,240	25.8	C	3,270	29.7	D	3,370	30.2	D
F-35	SR-60	Theodore St to Gilman Springs Rd	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	2,310	18.5	C	2,770	22.7	C	2,180	18.0	C	2,780	23.6	C
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	2,070	15.7	B	2,820	21.8	C	2,010	15.6	B	2,880	22.7	C
F-38	SR-60	Potrero Blvd to I-10	2,070	15.7	B	2,820	21.8	C	2,010	15.6	B	2,880	22.7	C
F-39	SR-91	I-15 to McKinley St	7,190	29.9	D	10,400	68.0	F	7,400	31.7	D	10,320	67.4	F
F-40	SR-91	McKinley St to Pierce St	6,500	41.8	E	5,950	35.6	E	6,680	44.8	E	5,860	35.0	D
F-41	SR-91	Pierce St to Magnolia Ave	5,970	35.2	E	5,410	30.5	D	6,120	37.5	E	5,310	30.1	D

Table 4.15.AP-1: Year 2022 plus Project Freeway Mainline Levels of Service (Page 2) (Northbound/Eastbound

ID	Freeway	Segment	2022 No Project						2022 Plus Project					
			Northbound / Eastbound						Northbound / Eastbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-42	SR-91	Magnolia Ave to La Sierra Ave	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-43	SR-91	La Sierra Ave to Tyler St	5,490	30.9	D	5,230	29.0	D	5,630	32.4	D	5,170	28.9	D
F-44	SR-91	Tyler St to Van Buren Blvd	6,600	26.6	D	5,980	23.6	C	6,730	27.6	D	5,930	23.7	C
F-45	SR-91	Van Buren Blvd to Adam St	6,700	27.2	D	5,250	20.3	C	6,800	28.0	D	5,200	20.3	C
F-46	SR-91	Adam St to Madison St	7,310	31.4	D	4,970	19.4	C	7,380	32.3	D	4,920	19.3	C
F-47	SR-91	Madison St to Indiana Ave	6,710	27.6	D	4,970	19.4	C	6,760	28.3	D	4,930	19.4	C
F-49	SR-91	Central Ave to 14th St	5,910	34.9	D	5,070	27.7	D	5,910	35.5	E	5,070	27.9	D
F-51	SR-91	University Ave to Spruce St (off-ramp)	8,270	26.6	D	7,700	24.2	C	8,360	27.3	D	7,700	24.4	C
F-52	I-10	SR-60 to Beaumont Ave	4,390	16.8	B	6,080	24.1	C	4,340	16.7	B	6,080	24.3	C
F-53	I-10	Beaumont Ave to Pennsylvania Ave	4,450	17.1	B	6,240	24.9	C	4,410	17.0	B	6,280	25.3	C
F-54	I-10	Pennsylvania Ave to Highland Springs	4,640	17.8	B	6,480	26.2	D	4,610	17.7	B	6,520	26.6	D
F-55	I-10	Highland Springs Ave to Sunset Ave	4,560	17.5	B	6,210	24.8	C	4,510	17.3	B	6,270	25.2	C
F-56	I-10	Sunset Ave to 22nd St	4,470	17.2	B	5,960	23.5	C	4,410	16.9	B	6,020	24.0	C
F-57	I-10	22nd St to S 8th St	4,380	16.8	B	5,800	22.8	C	4,310	16.6	B	5,870	23.2	C
F-58	I-10	S 8th St to S Hargrave St	4,370	16.8	B	5,730	22.4	C	4,290	16.5	B	5,800	22.9	C
F-59	I-10	S Hargrave St to Field Rd	4,100	15.8	B	5,350	20.8	C	4,000	15.4	B	5,430	21.2	C
F-60	I-10	Field Rd to Main St (Cabazon)	3,770	14.5	B	5,080	19.6	C	3,680	14.2	B	5,160	20.1	C
F-61	I-10	Main St (Cabazon) to Main St	3,410	13.1	B	4,670	18.0	B	3,320	12.8	B	4,740	18.3	C
F-62	I-10	Main St to Haugen-Lehmann Way	3,280	12.6	B	4,720	18.1	C	3,200	12.4	B	4,820	18.6	C
F-64	I-10	SR-111 to Tipton Rd	2,950	11.3	B	4,140	15.9	B	2,860	11.0	B	4,220	16.3	B
F-65	I-10	Tipton Rd to SR-62	2,810	10.8	A	4,170	16.0	B	2,760	10.7	A	4,260	16.4	B
F-66	I-215	Scott Rd to Newport Rd	2,850	22.2	C	4,330	41.3	E	2,830	22.1	C	4,330	41.8	E
F-68	I-215	Newport Rd to MacCall Blvd	2,100	16.1	B	3,140	24.8	C	2,080	16.1	B	3,110	24.7	C
F-69	I-215	MacCall Blvd to Ethanac Rd	2,750	21.3	C	4,380	42.3	E	2,710	21.1	C	4,350	42.1	E
F-70	I-215	Ethanac Rd to SR-74	4,200	39.3	E	4,100	37.2	E	4,160	38.9	E	4,060	36.8	E
F-71	I-215	SR-74/Case Rd to Redlands Blvd	3,490	28.6	D	4,800	52.6	F	3,450	28.6	D	4,770	52.4	F
F-74	I-215	Columbia Ave to Center St	6,090	36.8	E	6,030	36.2	E	6,040	36.6	E	6,090	36.8	E
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	5,830	34.1	D	5,800	33.8	D	5,790	34.0	D	5,870	34.5	D
F-76	I-215	Iowa Ave/La Cadena Dr to Barton Rd	5,690	32.7	D	6,130	37.3	E	5,670	32.8	D	6,250	38.7	E
F-77	I-215	Barton Rd to Mt Vernon Ave	5,980	35.6	E	6,550	42.5	E	5,950	35.6	E	6,660	44.1	E
F-78	I-215	Mt Vernon Ave to I-10	5,770	22.5	C	6,660	27.0	D	5,720	22.4	C	6,820	27.9	D
F-80	I-215	Auto Plaza Dr to Mill St	4,490	17.2	B	5,500	21.2	C	4,400	16.9	B	5,560	21.6	C
F-83	I-215	Baseline Rd to Highland Ave	3,030	15.4	B	4,060	20.8	C	3,020	15.5	B	4,150	21.4	C

Indicates that the LOS exceeds the target level

Table 4.15.AP-2: Year 2022 plus Project Freeway Mainline Levels of Service (Page 3) (Southbound/Westbound

ID	Freeway	Segment	2022 No Project						2022 Plus Project					
			Southbound / Westbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-2	SR-60	S Reservoir Rd to Ramona Ave	8,770	43.3	E	7,150	30.1	D	8,640	42.4	E	7,320	31.7	D
F-3	SR-60	Ramona Ave to Central Ave	8,290	38.7	E	6,750	27.7	D	8,150	37.8	E	6,900	29.0	D
F-4	SR-60	Central Ave to Mountain Ave	6,340	25.4	C	6,990	29.1	D	6,210	25.1	C	7,140	30.5	D
F-5	SR-60	Mountain Ave to Euclid Ave	6,260	25.0	C	7,440	32.0	D	6,130	24.7	C	7,600	33.6	D
F-6	SR-60	Euclid Ave to Grove Ave	6,470	26.1	D	7,310	31.1	D	6,340	25.8	C	7,460	32.6	D
F-7	SR-60	Grove Ave to Vineyard Ave	6,330	25.4	C	7,920	35.5	E	6,180	24.9	C	8,110	37.8	E
F-8	SR-60	Vineyard Ave to Archibald Ave	7,670	33.6	D	7,550	32.8	D	7,510	32.7	D	7,730	34.6	D
F-9	SR-60	Archibald Ave to Haven Ave	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-10	SR-60	Haven Ave to Miliken Ave	5,850	18.0	B	7,110	22.3	C	5,660	17.6	B	7,330	23.4	C
F-11	SR-60	Miliken Ave to I-15	5,550	21.6	C	7,050	29.2	D	5,340	20.9	C	7,310	31.1	D
F-12	SR-60	I-15 to Etiwanda Ave	4,490	13.7	B	5,850	17.9	B	4,250	13.1	B	6,180	19.1	C
F-13	SR-60	Etiwanda Ave to Mission Blvd	4,220	16.2	B	5,830	22.8	C	4,030	15.7	B	6,130	24.5	C
F-14	SR-60	Mission Blvd to Pedley Rd	4,240	16.3	B	5,850	22.9	C	4,040	15.7	B	6,270	25.2	C
F-15	SR-60	Pedley Rd to Pyrite St	3,290	12.6	B	5,010	19.2	C	3,040	11.9	B	5,370	21.1	C
F-16	SR-60	Pyrite St to Valley Way	2,740	10.6	A	4,510	17.2	B	2,520	9.9	A	4,830	18.8	C
F-17	SR-60	Valley Way to Rubidoux Blvd	4,630	24.4	C	6,530	42.2	E	4,410	23.4	C	6,920	49.3	F
F-18	SR-60	Rubidoux Blvd to Market St	3,630	18.6	C	5,660	32.5	D	3,440	17.9	B	6,030	37.1	E
F-19	SR-60	Market St to Main St	5,860	34.4	D	6,820	46.5	F	5,530	31.8	D	7,170	54.1	F
F-20	SR-60	Main to SR-91	5,450	30.6	D	6,610	42.9	E	5,160	28.8	D	6,930	50.1	F
F-24	SR-60	Martin Luther King Blvd to Central Ave	7,060	32.4	D	7,680	35.6	E	6,950	34.5	D	8,080	45.2	F
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	7,390	31.9	D	8,510	40.3	E	7,250	31.9	D	8,880	46.6	F
F-27	SR-60	I-215 to Day St.	7,250	54.3	F	3,880	20.0	C	7,180	55.8	F	4,140	23.0	C
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	3,460	28.5	D	3,860	34.0	D	3,470	30.5	D	4,310	46.9	F
F-30	SR-60	Heacock St to Perris Blvd	3,300	26.6	D	3,360	27.5	D	3,430	29.9	D	3,920	39.1	E
F-31	SR-60	Perris Blvd to Nason St	2,790	21.6	C	2,550	19.6	C	2,990	25.1	C	3,250	29.2	D
F-32	SR-60	Moreno Beach Dr to Nason St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-33	SR-60	Moreno Beach Dr to Redlands Blvd	1,810	13.8	B	1,750	13.4	B	2,050	16.9	B	2,480	21.4	C
F-34	SR-60	Redlands Blvd to Theodore St	2,280	17.3	B	2,200	16.8	B	2,680	22.2	C	2,850	24.3	C
F-35	SR-60	Theodore St to Gilman Springs Rd	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	2,180	17.5	B	1,850	14.8	B	2,310	19.2	C	1,720	14.7	B
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	2,190	16.7	B	1,690	12.9	B	2,370	18.4	C	1,630	12.8	B
F-38	SR-60	Potrero Blvd to I-10	2,190	16.7	B	1,690	12.9	B	2,370	18.4	C	1,630	12.8	B
F-39	SR-91	I-15 to McKinley St	7,280	30.9	D	7,330	31.0	D	7,200	30.6	D	7,420	31.9	D
F-40	SR-91	McKinley St to Pierce St	5,440	31.0	D	6,330	39.6	E	5,360	30.5	D	6,410	41.1	E
F-41	SR-91	Pierce St to Magnolia Ave	5,210	29.0	D	8,080	77.6	F	5,160	28.8	D	8,170	83.0	F

Table 4.15.AP-2: Year 2022 plus Project Freeway Mainline Levels of Service (Page 4) (Soutbound/Westbound

ID	Freeway	Segment	2022 No Project						2022 Plus Project					
			Southbound / Westbound						Southbound / Westbound					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-42	SR-91	Magnolia Ave to La Sierra Ave	5,450	31.1	D	8,040	76.1	F	5,380	30.7	D	8,140	81.7	F
F-43	SR-91	La Sierra Ave to Tyler St	4,800	25.9	C	5,980	35.6	E	4,740	25.6	C	6,060	36.8	E
F-44	SR-91	Tyler St to Van Buren Blvd	6,170	24.7	C	7,420	31.6	D	6,160	24.8	C	7,490	32.3	D
F-45	SR-91	Van Buren Blvd to Adam St	5,810	22.9	C	7,160	29.9	D	5,800	23.0	C	7,220	30.5	D
F-46	SR-91	Adam St to Madison St	5,420	21.2	C	6,210	24.5	C	5,430	21.3	C	6,260	25.0	C
F-47	SR-91	Madison St to Indiana Ave	4,780	25.8	C	5,550	31.2	D	4,810	26.2	D	5,580	32.0	D
F-49	SR-91	Central Ave to 14th St	4,340	22.8	C	4,530	23.8	C	4,290	22.8	C	4,540	24.1	C
F-51	SR-91	University Ave to Spruce St (off-ramp)	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-52	I-10	SR-60 to Beaumont Ave	5,610	21.9	C	5,370	20.7	C	5,640	22.2	C	5,390	20.9	C
F-53	I-10	Beaumont Ave to Pennsylvania Ave	5,470	21.3	C	5,270	20.3	C	5,550	21.8	C	5,260	20.4	C
F-54	I-10	Pennsylvania Ave to Highland Springs	5,920	23.3	C	5,480	21.2	C	5,990	23.8	C	5,390	20.9	C
F-55	I-10	Highland Springs Ave to Sunset Ave	5,690	22.3	C	5,200	20.1	C	5,770	22.8	C	5,170	20.0	C
F-56	I-10	Sunset Ave to 22nd St	5,450	21.2	C	5,090	19.7	C	5,520	21.6	C	5,070	19.6	C
F-57	I-10	22nd St to S 8th St	5,320	20.6	C	5,110	19.6	C	5,410	21.1	C	5,100	19.7	C
F-58	I-10	S 8th St to S Hargrave St	5,250	20.3	C	5,250	20.2	C	5,340	20.8	C	5,210	20.1	C
F-59	I-10	S Hargrave St to Field Rd	4,810	18.5	C	5,020	19.3	C	4,910	19.0	C	4,940	19.0	C
F-60	I-10	Field Rd to Main St (Cabazon)	4,600	17.7	B	4,830	18.6	C	4,700	18.2	C	4,760	18.3	C
F-61	I-10	Main St (Cabazon) to Main St	4,110	15.8	B	4,240	16.3	B	4,210	16.3	B	4,190	16.2	B
F-62	I-10	Main St to Haugen-Lehmann Way	4,230	16.3	B	4,300	16.5	B	4,350	16.8	B	4,240	16.4	B
F-64	I-10	SR-111 to Tipton Rd	3,680	14.1	B	3,760	14.4	B	3,790	14.6	B	3,740	14.4	B
F-65	I-10	Tipton Rd to SR-62	3,700	14.2	B	3,770	14.4	B	3,810	14.7	B	3,740	14.4	B
F-66	I-215	Scott Rd to Newport Rd	3,670	30.8	D	2,500	19.1	C	3,620	30.2	D	2,540	19.5	C
F-68	I-215	Newport Rd to MacCall Blvd	3,820	33.1	D	3,520	29.2	D	3,780	32.6	D	3,520	29.2	D
F-69	I-215	MacCall Blvd to Ethanac Rd	4,380	42.8	E	2,950	23.1	C	4,340	42.0	E	2,930	22.9	C
F-70	I-215	Ethanac Rd to SR-74	4,110	37.7	E	4,250	39.8	E	4,090	37.3	E	4,250	40.2	E
F-71	I-215	SR-74/Case Rd to Redlands Blvd	5,730	103.7	F	3,860	33.4	D	5,720	102.8	F	3,870	33.8	D
F-74	I-215	Columbia Ave to Center St	6,390	40.0	E	5,330	29.6	D	6,440	41.0	E	5,300	29.6	D
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	6,880	46.9	F	5,560	31.6	D	6,950	48.6	F	5,520	31.4	D
F-76	I-215	Iowa Ave/La Cadena Dr to Barton Rd	6,700	44.2	E	5,570	31.7	D	6,790	46.0	F	5,530	31.5	D
F-77	I-215	Barton Rd to Mt Vernon Ave	6,720	44.4	E	5,610	32.0	D	6,810	46.3	F	5,560	31.8	D
F-78	I-215	Mt Vernon Ave to I-10	7,080	29.2	D	5,890	23.1	C	7,200	30.2	D	5,850	23.0	C
F-80	I-215	Auto Plaza Dr to Mill St	4,790	18.2	C	4,140	15.8	B	4,830	18.5	C	4,110	15.8	B
F-83	I-215	Baseline Rd to Highland Ave	5,280	29.0	D	5,040	27.3	D	5,370	29.9	D	5,040	27.5	D

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- Southbound or Westbound Sections:
  - SR-60 Grove Avenue to Vineyard Avenue;
  - SR-60 Valley Way to Rubidoux Boulevard;
  - SR-60 Market Street to Main Street;
  - SR-60 Main Street to SR-91;
  - SR-60 Martin Luther King Boulevard to Central Avenue;
  - SR-60 Fair Isle Drive/Box Springs Road to I-215;
  - SR-60 I-215 to Day Street;
  - SR-91 McKinley Street to Pierce Street;
  - SR-91 Pierce Street to Magnolia Avenue;
  - SR-91 Magnolia Avenue to La Sierra Avenue;
  - SR-91 La Sierra Avenue to Tyler Street;
  - I-215 Ethanac Road to SR-74;
  - I-215 Columbia Avenue to Center Street;
  - I-215 Center Street to Iowa Avenue/La Cadena Drive;
  - I-215 Iowa Avenue/La Cadena Drive to Barton Road; and
  - I-215 Barton Road to Mt. Vernon Avenue.

A project-specific significant impact would occur at the following six freeway segments under year 2022 with project conditions:

- Northbound or Eastbound Sections:
  - SR-60 Mountain Avenue to Euclid Avenue
  - SR-60 Archibald Avenue to Haven Avenue; and
  - SR-91 Central Avenue to 14th Street.
- Southbound or Westbound Sections:
  - SR-60 Rubidoux Boulevard to Market Street;
  - SR-91 Pigeon Pass Road/Frederick Street to Heacock Street; and
  - SR-60 Heacock Street to Perris Boulevard.

Freeway Weaving Analysis. Year 2022 with project freeway weaving segment levels of service are summarized in Table 4.15.AQ, which shows 14 freeway weaving segments would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at 11 freeway weaving segments and, therefore, have a cumulative impact at these locations. At three freeway weaving segments, the project would create a project-specific significant impact since the project would decrease the LOS from satisfactory to unsatisfactory.

The project would have a cumulative impact at the following 10 freeway weaving segments under year 2022 with project conditions:

Table 4.15.AQ: Year 2022 plus Project Weaving Segment Levels of Service

ID	Freeway	Weaving Segment	2022 No Project												2022 Plus Project											
			Northbound / Eastbound												Northbound / Eastbound											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS
			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F		
W-1	SR-60	SR-71/S Garey Ave to S Reservoir Rd	5,602	182	339	1,029	29.3	D	6,877	207	383	1,173	37.6	E	5,869	189	341	1,071	31.3	D	6,836	206	395	1,165	37.7	E
W-9	SR-60	Haven Ave to Archibald Ave	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-20	SR-60	Main St to SR-91	5,972	92	769	519	36.6	E	6,017	57	973	323	38.0	E	6,370	90	760	510	39.4	E	6,076	56	955	315	38.6	E
W-21	SR-60	SR-91 to W Blaine St/3rd St	4,037	257	264	1,454	24.2	C	7,936	236	255	1,335	42.3	E	4,600	260	261	1,471	27.8	C	7,849	239	252	1,352	42.8	E
W-22	SR-60	W Blaine St/3rd St to University Ave	4,970	20	351	371	27.6	C	5,862	52	319	979	40.4	E	5,551	21	330	390	34.1	D	5,903	53	317	1,007	43.5	E
W-23	SR-60	University Ave to Martin Luther King Blvd	5,630	30	401	561	30.5	D	4,859	49	232	922	27.3	C	6,245	35	395	665	35.3	E	5,008	48	233	903	28.7	D
W-25	SR-60	Central Ave to Fair Isle Dr/Box Springs Rd	5,106	36	765	675	27.4	C	6,646	56	634	1,064	38.8	E	5,834	44	766	836	35.3	E	6,558	58	602	1,102	40.9	E
W-27	SR-60	I-215 to Day St	3,099	39	641	221	14.6	B	4,266	56	645	315	19.9	B	3,691	81	609	459	21.3	C	4,469	29	692	162	22.0	C
W-28	SR-60	Day St to Pigeon Pass Rd/Frederick St	2,463	13	1,178	238	16.7	B	3,318	28	1,252	532	23.2	C	2,972	12	1,178	228	19.8	B	3,318	28	1,242	532	23.9	C
W-32	SR-60	Moreno Beach Dr to Nason St.	1,271	11	850	200	14.2	B	1,635	15	956	276	18.1	B	1,931	11	849	209	20.0	B	1,735	15	956	276	19.8	B
W-35	SR-60	Theodore St to Gilman Springs Rd	1,886	6	325	105	12.7	B	2,464	14	637	257	19.3	B	1,730	10	510	190	14.5	B	2,211	21	429	399	18.3	B
W-42	SR-91	Magnolia Ave to La Sierra Ave	4,818	38	822	722	30.2	D	4,089	49	892	922	28.6	D	4,979	39	872	732	31.6	D	4,019	49	891	931	28.4	D
W-48	SR-91	Arlington Ave to Central Ave	5,805	25	915	475	39.0	E	2,540	20	740	380	17.9	B	5,815	25	986	466	40.1	E	2,520	20	720	380	17.8	B
W-50	SR-91	14th St to University Ave	3,827	17	863	323	25.1	C	3,412	22	958	418	24.6	C	3,887	17	884	314	25.7	C	3,472	22	968	418	25.2	C
W-51	SR-91	SR-60 to Mission Inn Ave/University Ave (off-ramp)	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-63	I-10	Haugen-Lehmann Way to SR-111	2,240	20	931	111	11.0	B	3,785	15	825	85	15.9	B	2,141	21	939	119	10.8	B	3,857	17	834	94	16.4	B
W-73	I-215	SR-60 to Columbia Ave	4,612	302	219	1,709	37.8	E	4,347	287	284	1,624	35.8	E	4,535	305	226	1,726	37.8	E	4,330	300	280	1,700	36.8	E
W-79	I-215	I-10 to Auto Plaza Dr/Orange Show Rd	3,273	83	788	468	16.8	B	3,748	108	742	612	19.0	B	3,204	84	796	476	16.7	B	3,828	108	742	612	19.4	B
W-81	I-215	Mill St to 2nd St	3,969	19	752	352	17.8	B	4,714	24	716	456	21.1	C	3,929	19	752	352	17.8	B	4,793	23	717	437	21.4	C
W-82	I-215	5th St to Baseline Rd	2,915	15	545	285	12.7	B	3,568	18	522	342	15.2	B	2,895	15	545	285	12.7	B	3,648	18	522	342	15.6	B

Indicates that the LOS exceeds the target level

Table 4.15.AQ: Year 2022 plus Project Weaving Segment Levels of Service (Page 2)

ID	Freeway	Weaving Segment	2022 No Project												2022 Plus Project											
			Southbound / Westbound												Southbound / Westbound											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS	Weaving Movement Volume				Density (pc/mi/ln)	LOS
			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F			F-F	R-R	F-R	R-F		
W-1	SR-60	SR-71/S Garey Ave to S Reservoir Rd	4,629	69	1,041	391	21.9	C	5,285	75	935	425	24.3	C	4,471	71	1,070	400	21.6	C	5,400	80	991	451	25.4	C
W-9	SR-60	Haven Ave to Archibald Ave	5,249	29	512	542	24.4	C	6,130	40	411	751	29.3	D	5,069	29	511	551	24.0	C	6,320	40	421	751	30.6	D
W-20	SR-60	Main St to SR-91	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-21	SR-60	SR-91 to W Blaine St/3rd St	6,070	110	921	621	29.4	D	7,450	140	911	791	36.9	E	5,890	110	961	621	29.3	D	7,840	140	951	791	39.7	E
W-22	SR-60	W Blaine St/3rd St to University Ave	5,056	6	524	114	21.0	C	7,293	23	538	428	32.0	D	4,907	7	534	124	21.7	C	7,743	23	538	428	36.5	E
W-23	SR-60	University Ave to Martin Luther King Blvd	4,190	40	610	760	28.8	D	6,473	23	687	437	39.6	E	4,020	40	610	760	28.3	D	6,833	23	717	437	>Capacity	F
W-25	SR-60	Central Ave to Fair Isle Dr/Box Springs Rd	5,370	70	340	1,330	39.6	E	6,391	51	479	969	42.2	E	5,476	66	335	1,245	41.3	E	6,786	56	495	1,055	>Capacity	F
W-27	SR-60	I-215 to Day St	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-28	SR-60	Day St to Pigeon Pass Rd/Frederick St	3,341	41	809	779	34.3	D	3,507	37	624	694	32.7	D	3,310	40	830	760	34.9	D	3,811	41	609	779	37.4	E
W-32	SR-60	Moreno Beach Dr to Nason St.	1,530	40	80	760	14.5	B	1,220	40	181	751	13.2	B	1,837	37	114	694	16.9	B	1,842	42	178	798	18.8	B
W-35	SR-60	Theodore St to Gilman Springs Rd	1,819	19	161	361	13.6	B	1,616	16	105	295	11.5	B	1,542	22	239	409	13.2	B	1,469	29	132	542	13.6	B
W-42	SR-91	Magnolia Ave to La Sierra Ave	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-48	SR-91	Arlington Ave to Central Ave	3,635	15	575	285	21.2	C	4,103	23	487	437	24.1	C	3,625	15	575	285	21.4	C	4,107	27	474	504	24.7	C
W-50	SR-91	14th St to University Ave	4,101	11	769	209	25.0	C	5,904	24	636	456	36.0	E	4,081	11	770	200	24.9	C	5,776	26	645	485	36.0	E
W-51	SR-91	SR-60 to Mission Inn Ave/University Ave (off-ramp)	2,778	155	376	876	14.7	B	5,993	158	333	893	26.7	C	2,726	161	380	910	14.8	B	5,882	164	337	927	26.7	C
W-63	I-10	Haugen-Lehmann Way to SR-111	3,665	25	45	475	14.8	B	2,707	77	74	1,454	17.2	B	3,776	26	45	485	15.4	B	2,676	76	75	1,435	17.1	B
W-73	I-215	SR-60 to Columbia Ave	4,778	98	1,613	553	33.5	D	3,911	111	1,459	629	28.8	D	4,792	102	1,628	578	34.1	D	3,830	110	1,481	621	28.4	D
W-79	I-215	I-10 to Auto Plaza Dr/Orange Show Rd	4,519	39	1,051	221	20.8	C	3,558	78	792	442	18.0	B	4,551	41	1,050	230	21.0	C	3,463	83	798	468	18.0	B
W-81	I-215	Mill St to 2nd St	4,280	30	420	570	19.0	B	3,306	36	395	675	15.9	B	4,311	31	430	580	19.3	B	3,276	36	395	675	15.9	B
W-82	I-215	5th St to Baseline Rd	3,560	30	380	570	16.0	B	2,347	37	414	694	12.3	B	3,600	30	380	570	16.2	B	2,327	37	414	694	12.3	B

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- Northbound or Eastbound:
  - SR-60 SR-71/S. Garey Avenue to S. Reservoir Road;
  - SR-60 Main Street to SR-91;
  - SR-60 SR-91 to W. Blaine Street/3rd Street;
  - SR-60 W. Blaine Street/3rd Street to University Avenue;
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road;
  - SR-91 Arlington Avenue to Central Avenue; and
  - I-215 SR-60 to Columbia Avenue.
- Southbound or Westbound:
  - SR-60 SR-91 to W. Blaine Street/3rd Street;
  - SR-60 University Avenue to Martin Luther King Boulevard;
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road; and
  - SR-91 14th Street to University Avenue.

A significant project impact would occur on the following weaving segments under year 2022 with project conditions:

- SR-60 University Avenue to Martin Luther King Boulevard;
- SR-60 W. Blaine Street/3rd Street to University Avenue; and
- SR-60 Day Street to Pigeon Pass Road/Frederick Street.

Freeway Ramp Analysis. Year 2022 with project freeway ramp merge/diverge levels of service are summarized in Table 4.15.AR, which shows three freeway ramps would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at two freeway ramps and, therefore, have a cumulative impact at these locations. The project would have a significant project impact at one freeway ramp.

The project would have a cumulative impact at the following two freeway ramps under year 2022 with project conditions:

- SR-60 Eastbound On-Ramp from Central Avenue; and
- SR-60 Westbound Off-Ramp to Central Avenue.

Under year 2022 with project conditions, the project would have a significant impact at the following freeway ramp:

- Westbound Off-ramp to Martin Luther King Boulevard.

Table 4.15.AR: Year 2022 plus Project Freeway Ramp Levels of Service

ID	Freeway / Direction	Ramp Segment	Ramp No. of Lanes	2022 No Project								2022 Plus Project							
				AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
				Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS
R-1	SR-60 EB	On-Ramp from Martin Luther King Blvd	1	6,190	710	27.4	C	5,780	1,320	30.8	D	6,910	740	30.8	D	5,910	1,340	32.0	D
R-2	SR-60 EB	On-Ramp from Central Ave	1	8,170	710	28.8	D	9,010	1,120	35.0	**F**	8,870	880	33.2	**F**	8,980	1,160	36.0	**F**
R-3	SR-60 EB	Off-Ramp to Redlands Blvd	1	1,910	220	8.3	A	2,370	520	12.5	B	2,670	480	18.2	B	2,510	540	16.0	B
R-4	SR-60 EB	Loop On-Ramp from Redlands Blvd	1	1,690	90	18.7	B	1,850	210	20.9	C	2,190	90	25.1	C	1,970	220	23.6	C
R-5	SR-60 EB	Direct On-Ramp from Redlands Blvd	0	Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario			
R-6	SR-60 EB	Off-Ramp to Theodore St	1	2,460	250	24.4	C	3,240	150	31.7	D	3,270	1,070	22.3	C	3,370	770	22.6	C
R-7	SR-60 EB	Loop On-Ramp from Theodore St	1	2,210	110	15.2	B	3,090	270	23.9	C	2,200	50	24.3	C	2,600	70	27.7	C
R-8	SR-60 EB	Direct On-Ramp from Theodore St	1	Does not Exist in this Scenario				Does not Exist in this Scenario				2,250	200	18.2	B	2,670	420	23.4	C
R-9	SR-60 EB	Off-Ramp to Gilman Spring Rd	1	2,320	330	14.4	B	3,370	650	21.0	C	2,440	520	15.8	B	3,060	450	19.5	B
R-10	SR-60 EB	On-Ramp from Gilman Spring Rd	1	1,990	270	14.6	B	2,720	140	19.8	B	1,920	310	15.1	B	2,610	270	20.4	C
R-11	SR-60 WB	Off-Ramp to Gilman Spring Rd	1	2,210	230	13.8	B	1,910	190	119.0	B	2,180	400	14.0	B	1,870	270	12.3	B
R-12	SR-60 WB	On-Ramp from Gilman Spring Rd	1	1,980	380	15.5	B	1,720	310	12.8	B	1,780	430	14.9	B	1,600	570	15.1	B
R-13	SR-60 WB	Off-Ramp to Theodore St	1	2,360	180	12.4	B	2,030	120	9.3	A	2,210	260	14.2	B	2,170	160	14.3	B
R-14	SR-60 WB	On-Ramp from Theodore St	1	2,180	100	21.0	C	1,910	290	20.2	C	1,950	710	25.5	C	2,010	800	27.1	C
R-15	SR-60 WB	Off-Ramp to Redlands Blvd	1	2,280	170	22.9	C	2,200	100	22.3	C	2,680	260	28.2	D	2,850	140	30.3	D
R-16	SR-60 WB	Loop On-Ramp from Redlands Blvd	1	2,110	440	24.9	C	2,100	380	24.4	C	2,420	470	29.1	D	2,710	730	34.5	D
R-17	SR-60 WB	Direct On-Ramp from Redlands Blvd	0	Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario				Does not Exist in this Scenario			
R-18	SR-60 WB	Off-Ramp to Central Ave	2	7,110	410	33.8	D	7,890	530	37.3	**E**	7,120	400	34.5	D	8,390	550	40.4	**E**
R-19	SR-60 WB	Off-Ramp to Martin Luther King Blvd	1	7,060	510	32.8	D	7,680	430	34.6	D	6,950	540	33.1	D	8,080	480	37.3	**E**

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

4.15.6.4 General Plan Buildout (Year 2035) With Project Conditions Traffic and Level of Service Impacts

Threshold: Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit.

Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

A significant project-specific traffic impact would occur if the project would cause a decrease from satisfactory LOS (based on local agency adopted standards) to an unsatisfactory LOS on a study area intersection, roadway segment, freeway mainline lane, freeway weaving segment or freeway ramp. A significant cumulative traffic impact would occur if the project contributes traffic toward those facilities operating at unsatisfactory LOS in the pre-project condition. The adopted LOS standards are as follows:

- Roadway segments and intersections: LOS C; and LOS D as outlined in previously referenced Table 4.15.E.
- Freeway mainline: LOS D.
- Freeway Ramp Merge/Diverge: LOS D.

Intersection Analysis. General Plan Buildout (year 2035) with project intersection levels of service for the study area intersections are summarized in Table 4.15.AS, which shows 39 intersections would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at 32 intersections and, therefore, have a cumulative impact. At seven intersections, the project would create a significant project impact since the project would cause decrease the LOS from satisfactory to unsatisfactory.

The project would contribute to a significant cumulative impact at the following 31 intersections under General Plan Buildout (Year 2035) with project conditions:

- Theodore Street/Ironwood Avenue;
- Moreno Beach Drive/Locust Avenue;
- Moreno Beach Drive/SR-60 Eastbound Ramps;
- Iris Avenue/Perris Boulevard;
- Kitching Street/Iris Avenue;
- Lasselle Street/Iris Avenue;
- Lasselle Street/Cactus Avenue;
- Graham Street/Alessandro Boulevard;
- Indian Street/Cactus Avenue;
- Alessandro Boulevard/Sycamore Canyon Boulevard;

Table 4.15.AS-1: General Plan Buildout plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2035 No Project			2035 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
IN-1	Theodore St/Street F	D	N/A	Non-Existent		RABT	10.2	B
IN-2	Street D/Street E	D	N/A	Non-Existent		Signal	12.3	B
IN-3	Theodore Ave/Alessandro (Str A/Str C/Str E)	D	CSS	20.3	C	RABT	9.7	A
IN-4	Alessandro Blvd (Street C)/Street F	D	N/A	Non-Existent		RABT	9	A
IN-5	Alessandro Blvd (Street C)/Street H	D	N/A	Non-Existent		Signal	10.3	B
IN-6	Alessandro Blvd (Street C)/Gilman Springs Rd	D	CSS	11.7	B	Signal	17.5	B
IN-7	Street F/Street G	D	N/A	Non-Existent		Signal	11.8	B
IN-8	Street G/Street H	D	N/A	Non-Existent		AWS	14.5	B
IN-9	Gilman Springs Rd/Eucalytpus Ave	D	N/A	Non-Existent		Signal	11.9	B
IN-10	Redlands Blvd/Locust Ave	C	Signal	5.4	A	Signal	10.7	B
IN-11	Redlands Blvd/Ironwood Ave	D	Signal	45.0	D	Signal	45.9	D
IN-12	Theodore Street/Ironwood Avenue	D	CSS	22.9	C	CSS	44.3	**E**
IN-13	Redlands Blvd/SR-60 WB ramps	D	Signal	5.1	A	Signal	6.3	A
IN-14	Redlands Blvd/SR-60 EB ramps	D	Signal	5.1	A	Signal	5.4	A
IN-15	Theodore Str/SR-60 WB ramps	D	CSS	> 50	**F**	Signal	14.4	B
IN-16	Theodore Str/SR-60 EB ramps	D	CSS	13.5	B	Signal	2.2	A
IN-17	Quincy Str/Fir Ave	D	CSS	9.6	A	CSS	10.7	B
IN-18	Redlands Blvd/Eucalyptus Ave (Fir)	D	Signal	7.4	A	Signal	17.4	B
IN-19	Theodore Ave/Fir Ave (Eucalyptus)	D	CSS	10.5	B	Signal	28.6	C
IN-20	Oliver Str/Alessandro Blvd	C	CSS	19.8	C	CSS	20.8	C
IN-21	Moreno Beach Dr/Alessandro Blvd	D	Signal	17.2	B	Signal	17.2	B
IN-22	Quincy Str/Alessandro Blvd	C	Signal	4.2	A	Signal	4.2	A
IN-23	Redlands Blvd/Alessandro Blvd	C	AWS	49.6	**E**	AWS	11.1	B
IN-24	Oliver Str/Cactus Ave	D	Signal	22.3	C	Signal	24.0	C
IN-25	Moreno Beach Dr/Cactus Ave	C	Signal	20.2	C	Signal	21.9	C
IN-26	Quincy Str/Cactus Ave	C	Signal	4.2	A	Signal	7.3	A
IN-27	Redlands Blvd/Cactus Ave	C	AWS	13.6	B	AWS	> 50	**F**
IN-28	Moreno Beach Dr/John Kennedy Dr	D	Signal	22.5	C	Signal	27.0	C
IN-29	Heacock Str/Ironwood Ave	D	Signal	31.6	C	Signal	31.6	C
IN-30	Heacock Str/SR-60 WB Ramps	D	Signal	30.5	C	Signal	31.4	C
IN-31	Heacock St/SR-60 EB Ramps	D	Signal	12.3	B	Signal	12.7	B
IN-32	Sunnymead Blvd & Perris Blvd	D	Signal	31.8	C	Signal	32.2	C
IN-33	Perris Blvd/SR-60 WB Ramps	D	Signal	22.5	C	Signal	24.0	C
IN-34	Perris Blvd/Eucalyptus Ave	D	Signal	21.8	C	Signal	21.8	C
IN-35	Moreno Beach Dr/Locust Ave	C	CSS	29.4	**D**	CSS	30.2	**D**
IN-36	Moreno Beach Drive & Ironwood Avenue	D	Signal	46.6	D	Signal	53.9	D
IN-37	Moreno Beach Dr/SR-60 EB Ramps	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-38	Perris Blvd/John F. Kennedy Dr	D	Signal	28.8	C	Signal	33.5	C
IN-39	Iris Ave/Perris Blvd	D	Signal	58.6	**E**	Signal	65.5	**E**
IN-40	Kitching St/Iris Ave	C	Signal	63.8	**E**	Signal	76.2	**E**
IN-41	Lasselle Str/Iris Ave	D	Signal	34.9	C	Signal	37.7	D
IN-42	Nason Str/Iris Ave	C	Signal	20.8	C	Signal	21.0	C

Table 4.15.AS-1: General Plan Buildout plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2035 No Project			2035 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
IN-43	Oliver Str/Iris Ave	D	Signal	24.4	C	Signal	23.5	C
IN-44	Via Dell Lago/Iris Ave	C	Signal	7.0	A	Signal	6.8	A
IN-45	Krameria Ave/Perris Blvd	D	Signal	27.8	C	Signal	29.1	C
IN-46	Kitching Str/Krameria Ave	D	Signal	35.3	D	Signal	37.3	D
IN-47	Lasselle Str/Krameria Ave	D	Signal	32.2	C	Signal	34.4	C
IN-48	Kitching Str/Alessandro Blvd	D	Signal	26.5	C	Signal	27.8	C
IN-49	Lasselle Str/Alessandro Blvd	D	Signal	19.7	B	Signal	20.5	C
IN-50	Morrison Str/Alessandro Blvd	D	Signal	25.1	C	Signal	25.0	C
IN-51	Nason Str/Alessandro Blvd	D	Signal	30.9	C	Signal	31.2	C
IN-52	Kitching Str/Cactus Ave	C	Signal	30.7	C	Signal	30.2	C
IN-53	Lasselle Str/Cactus Ave	C	Signal	38.5	**D**	Signal	38.1	**D**
IN-54	Morrison Str/Cactus Ave	D	Signal	6.1	A	Signal	6.4	A
IN-55	Nason Str/Cactus Ave	D	Signal	36.1	D	Signal	36.6	D
IN-56	Frederick Str/Alessandro Blvd	D	Signal	19.2	B	Signal	19.3	B
IN-57	Graham Str/Alessandro Blvd	D	Signal	35.7	D	Signal	35.3	D
IN-58	Heacock Str/Alessandro Blvd	D	Signal	29.6	C	Signal	29.9	C
IN-59	Indian Str/Alessandro Blvd	D	Signal	21.7	C	Signal	21.7	C
IN-60	Perris Blvd/Alessandro Blvd	D	Signal	32.9	C	Signal	34.2	C
IN-61	Frederick Str/Cactus Ave	D	Signal	9.7	A	Signal	9.6	A
IN-62	Graham Str/Cactus Ave	D	Signal	22.7	C	Signal	23.4	C
IN-63	Heacock Str/Cactus Ave	D	Signal	31.6	C	Signal	31.7	C
IN-64	Indian Str/Cactus Ave	C	Signal	32.6	C	Signal	32.5	C
IN-65	Perris Blvd/Cactus Ave	D	Signal	39.2	D	Signal	43.6	D
IN-66	Alessandro Blvd/Sycamore Canyon Blvd	D	Signal	35.3	D	Signal	37.5	D
IN-67	I-215 SB Ramps/Alessandro Blvd	D	Signal	9.5	A	Signal	9.3	A
IN-68	I-215 NB Ramps/Alessandro Blvd	D	Signal	27.5	C	Signal	27.8	C
IN-69	Old 215 Frontage Rd/Alessandro Blvd	D	Signal	15.2	B	Signal	15.3	B
IN-70	Day Str/Alessandro Blvd	D	Signal	22.6	C	Signal	23.4	C
IN-71	Elsworth Str/Alessandro Blvd	D	Signal	28.4	C	Signal	29.4	C
IN-72	I-215 SB Ramps/Cactus Ave	D	Signal	37.6	D	Signal	41.6	D
IN-73	I-215 NB Ramps/Cactus Ave	D	Signal	71.1	**E**	Signal	75.5	**E**
IN-74	Elsworth Str/Cactus Ave	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-75	Central Ave/Lochmoor Dr.	D	Signal	18.6	B	Signal	21.7	C
IN-76	Sycamore Canyon Blvd/Central Ave	D	Signal	28.6	C	Signal	29.6	C
IN-77	SR-60 EB Ramps/Central Ave	D	Signal	10.5	B	Signal	13.4	B
IN-78	SR-60 WB Ramps/Central Ave	D	Signal	7.3	A	Signal	7.1	A
IN-79	Alessandro Blvd/Trautwein Rd.	D	Signal	33.3	C	Signal	34.9	C
IN-80	Alessandro Blvd/Mission Grove Pkwy	D	Signal	27.4	C	Signal	28.9	C
IN-81	Martin Luther King Blvd/Chicago Ave	D	Signal	26.0	C	Signal	27.5	C
IN-82	Martin Luther King Blvd/Iowa Ave	D	Signal	10.9	B	Signal	10.9	B
IN-83	Martin Luther King Blvd/Canyon Crest Dr	D	Signal	40.7	D	Signal	44.4	D
IN-84	Martin Luther King Blvd/I-215 SB Ramps	D	Signal	11.7	B	Signal	12.2	B
IN-85	Martin Luther King Blvd/I-215 NB Ramps	D	AWS	45.1	**E**	AWS	49.7	**E**
IN-86	Central Ave/Chicago Ave	D	Signal	49.5	D	Signal	61.3	**E**

Table 4.15.AS-1: General Plan Buildout plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2035 No Project			2035 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
IN-87	Central Ave/El Cerrito Dr	D	Signal	16.9	B	Signal	17.1	B
IN-88	Central Ave/Canyon Crest Dr	D	Signal	45.2	D	Signal	50.6	D
IN-89	Chicago Ave/Country Club Dr	D	Signal	10.3	B	Signal	12.1	B
IN-90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	Signal	37.9	D	Signal	38.9	D
IN-91	Arlington Ave/Indiana Ave/SR-91 NB Ramps	D	Signal	20.2	C	Signal	20.5	C
IN-92	Arlington Ave/Maude St	D	Signal	17.1	B	Signal	17.2	B
IN-93	Horace St/Arlington Ave	D	Signal	26.4	C	Signal	28.3	C
IN-94	Arlington Ave/Victoria Ave	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-95	Alessandro Blvd/Chicago Ave	D	Signal	55.3	**E**	Signal	60.2	**E**
IN-96	Alessandro Blvd/Century Ave	D	Signal	19.2	B	Signal	19.6	B
IN-97	Alessandro Blvd/Via Vista Dr	D	Signal	18.8	B	Signal	18.8	B
IN-98	Alessandro Blvd/Canyon Crest Dr	D	Signal	54.4	D	Signal	55.9	**E**
IN-99	Harley Knox Blvd/Perris Blvd	D	Signal	33.5	C	Signal	35.6	D
IN-100	Harley Knox Blvd/Evan Rd	D	Signal	16.1	B	Signal	16.6	B
IN-101	Ramona Expy/Indian St	E	Signal	> 80	**F**	Signal	> 80	**F**
IN-102	Ramona Expy/Perris Blvd	E	Signal	49.2	D	Signal	52.3	D
IN-103	Ramona Expy/Evans Rd	E	Signal	60.6	**E**	Signal	66.1	**E**
IN-104	Perris Blvd/Morgan St	D	Signal	11.9	B	Signal	11.9	B
IN-105	Evans Rd/Morgan St	C	Signal	28.1	C	Signal	28.1	C
IN-106	Perris Blvd/Rider St	C	Signal	23.4	C	Signal	23.1	C
IN-107	Evans Rd/Rider St	C	Signal	36.3	**D**	Signal	36.5	**D**
IN-108	Perris Blvd/Mid-County Pkwy WB Ramps	D	Signal	32.7	C	Signal	33.7	C
IN-109	Perris Blvd/Mid-County Pkwy EB Ramps	D	Signal	28.3	C	Signal	29.8	C
IN-110	Evans Rd/Mid-County Pkwy WB Ramps	D	Signal	25.7	C	Signal	25.6	C
IN-111	Evans Rd/Mid-County Pkwy EB Ramps	D	Signal	18.1	B	Signal	18.1	B
IN-112	Placentia Ave/Perris Blvd	D	Signal	29.3	C	Signal	29.3	C
IN-113	Evans Rd/Placentia Ave	D	Signal	7.3	A	Signal	7.2	A
IN-114	Evans Rd/Orange Ave	C	Signal	25.5	C	Signal	25.4	C
IN-115	Evans Rd/Nuevo Rd	C	Signal	31.8	C	Signal	31.9	C
IN-116	Evans Rd/Ellis Ave	D	Signal	12.7	B	Signal	13.5	B
IN-117	Ellis Ave/I-215 SB Ramps	E	Signal	26.5	C	Signal	26.2	C
IN-118	Ellis Ave/SR-215 NB Ramps	E	Signal	22.2	C	Signal	21.9	C
IN-119	Evans Rd/San Jacinto Ave	D	Signal	21.1	C	Signal	21.5	C
IN-120	Park Center Blvd/Ramona Expy WB Ramps	D	CSS	11.8	B	CSS	13.3	B
IN-121	Park Center Blvd/Ramona Expy EB Ramps	D	CSS	12.0	B	CSS	13.7	B
IN-122	Bridge St/Ramona Expy		N/A	Non-Existent		N/A	Non-Existent	
IN-123	Gilman Springs Rd/Bridge Str	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	C	CSS	> 50	**F**	CSS	> 50	**F**

Table 4.15.AS-1: General Plan Buildout plus Project Intersection Levels of Service (A.M. Peak Hour)

ID	Study Intersection	LOS Standard	2035 No Project			2035 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
IN-126	Ramona Expy/Sanderson Ave	D	Signal	43.9	D	Signal	49.4	D
IN-127	Potrero Blvd/SR-60 WB Ramps	D	Signal	21.1	C	Signal	26.6	C
IN-128	Potrero Blvd/SR-60 EB Ramps	D	Signal	20.3	C	Signal	21.1	C
IN-129	W 6th St/California Ave	C	AWS	> 50	**F**	AWS	> 50	**F**
IN-130	W 6th St/Beaumont Ave	C	Signal	35.5	**D**	Signal	36.7	**D**
IN-131	Reche Canyon Rd/Reche Vista Dr	C	Signal	35.0	C	Signal	40.4	**D**
IN-132	San Timoteo Canyon Rd/Alessandro Rd	D	AWS	26.4	D	AWS	41.2	**E**
IN-133	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
IN-134	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
IN-135	W Crescent Ave/Alessandro Rd	D	CSS	17.6	C	CSS	19.9	C
IN-136	W Sunset Dr/Alessandro Rd	D	AWS	10.2	B	AWS	10.7	B

Notes:
"NB" and "SB" denote northbound and southbound respectively
"EB" and "WB" denote eastbound and westbound respectively
"LT" and "RT" denote left turn and right turn respectively
Indicates LOS exceeds the target level
"CSS" means cross-street is stop-controlled
"AWS" means all-way stop
"RABT" means roundabout

Table 4.15.AS-2: General Plan Buildout plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2035 No Project			2035 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
IN-1	Theodore St/Street F	D	N/A	Non-Existent		RABT	47.1	D
IN-2	Street D/Street E	D	N/A	Non-Existent		Signal	14.2	B
IN-3	Theodore Ave/Alessandro (Str A/Str C/Str E)	D	CSS	19.2	C	RABT	11.6	B
IN-4	Street C/Street F	D	N/A	Non-Existent		RABT	10.6	B
IN-5	Street C/Street H	D	N/A	Non-Existent		Signal	25.9	C
IN-6	Alessandro Blvd (Street C)/Gilman Springs Rd	D	CSS	> 50	**F**	Signal	43.4	D
IN-7	Street F/Street G	D	N/A	Non-Existent		Signal	12.8	B
IN-8	Alessandro Blvd (Street G)/Street H	D	N/A	Non-Existent		AWS	15.2	C
IN-9	Gilman Springs Rd/Eucalytpus Ave	D	N/A	Non-Existent		Signal	17.7	B
IN-10	Redlands Blvd/Locust Ave	C	Signal	16.6	B	Signal	20.2	C
IN-11	Redlands Blvd/Ironwood Ave	D	Signal	48.2	D	Signal	73.6	**E**
IN-12	Theodore Street/Ironwood Avenue	D	CSS	> 50	**F**	CSS	> 50	**F**
IN-13	Redlands Blvd/SR-60 WB ramps	D	Signal	7.6	A	Signal	9.9	A
IN-14	Redlands Blvd/SR-60 EB ramps	D	Signal	7.3	A	Signal	10.0	A
IN-15	Theodore Str/SR-60 WB ramps	D	CSS	> 50	**F**	Signal	20.1	C
IN-16	Theodore Str/SR-60 EB ramps	D	CSS	> 50	**F**	Signal	34.1	C
IN-17	Quincy Str/Fir Ave	D	CSS	12.6	B	CSS	15.9	C
IN-18	Redlands Blvd/Eucalyptus Ave (Fir)	D	Signal	15.4	B	Signal	29.9	C
IN-19	Theodore Ave/Fir Ave (Eucalyptus)	D	CSS	> 50	**F**	Signal	47.5	D
IN-20	Oliver Str/Alessandro Blvd	C	CSS	21.1	C	CSS	22.5	C
IN-21	Moreno Beach Dr/Alessandro Blvd	D	Signal	19.2	B	Signal	22.2	C

Table 4.15.AS-2: General Plan Buildout plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2035 No Project			2035 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
IN-22	Quincy Str/Alessandro Blvd	C	Signal	3.7	A	Signal	3.7	A
IN-23	Redlands Blvd/Alessandro Blvd	C	AWS	35.8	**E**	AWS	18.3	C
IN-24	Oliver Str/Cactus Ave	D	Signal	20.1	C	Signal	21.3	C
IN-25	Moreno Beach Dr/Cactus Ave	C	Signal	29.7	C	Signal	36.8	**D**
IN-26	Quincy Str/Cactus Ave	C	Signal	4.1	A	Signal	3.9	A
IN-27	Redlands Blvd/Cactus Ave	C	AWS	12.9	B	AWS	> 50	**F**
IN-28	Moreno Beach Dr/John Kennedy Dr	D	Signal	16.6	B	Signal	18.6	B
IN-29	Heacock Str/Ironwood Ave	D	Signal	35.2	D	Signal	35.5	D
IN-30	Heacock Str/SR-60 WB Ramps	D	Signal	23.1	C	Signal	24.0	C
IN-31	Heacock St/SR-60 EB Ramps	D	Signal	19.4	B	Signal	20.0	B
IN-32	Sunnymead Blvd & Perris Blvd	D	Signal	39.7	D	Signal	45.3	D
IN-33	Perris Blvd/SR-60 WB Ramps	D	Signal	17.1	B	Signal	19.5	B
IN-34	Perris Blvd/Eucalyptus Ave	D	Signal	24.7	C	Signal	24.6	C
IN-35	Moreno Beach Dr/Locust Ave	C	CSS	37.9	**E**	CSS	> 50	**F**
IN-36	Moreno Beach Drive & Ironwood Avenue	D	Signal	50.4	D	Signal	61.9	**E**
IN-37	Moreno Beach Dr/SR-60 EB Ramps	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-38	Perris Blvd/John F. Kennedy Dr	D	Signal	31.6	C	Signal	37.3	D
IN-39	Iris Ave/Perris Blvd	D	Signal	63.8	**E**	Signal	> 80	**F**
IN-40	Kitching St/Iris Ave	C	Signal	> 80	**F**	Signal	> 80	**F**
IN-41	Lasselle Str/Iris Ave	D	Signal	77.3	**E**	Signal	> 80	**F**
IN-42	Nason Str/Iris Ave	C	Signal	24.2	C	Signal	34.7	C
IN-43	Oliver Str/Iris Ave	D	Signal	25.1	C	Signal	25.0	C
IN-44	Via Dell Lago/Iris Ave	C	Signal	7.2	A	Signal	6.5	A
IN-45	Krameria Ave/Perris Blvd	D	Signal	52.6	D	Signal	53.4	D
IN-46	Kitching Str/Krameria Ave	D	Signal	41.7	D	Signal	53.7	D
IN-47	Lasselle Str/Krameria Ave	D	Signal	14.5	B	Signal	15.8	B
IN-48	Kitching Str/Alessandro Blvd	D	Signal	28.2	C	Signal	29.3	C
IN-49	Lasselle Str/Alessandro Blvd	D	Signal	23.7	C	Signal	24.3	C
IN-50	Morrison Str/Alessandro Blvd	D	Signal	23.4	C	Signal	24.8	C
IN-51	Nason Str/Alessandro Blvd	D	Signal	28.2	C	Signal	29.2	C
IN-52	Kitching Str/Cactus Ave	C	Signal	28.5	C	Signal	28.3	C
IN-53	Lasselle Str/Cactus Ave	C	Signal	34.8	C	Signal	38.2	**D**
IN-54	Morrison Str/Cactus Ave	D	Signal	8.6	A	Signal	9.7	A
IN-55	Nason Str/Cactus Ave	D	Signal	47.6	D	Signal	51.4	D
IN-56	Frederick Str/Alessandro Blvd	D	Signal	34.4	C	Signal	36.4	D
IN-57	Graham Str/Alessandro Blvd	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-58	Heacock Str/Alessandro Blvd	D	Signal	29.5	C	Signal	30.5	C
IN-59	Indian Str/Alessandro Blvd	D	Signal	37.0	D	Signal	37.4	D
IN-60	Perris Blvd/Alessandro Blvd	D	Signal	40.9	D	Signal	44.2	D
IN-61	Frederick Str/Cactus Ave	D	Signal	12.5	B	Signal	13.0	B
IN-62	Graham Str/Cactus Ave	D	Signal	42.1	D	Signal	43.4	D
IN-63	Heacock Str/Cactus Ave	D	Signal	27.2	C	Signal	27.5	C
IN-64	Indian Str/Cactus Ave	C	Signal	36.4	**D**	Signal	36.4	**D**
IN-65	Perris Blvd/Cactus Ave	D	Signal	32.5	C	Signal	36.1	D

Table 4.15.AS-2: General Plan Buildout plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2035 No Project			2035 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
IN-66	Alessandro Blvd/Sycamore Canyon Blvd	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-67	I-215 SB Ramps/Alessandro Blvd	D	Signal	8.5	A	Signal	8.6	A
IN-68	I-215 NB Ramps/Alessandro Blvd	D	Signal	31.4	C	Signal	34.2	C
IN-69	Old 215 Frontage Rd/Alessandro Blvd	D	Signal	16.4	B	Signal	16.2	B
IN-70	Day Str/Alessandro Blvd	D	Signal	28.1	C	Signal	28.1	C
IN-71	Elsworth Str/Alessandro Blvd	D	Signal	52.4	D	Signal	55.4	**E**
IN-72	I-215 SB Ramps/Cactus Ave	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-73	I-215 NB Ramps/Cactus Ave	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-74	Elsworth Str/Cactus Ave	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-75	Central Ave/Lochmoor Dr.	D	Signal	76.8	E	Signal	> 80	**F**
IN-76	Sycamore Canyon Blvd/Central Ave	D	Signal	25.4	C	Signal	27.4	C
IN-77	SR-60 EB Ramps/Central Ave	D	Signal	11.1	B	Signal	11.9	B
IN-78	SR-60 WB Ramps/Central Ave	D	Signal	6.6	A	Signal	6.8	A
IN-79	Alessandro Blvd/Trautwein Rd.	D	Signal	16.5	B	Signal	16.7	B
IN-80	Alessandro Blvd/Mission Grove Pkwy	D	Signal	52.2	D	Signal	58.4	**E**
IN-81	Martin Luther King Blvd/Chicago Ave	D	Signal	41.3	D	Signal	42.6	D
IN-82	Martin Luther King Blvd/Iowa Ave	D	Signal	14.8	B	Signal	15.1	B
IN-83	Martin Luther King Blvd/Canyon Crest Dr	D	Signal	41.1	D	Signal	42.2	D
IN-84	Martin Luther King Blvd/I-215 SB Ramps	D	Signal	12.2	B	Signal	12.5	B
IN-85	Martin Luther King Blvd/I-215 NB Ramps	D	AWS	20.7	C	AWS	22.0	C
IN-86	Central Ave/Chicago Ave	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-87	Central Ave/El Cerrito Dr	D	Signal	20.0	B	Signal	20.9	C
IN-88	Central Ave/Canyon Crest Dr	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-89	Chicago Ave/Country Club Dr	D	Signal	13.5	B	Signal	15.4	B
IN-90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	Signal	67.9	**E**	Signal	69.6	**E**
IN-91	Arlington Ave/Indiana Ave/SR-91 NB Ramps	D	Signal	22.9	C	Signal	25.2	C
IN-92	Arlington Ave/Maude St	D	Signal	13.5	B	Signal	14.2	B
IN-93	Horace St/Arlington Ave	D	Signal	17.2	B	Signal	18.0	B
IN-94	Arlington Ave/Victoria Ave	D	Signal	70.8	**E**	Signal	> 80	**F**
IN-95	Alessandro Blvd/Chicago Ave	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-96	Alessandro Blvd/Century Ave	D	Signal	11.8	B	Signal	12.4	B
IN-97	Alessandro Blvd/Via Vista Dr	D	Signal	22.1	C	Signal	22.1	C
IN-98	Alessandro Blvd/Canyon Crest Dr	D	Signal	> 80	**F**	Signal	> 80	**F**
IN-99	Harley Knox Blvd/Perris Blvd	D	Signal	48.0	D	Signal	51.9	D
IN-100	Harley Knox Blvd/Evan Rd	D	Signal	23.8	C	Signal	24.3	C
IN-101	Ramona Expy/Indian St	E	Signal	> 80	**F**	Signal	> 80	**F**
IN-102	Ramona Expy/Perris Blvd	E	Signal	58.5	E	Signal	60.9	E
IN-103	Ramona Expy/Evans Rd	E	Signal	46.2	D	Signal	49.2	D
IN-104	Perris Blvd/Morgan St	D	Signal	9.9	A	Signal	11.0	B
IN-105	Evans Rd/Morgan St	C	Signal	21.8	C	Signal	21.8	C
IN-106	Perris Blvd/Rider St	C	Signal	30.1	C	Signal	30.6	C
IN-107	Evans Rd/Rider St	C	Signal	34.5	C	Signal	34.6	C
IN-108	Perris Blvd/Mid-County Pkwy WB Ramps	D	Signal	22.6	C	Signal	25.3	C

Table 4.15.AS-2: General Plan Buildout plus Project Intersection Levels of Service (P.M. Peak Hour)

ID	Study Intersection	LOS Standard	2035 No Project			2035 With Project		
			Traffic Control	Delay	LOS	Traffic Control	Delay	LOS
IN-109	Perris Blvd/Mid-County Pkwy EB Ramps	D	Signal	36.2	D	Signal	38.4	D
IN-110	Evans Rd/Mid-County Pkwy WB Ramps	D	Signal	21.3	C	Signal	22.0	C
IN-111	Evans Rd/Mid-County Pkwy EB Ramps	D	Signal	24.9	C	Signal	25.0	C
IN-112	Placentia Ave/Perris Blvd	D	Signal	34.2	C	Signal	34.7	C
IN-113	Evans Rd/Placentia Ave	D	Signal	7.4	A	Signal	7.4	A
IN-114	Evans Rd/Orange Ave	C	Signal	25.3	C	Signal	25.4	C
IN-115	Evans Rd/Nuevo Rd	C	Signal	31.2	C	Signal	31.1	C
IN-116	Evans Rd/Ellis Ave	D	Signal	13.6	B	Signal	14.3	B
IN-117	Ellis Ave/I-215 SB Ramps	E	Signal	28.3	C	Signal	28.0	C
IN-118	Ellis Ave/SR-215 NB Ramps	E	Signal	34.3	C	Signal	35.0	C
IN-119	Evans Rd/San Jacinto Ave	D	Signal	22.7	C	Signal	22.6	C
IN-120	Park Center Blvd/Ramona Expy WB Ramps	D	CSS	15.3	C	CSS	17.1	C
IN-121	Park Center Blvd/Ramona Expy EB Ramps	D	CSS	29.9	D	CSS	34.9	D
IN-122	Bridge St/Ramona Expy		N/A	Non-Existent		N/A	Non-Existent	
IN-123	Gilman Springs Rd/Bridge Str	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	C	CSS	> 50	**F**	CSS	> 50	**F**
IN-126	Ramona Expy/Sanderson Ave	D	Signal	39.9	D	Signal	42.2	D
IN-127	Potrero Blvd/SR-60 WB Ramps	D	Signal	15.3	B	Signal	16.6	B
IN-128	Potrero Blvd/SR-60 EB Ramps	D	Signal	31.3	C	Signal	33.3	C
IN-129	W 6th St/California Ave	C	AWS	> 50	**F**	AWS	> 50	**F**
IN-130	W 6th St/Beaumont Ave	C	Signal	> 80	**F**	Signal	> 80	**F**
IN-131	Reche Canyon Rd/Reche Vista Dr	C	Signal	> 80	**F**	Signal	> 80	**F**
IN-132	San Timoteo Canyon Rd/Alessandro Rd	D	AWS	22.2	C	AWS	39.2	**E**
IN-133	San Timoteo Canyon Rd/Live Oak Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
IN-134	Redlands Blvd/San Timoteo Canyon Rd	C	AWS	> 50	**F**	AWS	> 50	**F**
IN-135	W Crescent Ave/Alessandro Rd	D	CSS	14.7	B	CSS	15.1	C
IN-136	W Sunset Dr/Alessandro Rd	D	AWS	10.4	B	AWS	10.8	B

Notes:
"NB" and "SB" denote northbound and southbound respectively
"EB" and "WB" denote eastbound and westbound respectively
"LT" and "RT" denote left turn and right turn respectively
Indicates LOS exceeds the target level
"CSS" means cross-street is stop-controlled
"AWS" means all-way stop
"RABT" means roundabout

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- I-215 Southbound Ramps/Cactus Avenue;
- Central Avenue/Lochmoor Drive;
- Elsworth Street/Cactus Avenue;
- I-215 Northbound Ramps/Cactus Avenue;
- Martin Luther King Boulevard/I-215 Northbound Ramps;
- Central Avenue/Chicago Avenue;
- Central Avenue/Canyon Crest Drive;
- Arlington Avenue/Riverside Avenue/SR-91 Southbound Ramps;
- Arlington Avenue/Victoria Avenue;
- Alessandro Boulevard/Chicago Avenue;
- Alessandro Boulevard/Canyon Crest Drive;
- Ramona Expressway/Indian Street;
- Evans Road/Rider Street;
- Gilman Springs Road/Bridge Street;
- SR-79 (Sanderson Avenue) Northbound/Gilman Springs Road;
- SR-79 (Sanderson Avenue) Southbound/Gilman Springs Road;
- W. 6th Street/California Avenue;
- W. 6th Street/Beaumont Avenue;
- Reche Canyon Road/Reche Vista Drive;
- San Timoteo Canyon Road/Live Oak Canyon Road; and
- Redlands Boulevard/San Timoteo Canyon Road.

A significant project impact would occur at the following seven intersections under General Plan Buildout with project conditions:

- Redlands Boulevard/Ironwood Avenue;
- Moreno Beach Drive/Cactus Avenue;
- Redlands Boulevard/Cactus Avenue;
- Moreno Beach Drive/Ironwood Avenue;
- Elsworth Street/Alessandro Boulevard;
- Alessandro Boulevard/Mission Grove Parkway; and
- San Timoteo Canyon Road/Alessandro Road.

Roadway Segment Analysis. General Plan Buildout (2035) plus project roadway segment levels of service for the study area roadway segments are summarized in Table 4.15.AT, which shows the project would have a direct significant impact on the following two roadway segments:

- Theodore Street between SR-60 Westbound Ramps to Ironwood Avenue; and
- Gilman Springs Road between Alessandro Boulevard and Bridge Street.

Table 4.15.AT: General Plan Buildout plus Project Roadway Levels of Service

	Roadway	From	To	LOS Standard***	2035 No-Project			2035 Plus Project			Project Significant Impact?	Mitigation Measures Required to Reduce Project Impacts to Less-Than-Significant	LOS After Mitigation
					Roadway Section*	Daily Volume	LOS	Roadway Section*	Daily Volume	LOS			
S-1	Theodore Street (A)	SR-60 WB Ramps	Ironwood Avenue	D	2U	9,653	C	2U	14,617	**E**	Yes	Widen to 4 lanes	A
S-2	Theodore Street (A)	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	2U	8,699	B	6D	34,518	B	No		
S-3	Fir (Eucalyptus) Ave.	Redlands Blvd	Theodore Street (A)	D	2U	7,346	A	4D	12,045	A	No		
S-4	Eucalyptus Ave (B)	Theodore Street (A)	Gilman Springs Rd	N/A	Future Road			6D	33,818	A	No		
S-5	Theodore Street (A)	Fir (Eucalyptus) Ave.	Street E	D	2U	1,664	A	6D	36,947	B	No		
S-6	Street E	Theodore Street (A)	Street D	N/A	Future Road			4U	14,123	A	No		
S-7	Street F	Theodore Street (A)	Alessandro Blvd (Street C)	N/A	Future Road			2U	5,161	A	No		
S-8	Theodore Street (A)	Fir (Eucalyptus) Ave.	Alessandro Blvd (Street C)	D	2U	1,724	A	4D	14,068	A	No		
S-9	Alessandro Blvd (Street E)	Merwin Street	Theodore Street (A)	D	2U	5,501	A	4U	15,396	B	No		
S-10	Street D	Alessandro Blvd (Street E)	Cactus Ave.	N/A	Future Road			4U	16,557	B	No		
S-11	Alessandro Blvd (Street C)	Theodore Street (A)	Street F	D	2U	7,953	B	4U	17,410	B	No		
S-12	Street F	Street C	Street G	N/A	Future Road			2U	6,745	A	No		
S-13	Alessandro Blvd (Street C)	Street F	Gilman Springs Rd	D	2U	7,953	B	4U	19,428	A	No		
S-14	Street G	Street F	Street H	N/A	Future Road			2U	4,906	A	No		
S-15	Street H	Street G	Alessandro Blvd (Street C)	N/A	Future Road			2U	9,790	C	No		
S-16	Gilman Springs Rd	Alessandro Blvd (Street C)	Bridge Street	D	6D	48,013	D	6D	61,901	**E**	Yes	Widen to 8 lanes	A
S-17	Gilman Springs Rd	SR-60	Alessandro Blvd (Street C)	D	6D	41,536	C	6D	48,203	D	No		
S-18	Redlands Blvd	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	4U	13,802	A	4U	18,872	C	No		
S-19	Redlands Blvd	Fir (Eucalyptus) Ave.	Alessandro Blvd	C	4U	7,840	A	4U	4,497	A	No		
S-20	Alessandro Blvd	Redlands Blvd	Merwin Street	C	4U	10,022	A	4U	673	A	No		
S-21	Redlands Blvd	Alessandro Blvd	Cactus Ave.	C	4U	11,263	A	4U	4,678	A	No		
S-22	Cactus Ave.	Redlands Blvd	Street D	C	4U	342	A	4U	16,557	A	No		

* Section is the number of lanes, with "U" for "undivided" and "D" for "Divided" roadways

LOS Standard is "C" in residential areas and "D" for roads in employment-generating areas or near freeways

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

The project would not cause a significant cumulative impact to roadway segments in the General Plan Buildout (Year 2035) condition.

Freeway Segment Analysis. General Plan Buildout (2035) with project freeway segment levels of service for the study area intersections are summarized in Table 4.15.AU, which shows 53 freeway mainline segments would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at 48 freeway segments and, therefore, have a cumulative impact at these locations. At four freeway segments, the project would create a significant project impact since the project would decrease the LOS from satisfactory to unsatisfactory.

The project would have a significant cumulative impact at the following 48 freeway segments under General Plan Buildout with project conditions:

- Northbound or Eastbound Sections:
    - SR-60 S. Reservoir Road to Ramona Avenue;
    - SR-60 Ramona Avenue to Central Avenue;
    - SR-60 Central Avenue to Mountain Avenue;
    - SR-60 Mountain Avenue to Euclid Avenue;
    - SR-60 Euclid Avenue to Grove Avenue;
    - SR-60 Grove Avenue to Vineyard Avenue;
    - SR-60 Vineyard Avenue to Archibald Avenue;
    - SR-60 Archibald Avenue to Haven Avenue;
    - SR-60 Valley Way to Rubidoux Boulevard;
    - SR-60 Rubidoux Boulevard to Market Street;
    - SR-60 Market Street to Main Street;
    - SR-60 Martin Luther King Boulevard to Central Avenue;
    - SR-60 Pigeon Pass Road/Frederick Street to Heacock Street;
    - SR-60 Heacock Street to Perris Boulevard;
    - SR-60 Gilman Springs Road to Jack Rabbit Trail;
    - SR-60 Jack Rabbit Trail to I-10/Potrero Boulevard;
    - SR-91 Pierce Street to Magnolia Avenue;
    - SR-91 La Sierra Avenue to Tyler Street;
    - SR-91 Adam Street to Madison Street;
    - SR-91 Central Avenue to 14th Street;
    - I-10 SR-60 to Beaumont Avenue;
    - I-10 Pennsylvania Avenue to Highland Springs Avenue;
    - I-10 Highland Springs Avenue to Sunset Avenue;
    - I-10 S. Hargrave Street to Field Road; and
    - I-10 Main Street (Cabazon) to Main Street.

Table 4.15.AU-1: General Plan Buildout plus Project Freeway Mainline LOS (Northbound/Eastbound)

			2035 No Project						2035 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-2	SR-60	S Reservoir Rd to Ramona Ave	8,560	41.2	**E**	8,750	43.6	**E**	8,750	43.6	**E**	8,640	42.8	**E**
F-3	SR-60	Ramona Ave to Central Ave	8,190	37.8	**E**	10,230	66.5	**F**	8,380	39.8	**E**	10,130	65.4	**F**
F-4	SR-60	Central Ave to Mountain Ave	8,900	44.8	**E**	10,210	66.0	**F**	9,100	47.6	**F**	10,110	65.0	**F**
F-5	SR-60	Mountain Ave to Euclid Ave	8,780	43.4	**E**	7,590	33.3	D	8,990	46.3	**F**	7,480	33.0	D
F-6	SR-60	Euclid Ave to Grove Ave	9,920	59.3	**F**	9,680	56.0	**F**	10,120	64.1	**F**	9,580	55.1	**F**
F-7	SR-60	Grove Ave to Vineyard Ave	9,210	48.5	**F**	10,050	62.7	**F**	9,420	52.0	**F**	9,960	61.9	**F**
F-8	SR-60	Vineyard Ave to Archibald Ave	9,080	46.3	**F**	10,210	66.0	**F**	9,290	49.6	**F**	10,100	64.7	**F**
F-9	SR-60	Archibald Ave to Haven Ave	8,430	39.5	**E**	7,330	31.5	D	8,660	42.6	**E**	7,210	31.2	D
F-10	SR-60	Haven Ave to Miliken Ave	8,430	27.5	D	8,110	26.4	D	8,690	29.1	D	7,970	26.1	D
F-11	SR-60	Miliken Ave to I-15	5,160	19.8	C	4,530	17.4	B	5,420	21.3	C	4,460	17.4	B
F-12	SR-60	I-15 to Etiwanda Ave	4,140	15.9	B	2,740	10.6	A	4,380	17.2	B	2,640	10.5	A
F-13	SR-60	Etiwanda Ave to Mission Blvd/Country Village Rd	4,950	19.1	C	4,170	16.1	B	5,190	20.4	C	3,990	15.7	B
F-14	SR-60	Mission Blvd/Country Village Rd to Pedley Rd	4,380	16.8	B	3,150	12.2	B	4,660	18.3	C	2,970	11.7	B
F-15	SR-60	Pedley Rd to Pyrite St	4,620	17.8	B	3,610	13.9	B	4,880	19.1	C	3,390	13.4	B

Table 4.15.AU-1: General Plan Buildout plus Project Freeway Mainline LOS (Northbound/Eastbound)

			2035 No Project						2035 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-16	SR-60	Pyrite St to Valley Way	5,060	19.5	C	3,880	15.0	B	5,320	21.0	C	3,650	14.4	B
F-17	SR-60	Valley Way to Rubidoux Blvd	6,160	38.0	**E**	3,850	19.9	C	6,410	42.3	**E**	3,780	20.1	C
F-18	SR-60	Rubidoux Blvd to Market St	6,490	42.1	**E**	4,200	22.1	C	6,710	46.8	**F**	4,130	22.3	C
F-19	SR-60	Market St to Main St	6,020	36.4	**E**	6,610	44.8	**E**	6,250	40.2	**E**	6,600	46.1	**F**
F-20	SR-60	Main to SR-91	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-24	SR-60	Martin Luther King Blvd to Central Ave	9,500	59.8	**F**	9,850	70.6	**F**	9,980	82.8	**F**	10,050	90.9	**F**
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	6,090	24.2	C	5,780	22.8	C	6,470	26.8	D	5,970	24.3	C
F-27	SR-60	I-215 to Day St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	3,330	27.3	D	4,100	37.8	**E**	3,600	33.8	D	4,090	41.4	**E**
F-30	SR-60	Heacock St to Perris Blvd	3,020	24.1	C	4,180	39.3	**E**	3,540	32.9	D	4,220	43.8	**E**
F-31	SR-60	Perris Blvd to Nason St	2,660	20.9	C	3,500	29.2	D	3,210	28.9	D	3,590	33.1	D
F-32	SR-60	Moreno Beach Dr to Nason St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-33	SR-60	Moreno Beach Dr to Redlands Blvd	2,470	19.1	C	3,120	24.9	C	2,910	25.5	C	3,240	28.5	D
F-34	SR-60	Redlands Blvd to Theodore St	3,200	25.9	C	4,500	45.4	**F**	3,640	34.4	D	4,280	43.8	**E**
F-35	SR-60	Theodore St to Gilman Springs Rd	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		

Table 4.15.AU-1: General Plan Buildout plus Project Freeway Mainline LOS (Northbound/Eastbound)

ID	Freeway	Segment	2035 No Project						2035 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	2,420	19.4	C	4,430	48.8	**F**	2,320	19.3	C	4,580	58.2	**F**
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	2,500	19.5	C	4,750	51.8	**F**	2,390	18.6	C	4,950	59.8	**F**
F-38	SR-60	Potrero Blvd to I-10	2,300	17.8	B	3,620	30.6	D	2,190	16.9	B	3,820	34.0	D
F-39	SR-91	I-15 to McKinley St	8,140	26.3	D	11,870	52.4	**F**	8,300	27.2	D	11,740	51.6	**F**
F-40	SR-91	McKinley St to Pierce St	6,990	29.1	D	6,910	29.0	D	7,110	30.1	D	6,870	29.0	D
F-41	SR-91	Pierce St to Magnolia Ave	6,430	41.3	**E**	6,360	41.2	**E**	6,550	43.9	**E**	6,310	41.0	**E**
F-42	SR-91	Magnolia Ave to La Sierra Ave	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-43	SR-91	La Sierra Ave to Tyler St	6,170	38.1	**E**	6,250	39.8	**E**	6,250	39.8	**E**	6,210	39.7	**E**
F-44	SR-91	Tyler St to Van Buren Blvd	7,250	30.7	D	6,950	29.2	D	7,360	31.7	D	6,920	29.3	D
F-45	SR-91	Van Buren Blvd to Adam St	7,270	30.8	D	6,290	25.5	C	7,360	31.7	D	6,260	25.5	C
F-46	SR-91	Adam St to Madison St	7,980	36.6	**E**	6,030	24.3	C	8,060	38.0	**E**	6,000	24.4	C
F-47	SR-91	Madison St to Indiana Ave	7,000	29.6	D	5,390	21.4	C	7,030	30.2	D	5,370	21.4	C
F-49	SR-91	Central Ave to 14th St	6,400	40.9	**E**	5,730	33.4	D	6,410	41.5	**E**	5,580	32.2	D
F-51	SR-91	University Ave to Spruce St (off-ramp)	8,160	26.4	D	7,420	23.4	C	8,110	26.2	D	7,290	22.9	C
F-52	I-10	SR-60 to Beaumont Ave	5,030	19.7	C	8,170	38.3	**E**	5,060	19.9	C	8,230	39.2	**E**

Table 4.15.AU-1: General Plan Buildout plus Project Freeway Mainline LOS (Northbound/Eastbound)

			2035 No Project						2035 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-53	I-10	Beaumont Ave to Pennsylvania Ave	5,100	20.1	C	8,030	37.1	**E**	5,130	20.3	C	7,990	37.0	**E**
F-54	I-10	Pennsylvania Ave to Highland Springs	5,240	20.7	C	8,170	38.3	**E**	5,260	20.8	C	8,200	38.9	**E**
F-55	I-10	Highland Springs Ave to Sunset Ave	5,350	21.2	C	8,240	38.9	**E**	5,340	21.3	C	8,230	39.2	**E**
F-56	I-10	Sunset Ave to 22nd St	4,970	19.6	C	7,670	34.5	D	4,950	19.6	C	7,680	34.5	D
F-57	I-10	22nd St to S 8th St	4,880	19.3	C	7,480	33.0	D	4,870	19.2	C	7,500	33.2	D
F-58	I-10	S 8th St to S Hargrave St	5,000	19.7	C	7,770	34.9	D	4,970	19.7	C	7,810	35.5	**E**
F-59	I-10	S Hargrave St to Field Rd	4,770	18.8	C	7,970	36.9	**E**	4,730	18.6	C	8,020	37.3	**E**
F-60	I-10	Field Rd to Main St (Cabazon)	3,990	15.8	B	7,490	33.1	D	3,950	15.7	B	7,520	33.3	D
F-61	I-10	Main St (Cabazon) to Main St	4,320	17.1	B	7,800	35.2	**E**	4,310	17.0	B	7,850	35.9	**E**
F-62	I-10	Main St to Haugen-Lehmann Way	4,080	16.1	B	7,530	33.1	D	4,060	16.1	B	7,600	33.9	D
F-64	I-10	SR-111 to Tipton Rd	3,660	14.5	B	7,320	31.7	D	3,640	14.4	B	7,430	32.7	D
F-65	I-10	Tipton Rd to SR-62	3,700	14.6	B	7,330	31.7	D	3,680	14.6	B	7,440	32.7	D
F-66	I-215	Scott Rd to Newport Rd	3,350	17.2	B	6,010	36.0	**E**	3,370	17.3	B	5,980	35.6	**E**
F-84	I-215	Barboni Rd to Newport Rd	3,150	16.1	B	5,680	32.9	D	3,200	16.5	B	5,650	32.6	D
F-68	I-215	Newport Rd to MacCall Blvd	2,910	15.0	B	4,610	24.4	C	2,980	15.3	B	4,580	24.2	C

Table 4.15.AU-1: General Plan Buildout plus Project Freeway Mainline LOS (Northbound/Eastbound)

ID	Freeway	Segment	2035 No Project						2035 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-69	I-215	MacCall Blvd to Ethanac Rd	3,530	18.1	C	5,570	31.9	D	3,600	18.5	C	5,540	31.6	D
F-70	I-215	Ethanac Rd to SR-74	5,240	29.1	D	5,650	32.6	D	5,290	29.5	D	5,610	32.3	D
F-71	I-215	SR-74/Case Rd to Redlands Blvd/Ellis	5,200	28.7	D	6,760	46.1	**F**	5,190	28.7	D	6,740	45.8	**F**
F-85	I-215	Ellis Ave to Redlands Blvd	4,820	25.9	C	6,200	38.4	**E**	4,840	26.0	D	6,170	38.1	**E**
F-74	I-215	Columbia Ave to Center St	4,110	21.6	C	3,350	17.5	B	4,090	21.4	C	3,410	17.8	B
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	4,940	26.9	D	4,270	22.7	C	4,930	27.0	D	4,350	23.2	C
F-76	I-215	Iowa Ave/La Cadena Dr to Barton Rd	4,880	26.5	D	4,310	22.8	C	4,900	26.6	D	4,410	23.6	C
F-77	I-215	Barton Rd to Mt Vernon Ave	5,320	29.9	D	4,700	25.4	C	5,280	29.6	D	4,760	25.8	C
F-78	I-215	Mt Vernon Ave to I-10	5,110	19.8	C	5,720	22.5	C	5,070	19.7	C	5,870	23.4	C
F-80	I-215	Auto Plaza Dr to Mill St	4,680	18.0	B	5,980	23.6	C	4,590	17.7	B	6,030	24.0	C
F-83	I-215	Baseline Rd to Highland Ave	3,260	16.8	B	4,890	26.4	D	3,250	16.8	B	5,000	27.4	D

Indicates that the LOS exceeds the target level

Table 4.15.AU-2: General Plan Buildout plus Project Freeway Mainline LOS (Southbound/Westbound)

			2035 No Project						2035 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-2	SR-60	S Reservoir Rd to Ramona Ave	8,770	43.3	**E**	7,840	34.6	D	8,660	42.6	**E**	7,920	35.8	**E**
F-3	SR-60	Ramona Ave to Central Ave	8,080	37.2	**E**	7,720	33.7	D	7,960	36.5	**E**	7,790	34.8	D
F-4	SR-60	Central Ave to Mountain Ave	6,340	25.4	C	7,580	32.7	D	6,260	25.2	C	7,630	33.6	D
F-5	SR-60	Mountain Ave to Euclid Ave	6,230	25.2	C	8,250	37.9	**E**	6,120	24.8	C	8,310	39.2	**E**
F-6	SR-60	Euclid Ave to Grove Ave	6,470	26.1	D	7,950	35.5	**E**	6,390	25.9	C	8,050	36.9	**E**
F-7	SR-60	Grove Ave to Vineyard Ave	6,280	25.0	C	8,150	37.1	**E**	6,200	24.7	C	8,240	38.6	**E**
F-8	SR-60	Vineyard Ave to Archibald Ave	7,660	33.3	D	7,640	33.1	D	7,570	32.9	D	7,720	34.3	D
F-9	SR-60	Archibald Ave to Haven Ave	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-10	SR-60	Haven Ave to Miliken Ave	6,510	20.3	C	7,970	25.6	C	6,380	19.9	C	8,100	26.3	D
F-11	SR-60	Miliken Ave to I-15	5,460	21.0	C	7,180	29.8	D	5,350	20.8	C	7,320	31.2	D
F-12	SR-60	I-15 to Etiwanda Ave	4,840	14.9	B	6,360	19.4	C	4,690	14.6	B	6,520	20.2	C
F-13	SR-60	Etiwanda Ave to Mission Blvd/Country Village Rd	4,220	16.1	B	5,620	21.6	C	4,080	15.8	B	5,800	22.9	C
F-14	SR-60	Mission Blvd/Country Village Rd to Pedley Rd	4,140	15.9	B	5,660	21.8	C	4,010	15.6	B	5,760	22.7	C
F-15	SR-60	Pedley Rd to Pyrite St	3,260	12.5	B	4,820	18.3	C	3,100	12.1	B	4,860	18.8	C
F-16	SR-60	Pyrite St to Valley Way	2,470	9.5	A	3,930	14.9	B	2,330	9.2	A	4,000	15.5	B

Table 4.15.AU-2: General Plan Buildout plus Project Freeway Mainline LOS (Southbound/Westbound)

			2035 No Project						2035 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-17	SR-60	Valley Way to Rubidoux Blvd	4,560	24.1	C	6,360	39.6	**E**	4,420	23.5	C	6,390	41.2	**E**
F-18	SR-60	Rubidoux Blvd to Market St	3,400	17.4	B	5,120	27.7	D	3,270	17.1	B	5,420	31.0	D
F-19	SR-60	Market St to Main St	5,520	31.4	D	6,280	38.7	**E**	5,390	30.8	D	6,440	41.9	**E**
F-20	SR-60	Main to SR-91	5,310	29.6	D	6,310	39.0	**E**	5,300	30.0	D	6,480	42.4	**E**
F-24	SR-60	Martin Luther King Blvd to Central Ave	8,310	45.3	**F**	8,980	53.0	**F**	8,220	48.5	**F**	9,380	71.9	**F**
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	7,480	33.0	D	8,970	46.6	**F**	7,400	33.5	D	9,260	52.2	**F**
F-27	SR-60	I-215 to Day St.	7,050	50.4	**F**	3,580	18.5	C	7,080	53.6	**F**	3,810	20.9	C
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	3,620	30.9	D	3,900	34.9	D	3,570	32.1	D	4,110	42.2	**E**
F-30	SR-60	Heacock St to Perris Blvd	3,530	29.7	D	3,400	28.2	D	3,590	32.1	D	3,730	35.3	**E**
F-31	SR-60	Perris Blvd to Nason St	3,310	27.1	D	2,770	21.8	C	3,410	29.9	D	3,140	27.6	D
F-32	SR-60	Moreno Beach Dr to Nason St.	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-33	SR-60	Moreno Beach Dr to Redlands Blvd	3,130	25.0	C	2,670	20.8	C	3,250	28.1	D	3,010	26.2	D
F-34	SR-60	Redlands Blvd to Theodore St	4,010	36.3	**E**	3,530	29.7	D	4,290	44.0	**E**	3,780	35.0	**E**
F-35	SR-60	Theodore St to Gilman Springs Rd	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	3,350	29.0	D	2,920	25.2	C	3,460	32.0	D	2,670	23.4	C

Table 4.15.AU-2: General Plan Buildout plus Project Freeway Mainline LOS (Southbound/Westbound)

ID	Freeway	Segment	2035 No Project						2035 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	3,690	31.6	D	3,010	24.0	C	3,840	34.3	D	2,810	22.3	C
F-38	SR-60	Potrero Blvd to I-10	2,360	18.2	C	1,930	15.0	B	2,450	19.3	C	1,800	14.0	B
F-39	SR-91	I-15 to McKinley St	8,590	28.6	D	8,630	28.6	D	8,430	28.0	D	8,860	29.9	D
F-40	SR-91	McKinley St to Pierce St	6,550	26.9	D	7,440	32.0	D	6,430	26.4	D	7,640	33.7	D
F-41	SR-91	Pierce St to Magnolia Ave	6,260	39.9	**E**	9,000	144.5	**F**	6,160	39.0	**E**	9,170	177.2	**F**
F-42	SR-91	Magnolia Ave to La Sierra Ave	6,130	38.3	**E**	8,600	107.0	**F**	6,050	37.7	**E**	8,730	120.7	**F**
F-43	SR-91	La Sierra Ave to Tyler St	5,460	31.4	D	6,390	40.8	**E**	5,380	30.9	D	6,510	43.3	**E**
F-44	SR-91	Tyler St to Van Buren Blvd	6,880	28.8	D	7,970	35.9	**E**	6,810	28.6	D	8,080	37.2	**E**
F-45	SR-91	Van Buren Blvd to Adam St	6,590	27.1	D	7,720	34.0	D	6,540	27.0	D	7,830	35.1	**E**
F-46	SR-91	Adam St to Madison St	6,270	25.4	C	6,970	29.0	D	6,250	25.5	C	7,080	29.8	D
F-47	SR-91	Madison St to Indiana Ave	5,540	32.1	D	6,290	39.5	**E**	5,560	32.6	D	6,360	40.8	**E**
F-49	SR-91	Central Ave to 14th St	5,290	30.1	D	5,460	30.9	D	5,270	30.2	D	5,580	32.5	D
F-51	SR-91	University Ave to Spruce St (off-ramp)	See Weaving Analysis			See Weaving Analysis			See Weaving Analysis			See Weaving Analysis		
F-52	I-10	SR-60 to Beaumont Ave	7,820	35.3	**E**	6,060	24.5	C	7,890	36.2	**E**	6,040	24.5	C
F-53	I-10	Beaumont Ave to Pennsylvania Ave	7,660	34.1	D	5,840	23.5	C	7,680	34.3	D	5,820	23.4	C

Table 4.15.AU-2: General Plan Buildout plus Project Freeway Mainline LOS (Southbound/Westbound)

			2035 No Project						2035 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-54	I-10	Pennsylvania Ave to Highland Springs	8,180	38.4	**E**	5,920	23.9	C	8,260	39.5	**E**	5,860	23.7	C
F-55	I-10	Highland Springs Ave to Sunset Ave	7,990	36.7	**E**	5,590	22.3	C	8,060	37.7	**E**	5,550	22.2	C
F-56	I-10	Sunset Ave to 22nd St	7,620	33.8	D	5,420	21.5	C	7,720	34.9	D	5,430	21.7	C
F-57	I-10	22nd St to S 8th St	7,680	34.5	D	5,130	20.3	C	7,680	34.5	D	5,120	20.4	C
F-58	I-10	S 8th St to S Hargrave St	7,790	35.4	**E**	5,370	21.4	C	7,860	36.0	**E**	5,350	21.4	C
F-59	I-10	S Hargrave St to Field Rd	7,610	34.0	D	5,000	19.8	C	7,730	34.9	D	4,980	19.8	C
F-60	I-10	Field Rd to Main St (Cabazon)	7,150	30.7	D	4,620	18.3	C	7,270	31.6	D	4,590	18.3	C
F-61	I-10	Main St (Cabazon) to Main St	7,040	30.0	D	5,040	20.0	C	7,190	31.0	D	5,010	19.9	C
F-62	I-10	Main St to Haugen-Lehmann Way	7,070	30.2	D	4,410	17.4	B	7,230	31.3	D	4,560	18.0	C
F-64	I-10	SR-111 to Tipton Rd	6,420	26.2	D	4,860	19.2	C	6,560	27.1	D	4,830	19.1	C
F-65	I-10	Tipton Rd to SR-62	6,430	26.2	D	4,870	19.2	C	6,570	27.2	D	4,840	19.1	C
F-66	I-215	Scott Rd to Newport Rd	5,470	30.8	D	4,160	21.5	C	5,380	29.8	D	4,170	21.7	C
F-84	I-215	Barboni Rd to Newport Rd	4,950	26.6	D	4,040	20.9	C	4,880	26.1	D	4,030	20.9	C
F-68	I-215	Newport Rd to MacCall Blvd	5,020	27.2	D	5,240	28.9	D	4,930	26.5	D	5,230	29.0	D
F-69	I-215	MacCall Blvd to Ethanac Rd	5,400	30.4	D	4,800	25.6	C	5,320	29.5	D	4,790	25.7	C

Table 4.15.AU-2: General Plan Buildout plus Project Freeway Mainline LOS (Southbound/Westbound)

			2035 No Project						2035 Plus Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
ID	Freeway	Segment	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS	Freeway Volume	Density (pc/mi/ln)	LOS
F-70	I-215	Ethanac Rd to SR-74	5,390	30.3	D	6,220	38.3	**E**	5,320	29.5	D	6,220	38.3	**E**
F-71	I-215	SR-74/Case Rd to Redlands Blvd/Ellis	7,170	53.3	**F**	5,980	35.6	**E**	7,110	51.5	**F**	6,000	35.8	**E**
F-85	I-215	Ellis Ave to Redlands Blvd	6,560	43.1	**E**	5,490	21.2	C	6,510	42.4	**E**	5,510	21.3	C
F-74	I-215	Columbia Ave to Center St	5,000	27.4	D	3,680	19.1	C	4,970	27.2	D	3,680	19.2	C
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	5,970	35.8	**E**	4,690	25.1	C	6,020	36.7	**E**	4,740	25.6	C
F-76	I-215	Iowa Ave/La Cadena Dr to Barton Rd	5,060	27.8	D	3,780	19.7	C	5,100	28.2	D	3,790	19.8	C
F-77	I-215	Barton Rd to Mt Vernon Ave	5,540	31.6	D	4,210	22.2	C	5,590	32.3	D	4,220	22.2	C
F-78	I-215	Mt Vernon Ave to I-10	6,480	26.2	D	5,210	20.3	C	6,570	26.7	D	5,190	20.3	C
F-80	I-215	Auto Plaza Dr to Mill St	5,600	21.7	C	4,540	17.4	B	5,500	21.4	C	4,570	17.6	B
F-83	I-215	Baseline Rd to Highland Ave	6,910	48.0	**F**	5,780	33.9	D	6,940	48.4	**F**	5,820	34.6	D

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

- Southbound or Westbound Sections:
  - SR-60 S. Reservoir Road to Ramona Avenue;
  - SR-60 Mountain Avenue to Euclid Avenue;
  - SR-60 Euclid Avenue to Grove Avenue;
  - SR-60 Grove Avenue to Vineyard Avenue;
  - SR-60 Valley Way to Rubidoux Boulevard;
  - SR-60 Market Street to Main Street;
  - SR-60 Main Street to SR-91;
  - SR-60 Martin Luther King Boulevard to Central Avenue;
  - SR-60 Fair Isle Drive/Box Springs Road to I-215;
  - SR-60 I-215 to Day Street;
  - SR-60 Redlands Boulevard to Theodore Street;
  - SR-91 Pierce Street to Magnolia Avenue;
  - SR-91 Magnolia Avenue to La Sierra Avenue;
  - SR-91 La Sierra Avenue to Tyler Street;
  - SR-91 Tyler Street to Van Buren Boulevard;
  - SR-91 Madison Street to Indiana Avenue;
  - I-10 SR-60 to Beaumont Avenue;
  - I-10 Pennsylvania Avenue to Highland Springs Avenue;
  - I-10 Highland Springs Avenue to Sunset Avenue;
  - I-10 S. 8th Street to S. Hargrave Street;
  - I-215 SR-74/Case Road to Redlands Boulevard/Ellis Avenue;
  - I-215 Center Street to Iowa Avenue/La Cadena Drive; and
  - I-215 Baseline Road to Highland Avenue.

The project would have a significant project impact at the following four freeway segments under General Plan Buildout with project conditions:

- Northbound or Eastbound Sections:
  - I-10 S. 8th Street to S. Hargrave Street.
- Southbound or Westbound Sections:
  - SR-60 Pigeon Pass Road/Frederick Street to Heacock Street;
  - SR-60 Heacock Street to Perris Boulevard; and
  - SR-91 Van Buren Boulevard to Adam Street.

Freeway Weaving Analysis. General Plan Buildout (2035) with project freeway weaving segment levels of service are summarized in Table 4.15.V, which shows 15 freeway weaving segments would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an

already unsatisfactory LOS at all 15 freeway weaving segments and, therefore, would have a cumulative impact at these locations. There project would not have any direct project impacts to freeway weaving segments. The project would have a cumulative impact at the following 15 freeway weaving segments under General Plan (2035) Buildout with project conditions:

- Northbound or Eastbound:
  - SR-60 SR-71/S. Garey Avenue to S. Reservoir Road;
  - SR-60 Main Street to SR-91;
  - SR-60 SR-91 to W. Blaine Street/3rd Street;
  - SR-60 W. Blaine Street/3rd Street to University Avenue;
  - SR-60 University Avenue to Martin Luther King Boulevard;
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road; and
  - SR-91 Arlington Avenue to Central Avenue.
- Southbound or Westbound:
  - SR-60 Haven Avenue to Archibald Avenue;
  - SR-60 SR-91 to W. Blaine Street/3rd Street;
  - SR-60 W. Blaine Street/3rd Street to University Avenue;
  - SR-60 University Avenue to Martin Luther King Boulevard;
  - SR-60 Central Avenue to Fair Isle Drive/Box Springs Road;
  - SR-60 Day Street to Pigeon Pass Road/Frederick Street;
  - SR-91 14th Street to University Avenue; and
  - I-10 Haugen-Lehmann Way to SR-111.

Freeway Ramp Analysis. General Plan (2035) Buildout with project freeway ramp merge/diverge levels of service are summarized in Table 4.15.W, which shows 10 freeway ramps would operate at unsatisfactory levels of service. The project would contribute toward the worsening of an already unsatisfactory LOS at seven freeway ramps and, therefore, have a cumulative impact at these locations. The project would have a project-specific significant impact at an additional four freeway ramp locations under General Plan Buildout with project conditions.

The project would have a cumulative impact at the following six freeway ramps under General Plan Buildout with project conditions:

- SR-60 Eastbound On-Ramp from Central Avenue;
- SR-60 Eastbound On-Ramp from Gilman Springs Road;
- SR-60 Westbound On-Ramp from Theodore Street;
- SR-60 Westbound Loop On-Ramp from Redlands Boulevard;
- SR-60 Westbound Off-Ramp to Central Avenue; and
- SR-60 Westbound Off-Ramp to Martin Luther King Boulevard.

The project would have a significant project impact at the following four freeway ramps under General Plan Buildout with project conditions:

Table 4.15.AV-1: General Plan Buildout plus Project Freeway Weaving Segment Levels of Service (Northbound/Eastbound)

			2035 No Project												2035 Plus Project											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density		Weaving Movement Volume				Density		Weaving Movement Volume				Density		Weaving Movement Volume				Density	
ID	Freeway	Weaving Segment	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS
W-1	SR-60	EB SR-60 SR-71/S Garey Ave to S Reservoir Rd	6,304	314	237	1,777	39.7	**E**	7,252	332	239	1,879	46.8	**E**	6,487	317	234	1,794	41.2	**E**	7,113	333	237	1,887	46.5	**E**
W-9	SR-60	EB SR-60 Haven Ave to Archibald Ave	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-20	SR-60	EB SR-60 Main St to SR-91	5,879	89	592	502	34.2	D	6,021	51	739	289	35.0	**E**	6,092	92	589	519	35.9	**E**	5,933	53	748	298	35.2	**E**
W-21	SR-60	EB SR-60 SR-91 to W Blaine St/3rd St	4,839	339	181	1,921	32.4	D	8,469	299	172	1,692	>Capacity	**F**	5,084	344	177	1,947	34.4	D	8,409	309	161	1,751	>Capacity	**F**
W-22	SR-60	EB SR-60 W Blaine St/3rd St to University Ave	6,348	18	412	342	37.3	**E**	7,020	50	430	950	>Capacity	**F**	6,669	19	422	352	42.0	**E**	7,160	50	400	950	>Capacity	**F**
W-23	SR-60	EB SR-60 University Ave to Martin Luther King Blvd	6,831	31	520	580	38.7	**E**	5,537	47	564	884	33.7	D	7,143	33	517	627	>Capacity	**F**	5,637	47	584	884	35.1	**E**
W-25	SR-60	EB SR-60 Central Ave to Fair Isle Dr/Box Springs Rd	5,941	61	729	1,159	37.0	**E**	7,049	49	612	922	41.0	**E**	6,309	69	702	1,302	44.0	**E**	7,090	50	650	950	44.5	**E**
W-27	SR-60	I-215 to Day St	2,426	146	505	825	15.9	B	3,717	237	483	1,343	25.6	C	2,719	179	482	1,012	21.0	C	3,774	234	436	1,326	28.7	D
W-28	SR-60	Day St to Pigeon Pass Rd/Frederick St	2,373	13	1,138	238	16.2	B	3,228	38	1,652	722	26.4	C	2,764	14	1,156	266	19.0	B	3,297	37	1,633	703	27.0	C
W-32	SR-60	Moreno Beach Dr to Nason St.	1,468	18	813	333	16.4	B	2,080	20	980	380	22.5	C	2,007	17	803	323	21.0	C	2,261	21	960	390	24.7	C
W-35	SR-60	Theodore St to Gilman Springs Rd	2,088	8	833	143	17.5	B	2,858	68	1,503	1,283	37.9	**E**	1,853	13	967	247	18.3	B	2,771	71	1,169	1,349	36.3	**E**
W-42	SR-91	Magnolia Ave to La Sierra Ave	5,410	40	771	751	33.7	D	5,118	48	863	903	34.3	D	5,519	39	781	741	34.4	D	5,068	48	872	912	34.2	D
W-48	SR-91	EB SR-60 Arlington Ave to Central Ave	6,353	23	807	437	41.0	**E**	3,345	15	736	276	21.3	C	6,363	23	837	437	41.7	**E**	3,205	15	726	276	20.6	C
W-50	SR-91	14th St to University Ave	4,226	16	775	295	26.4	C	3,703	23	908	428	26.1	C	4,176	16	775	295	26.3	C	3,563	23	908	428	25.4	C
W-51	SR-91	SR-60 to Mission Inn Ave/University Ave (off-ramp)	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-63	I-10	Haugen-Lehmann Way to SR-111	2,951	21	1,079	119	14.4	B	6,285	135	1,235	765	33.1	D	2,921	21	1,079	119	14.3	B	6,334	144	1,256	816	34.1	D
W-73	I-215	SR-60 to Columbia Ave	3,092	302	229	1,709	28.4	D	2,280	300	330	1,700	24.5	C	3,046	306	214	1,734	28.3	D	2,315	305	326	1,726	25.0	C
W-79	I-215	I-10 to Auto Plaza Dr/Orange Show Rd	3,084	104	817	587	16.9	B	3,886	156	714	884	20.9	C	3,047	107	814	604	16.8	B	3,985	155	716	876	21.3	C
W-81	I-215	Mill St to 2nd St	4,028	18	802	342	18.3	B	5,173	23	827	437	23.5	C	3,989	19	802	352	18.3	B	5,273	23	827	437	23.9	C
W-82	I-215	5nd St to Baseline Rd	2,969	19	562	352	13.5	B	3,896	26	575	485	17.7	B	2,939	19	572	352	13.4	B	3,976	26	575	485	18.0	B

Indicates that the LOS exceeds the target level

Table 4.15.AV-2: General Plan Buildout plus Project Freeway Weaving Segment Levels of Service (Southbound/Westbound)

			2035 No Project												2035 Plus Project											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density		Weaving Movement Volume				Density		Weaving Movement Volume				Density		Weaving Movement Volume				Density	
ID	Freeway	Weaving Segment	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS
W-1	SR-60	EB SR-60 SR-71/S Garey Ave to S Reservoir Rd	4,011	71	1,650	400	22.0	C	4,912	92	1,989	519	27.6	C	3,891	71	1,680	400	21.8	C	4,943	93	2,057	527	28.4	D
W-9	SR-60	EB SR-60 Haven Ave to Archibald Ave	5,291	31	1,010	580	28.7	D	6,239	49	972	922	36.4	**E**	5,171	31	1,009	589	28.5	D	6,327	47	1,003	893	37.1	**E**
W-20	SR-60	EB SR-60 Main St to SR-91	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-21	SR-60	EB SR-60 SR-91 to W Blaine St/3rd St	6,094	134	1,497	757	33.6	D	7,726	156	1,204	884	40.9	**E**	5,964	134	1,507	757	33.5	D	7,969	159	1,271	901	>Capacity	**F**
W-22	SR-60	EB SR-60 W Blaine St/3rd St to University Ave	5,666	6	514	114	24.2	C	7,873	23	557	437	35.8	**E**	5,666	6	514	114	25.2	C	8,222	22	558	418	39.6	**E**
W-23	SR-60	EB SR-60 University Ave to Martin Luther King Blvd	5,244	44	606	836	36.1	**E**	7,605	25	725	475	>Capacity	**F**	5,164	44	606	836	36.3	**E**	7,895	25	735	475	>Capacity	**F**
W-25	SR-60	EB SR-60 Central Ave to Fair Isle Dr/Box Springs Rd	6,520	70	411	1,321	>Capacity	**F**	7,815	45	496	846	>Capacity	**F**	6,359	69	411	1,311	>Capacity	**F**	8,138	48	483	903	>Capacity	**F**
W-27	SR-60	I-215 to Day St	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-28	SR-60	Day St to Pigeon Pass Rd/Frederick St	5,300	40	971	751	>Capacity	**F**	3,401	31	770	580	32.3	D	5,290	40	1,000	760	>Capacity	**F**	3,711	31	780	580	36.1	**E**

Table 4.15.AV-2: General Plan Buildout plus Project Freeway Weaving Segment Levels of Service (Southbound/Westbound)

			2035 No Project												2035 Plus Project											
			AM Peak Hour						PM Peak Hour						AM Peak Hour						PM Peak Hour					
			Weaving Movement Volume				Density		Weaving Movement Volume				Density		Weaving Movement Volume				Density		Weaving Movement Volume				Density	
ID	Freeway	Weaving Segment	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS	F-F	R-R	F-R	R-F	(pc/mi/ln)	LOS
W-32	SR-60	Moreno Beach Dr to Nason St.	2,534	24	276	456	20.1	C	1,894	24	296	456	16.1	B	2,693	23	298	428	21.8	C	2,303	23	288	428	19.6	B
W-35	SR-60	Theodore St to Gilman Springs Rd	2,657	67	574	1,264	31.9	D	2,217	57	323	1,083	24.2	C	2,483	53	678	998	27.2	C	1,967	57	374	1,074	22.5	C
W-42	SR-91	Magnolia Ave to La Sierra Ave	See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis						See Basic Freeway Section Analysis					
W-48	SR-91	EB SR-60 Arlington Ave to Central Ave	4,275	15	585	285	24.9	C	4,983	13	517	247	27.4	C	4,255	15	585	285	24.9	C	5,053	13	517	247	28.1	D
W-50	SR-91	14th St to University Ave	5,110	10	771	181	30.4	D	6,834	24	696	456	>Capacity	**F**	5,040	10	780	190	30.3	D	6,874	24	696	456	>Capacity	**F**
W-51	SR-91	SR-60 to Mission Inn Ave/University Ave (off-ramp)	3,011	245	776	1,386	200.6	C	6,506	204	576	1,156	32.5	D	2,959	246	784	1,394	20.6	C	6,475	215	546	1,216	32.8	D
W-63	I-10	Haugen-Lehmann Way to SR-111	6,291	41	159	779	29.0	D	2,831	81	1,049	1,539	>Capacity	**F**	6,433	43	168	808	30.0	D	2,991	81	860	1,530	>Capacity	**F**
W-73	I-215	SR-60 to Columbia Ave	3,236	206	2,055	1,165	33.8	D	2,254	234	1,756	1,326	28.1	D	3,194	204	2,086	1,156	33.8	D	2,194	234	1,826	1,326	28.3	D
W-79	I-215	I-10 to Auto Plaza Dr/Orange Show Rd	4,462	42	1,458	238	22.5	C	3,557	87	813	493	18.8	B	4,534	44	1,417	247	22.7	C	3,569	89	812	502	18.9	B
W-81	I-215	Mill St to 2nd St	5,161	31	579	589	23.4	C	3,808	38	423	713	18.3	B	5,162	32	579	599	23.5	C	3,838	38	433	713	18.5	B
W-82	I-215	5nd St to Baseline Rd	4,353	33	608	618	20.3	C	2,858	38	442	722	14.6	B	4,353	33	618	618	20.3	C	2,858	38	442	722	14.6	B

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Table 4.15.AW: General Plan Buildout plus Project Freeway Ramp Levels of Service

ID	Freeway / Direction	Ramp Segment	Ramp No. of Lanes	2035 No Project								2035 Plus Project							
				AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
				Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS	Mainline Volume	Ramp Volume	Density (pc/mi/ln)	LOS
R-1	SR-60 EB	On-Ramp from Martin Luther King Blvd	1	7,410	580	30.6	D	6,420	1,400	33.7	D	7,770	680	33.1	D	6,520	1,480	35.1	**E**
R-2	SR-60 EB	On-Ramp from Central Ave	1	7,890	1,220	32.2	**F**	8,630	970	32.9	**F**	8,380	1,370	35.6	**F**	8,740	1,000	34.1	**F**
R-3	SR-60 EB	Off-Ramp to Redlands Blvd	1	2,470	210	13.7	B	3,120	440	19.6	B	2,910	270	20.2	C	3,240	680	22.6	C
R-4	SR-60 EB	Loop On-Ramp from Redlands Blvd	1	2,260	90	23.7	C	2,680	60	26.9	C	2,640	110	29.0	D	2,560	70	27.3	C
R-5	SR-60 EB	Direct On-Ramp from Redlands Blvd	1	2,350	110	19.9	B	2,740	480	25.9	C	2,750	140	25.5	C	2,630	480	26.4	C
R-6	SR-60 EB	Off-Ramp to Theodore St	1	3,200	270	31.7	D	4,500	150	43.4	**F**	3,640	860	24.5	C	4,280	420	27.8	C
R-7	SR-60 EB	Loop On-Ramp from Theodore St	1	2,930	150	22.0	C	4,350	1,350	42.9	**F**	2,780	50	29.2	D	3,860	340	39.9	**E**
R-8	SR-60 EB	Direct On-Ramp from Theodore St	1	Does not Exist in this Scenario				Does not Exist in this Scenario				2,830	260	23.6	C	4,200	1,420	43.6	**F**
R-9	SR-60 EB	Off-Ramp to Gilman Spring Rd	1	3,070	840	19.4	B	5,710	1,570	35.8	**E**	3,080	980	19.8	B	5,360	1,240	34.0	D
R-10	SR-60 EB	On-Ramp from Gilman Spring Rd	1	2,230	260	16.9	B	4,140	470	34.3	**F**	2,100	300	16.5	B	4,120	690	36.4	**F**
R-11	SR-60 WB	Off-Ramp to Gilman Spring Rd	1	3,470	240	21.8	C	3,100	560	19.5	B	3,610	450	23.0	C	2,880	540	18.4	B
R-12	SR-60 WB	On-Ramp from Gilman Spring Rd	1	3,230	1,330	33.4	**F**	2,540	1,140	26.3	C	3,160	1,050	31.2	D	2,340	1,130	25.1	C
R-13	SR-60 WB	Off-Ramp to Theodore St	1	4,560	640	32.7	**F**	3,680	380	24.8	C	4,210	730	26.8	C	3,470	430	22.2	C
R-14	SR-60 WB	On-Ramp from Theodore St	1	3,920	90	35.5	**E**	3,300	230	31.6	D	3,480	530	36.6	**E**	3,040	650	34.1	D
R-15	SR-60 WB	Off-Ramp to Redlands Blvd	1	4,010	320	32.4	D	3,530	370	28.1	D	4,290	420	36.1	**E**	3,780	760	31.6	D
R-16	SR-60 WB	Loop On-Ramp from Redlands Blvd	1	3,690	140	36.0	**E**	3,160	100	31.3	D	3,870	140	38.4	**E**	3,020	140	31.3	D
R-17	SR-60 WB	Direct On-Ramp from Redlands Blvd	1	3,830	370	34.2	D	3,260	280	28.9	D	4,010	420	37.3	**F**	3,160	690	32.8	D
R-18	SR-60 WB	Off-Ramp to Central Ave	2	8,320	480	39.9	**E**	9,200	540	>Capacity	**F**	8,150	480	39.7	**E**	9,570	530	>Capacity	**F**
R-19	SR-60 WB	Off-Ramp to Martin Luther King Blvd	1	8,310	710	39.1	**E**	8,980	660	41.4	**F**	8,220	730	39.3	**E**	9,380	670	44.0	**F**

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

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- SR-60 Eastbound On-Ramp from Martin Luther King Boulevard;
- SR-60 Westbound Off-Ramp to Redlands Boulevard;
- SR-60 Westbound Direct On-Ramp from Redlands Boulevard; and
- SR-60 Westbound Direct On-Ramp from Redlands Boulevard.

4.15.7 Mitigation of Significant Impacts

As described in detail in Section 4.15.4, the level of service performance standards used in this EIR are as follows:

- Roadway segments and intersections: LOS C; and LOS D as outlined in previously referenced Table 4.15.E.
- Freeway mainline: LOS D.
- Freeway Ramp Merge/Diverge: LOS D.

The methodology used to identify mitigation measures included:

1) Determining whether the LOS exceeded the target threshold in the Plus Project condition.
2) If so, then determining whether the appropriate measure of effectiveness under Plus Project conditions was below that under No-Project conditions. Some study freeway segments were found to exceed the threshold of significance under Plus Project conditions but the traffic density was lower under Plus Project conditions than No-Project conditions. This could happen because the project would cause some commuters to switch from the peak direction to the off-peak direction, thus reducing congestion at some locations. The project's impacts were considered significant only when the Plus Project condition was worse than the No-Project condition.
3) If the project had a significant impact, capacity-increasing improvements were then added incrementally until the LOS was within the target threshold of significance.
4) Determining whether the mitigations could be funded as part of an established fee program such as TUMF or DIF. If the identified facility was already part of the TUMF or DIF Program, then payment into the TUMF or DIF program constitutes mitigation of impacts to the TUMF and DIF facilities.
5) For improvements that would not be funded from an established fee program the project's fair-share contribution was computed using the formula in Caltrans' *Guide for the Preparation of Traffic Impact Studies - Appendix "B"*. This formula defines the project's fair-share as the project-related traffic's percentage share of overall traffic growth, not including new traffic attributable to projects that have already been approved. Where there were significant impacts in both the a.m. and p.m. peak periods, the period with the higher share of project traffic was used to determine the fair-share contribution.

4.15.7.1 The TUMF Program

In 1988, the voters of Riverside County approved Measure A, a half-cent sales tax to fund transportation projects. In 2002, voters approved a 20-year extension of Measure A, this time including a Transportation Uniform Mitigation Fee or TUMF. The rationale behind TUMF was that having a single uniform fee program to mitigate the cumulative regional impacts of new development on the area's arterial highway system would be more effective than having multiple and potentially uncoordinated fee programs with varying policies, fee amounts, and project lists. Under the TUMF, developers of residential, industrial, and commercial property pay a development fee to fund

transportation projects that will be required as a result of the growth the projects create. The program is recognition by voters that residents and employees in all of Western Riverside County's jurisdictions benefit from arterials located not just in their own city, but also in nearby cities as well.

The TUMF program is designed to provide a network of roads, bridges, interchanges, and railroad grade separations, known as the Regional System of Highways and Arterials (RSHA), needed to accommodate future growth in the area through 2035. The RSHA was developed by the Public Works Directors of the Western Riverside Council of Governments (WRCOG) member jurisdiction. A "Nexus Study" was then prepared in accordance with the California Mitigation Fee Act, which requires that a reasonable relationship exist between the impact fee collected and the proposed improvements for which a fee is used. The study determined the proportion of the cost of the improvements should be borne by different types of development based on the trip generating characteristics of each land use type. The Nexus Study was updated in 2010 and the RSHA was revised to reflect the most current transportation needs and costs for Western Riverside County. The new network reflected several changes due to completed projects and recommendations from the WRCOG Public Works Committee (PWC) to better represent the transportation needs of Western Riverside County.

TUMF is administered by the WRCOG. As administrator, WRCOG receives all fees generated from the TUMF as collected by the local jurisdictions. TUMF funds are programmed by WRCOG's partner agencies, which are responsible for prioritizing projects and overseeing their development.

The TUMF program uses five categories of land uses: two residential categories and three non-residential categories. The two residential types are single-family residential and multifamily residential. Non-residential uses are industrial, retail, and service commercial, with fees assessed at different rates depending on the category. The high-cube warehouses in the WLC would fall into the "industrial" category of non-residential development and, as such, would be assessed a fee of $1.73 per square foot. As this fee level, if the WLC builds out completely, it would pay nearly $72 million in TUMFs.

TUMF revenues are collected when a development reaches the Building Permit stage. Once collected and administrative costs and a mitigation allocation made to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), TUMF revenues are allocated as follows:

- 46.9 percent is allocated for regional improvements. These revenues are programmed by the RCTC pursuant to an agreement with WRCOG.
- 46.9 percent is allocated to the geographic zone from which the fees are collected. Project prioritization and programming are undertaken by the jurisdictions in each of the five zones.
- 1.7 percent is allocated for regional transit projects. WRCOG administers the funds on behalf of the RTA which prioritizes and programs capital transit projects.

Since its inception, TUMF has collected more than $554 million in revenues, making it the largest multi-jurisdictional fee program in the nation. It has completed 46 projects with several dozen more under development. The projects successfully funded by the program include a variety of road widening, intersection improvements, and freeway interchanges, including:

- Widening Pigeon Pass Road from 2 lanes to 4 lanes from Climbing Rose Drive to Hidden Springs Drive;
- Widening the Ramona Expressway from 2 lanes to 6 lanes from I-215 to Evans Road;
- Improvements to the Ironwood Avenue/Moreno Beach Drive intersection;
- Improvements to the Ironwood Avenue/Nason Street intersection;
- Adding a northbound lane to Lasselle Street from John F Kennedy Drive to Alessandro Boulevard;

- Widening Oleander Avenue from Perris Boulevard to Indian Avenue;
- The Van Buren Boulevard/SR-91 Interchange Project;
- Widening State Street in Hemet from 2 to 4 lanes with a center turn lane; and
- Widening Sanderson Avenue from Menlo Avenue to Ramona Expressway.

Between now and 2035, when the program is scheduled for completion, the TUMF program is forecast to provide $4.2 billion in arterial road, bridge, intersection, and interchange improvements in Western Riverside County. Those components of infrastructure that are subject to and included in the TUMF program are identified in the TIA and this Traffic and Circulation section of the EIR. Currently, the following projects in the City of Moreno Valley are funded through the TUMF program:

- Ironwood Avenue widening from Heacock Street to Nason Street;
- Phase I of the Moreno Beach Drive/SR-60 Interchange project; and
- Nason Street/SR-60 Interchange project.

4.15.7.2 The City of Moreno Valley Development Impact Fee Program

The City of Moreno Valley's Development Impact Fee (DIF) program is used to fund road and intersection improvements needed to accommodate new residential, commercial, and industrial development for funding roadways and intersections. The program collects fees from three categories of residential development (single-family, multifamily, and mobile homes) and five categories of commercial development (general commercial, regional commercial, general industrial, high-cube warehouse, and office) based on their respective trip generating characteristics. In many cases, developers dedicate right-of-way and/or construct improvements that are part of the TUMF or DIF programs in lieu of paying the fees. These facilities are typically part of a project's direct frontage or are necessary to accommodate traffic capacities in the immediate area of the project. DIF on high-cube warehouses are currently set at $0.9955 per square foot, which means that the WLC could potentially pay $41 million in DIFs if the project builds out completely. Like the TUMF Program, the City's DIF Program is a bona-fide Mitigation Fee Program that has been created in accordance with AB 1600. All development is required to pay into the DIF Program; funds raised pursuant to the DIF Program are held in a separate interest-bearing account; an infrastructure capital improvement program is adopted that funds transportation improvements as they are needed to maintain targeted levels of service; and the capital improvement program is implemented as development occurs and DIF fees are collected.

DIF funds are overseen by the City's Public Works Department. Department staff monitors traffic volumes and periodically develops a capital improvement program designed to ensure that improvements are installed to help maintain the City's target LOS threshold. The DIF program supplements the TUMF program by funding elements of the City's General Plan Circulation Element not covered by TUMF and, in some projects, by providing funds for additional capacity beyond what the TUMF project will provide. The DIF program has been updated several times, most recently in October 2012, to reflect changes in priorities as development occurs in different parts of the city.

4.15.7.3 Required Improvements

Existing plus Project Direct and Cumulative Project Impacts. As individual projects within the WLC are processed, the City will require that each project do a traffic impact assessment in accordance with City guidelines. These project-level assessments will determine the timing of each mitigation measure and will ensure that the impact assumptions made in this programmatic document are consistent with the analysis of potential impacts at the project-specific implementation stage.

This section is devoted to reporting project impacts and required improvements. The situation for each impacted facility is discussed in the text and the results are summarized in Tables AX through BC. These tables all follow a similar format which includes the following data fields (columns):

(A) This field identifies the location of the impact.

(B) This field identifies which agency has jurisdiction over the facility in question.

(C) This field shows the agency's target LOS for the facility in question.

(D) This field shows the LOS under Existing conditions. This is used to determine whether or not there is an existing deficiency.

(E) This field shows the LOS under Existing Plus Project conditions. This is used to determine whether or not the project has a significant impact.

(F) This field shows whether there is a significant impact. It is based on the thresholds of significance described in Chapter 4.

(G) This field describes what improvements would be required to achieve the target LOS under Existing Plus Project conditions.

(H) This field states whether the measure described in Column G is feasible or not. In some cases the needed improvements may not be feasible. For example, it may be infeasible to widen a road because doing so would cause major negative impacts to an adjacent neighborhood.

(I) This field shows the LOS after all feasible mitigations have been implemented. If mitigation is infeasible then Column I will be the same as Column E.

(J) This field states whether the impact would still be significant after all feasible mitigation measures have been implemented. For those facilities under the jurisdiction of the City of Moreno Valley (see Column B) a "No" in Column J indicates that the impact will be mitigated to a less than significant level. For those facilities outside the jurisdiction of the City of Moreno Valley, Column J indicates what would happen if the jurisdiction that controls the facility implements the recommended feasible mitigations. However, because the City of Moreno Valley cannot guarantee that the other agency will implement the needed improvement the City cannot guarantee that the impact will be mitigated to a less than significant level.

(K) This field shows whether or not there is an existing deficiency. Generally speaking, under state law a developer is responsible for mitigating the impacts of their project but is not responsible for rectifying existing deficiencies that are the result of earlier projects. They need only pay a fair-share representing the portion of the deficiency that is attributable to their own project.

(L) This field reports the action that the developers of the WLC will be required to take as a condition of approval.

PROJECT DIRECT IMPACTS

The direct impacts of the WLC project were determined by comparing the LOS of study facilities under Existing and Existing Plus Project conditions. The direct impacts of the project and their mitigation measures were as follows:

Road Section Direct Impacts. The project's direct impacts on road sections are summarized in Table 4.15.AX. These impacts would be:

Table 4.15.AX: Existing plus Project Direct and Cumulative Impacts and Mitigation Measures on Roadway Segments

Study Roadway		From	To	Jurisdiction	LOS Standard	Existing LOS	Existing Plus Project LOS	Does the Project Have a Significant Impact?	Mitigation Measures Required to Reduce Project Impacts to Less than significant	Is Mitigation Feasible?	LOS After Feasible Mitigations are Implemented	Impact Significant After Mitigation?	Is There an Existing Difficiency?	Developer Action Required
(A)				(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
Road Section Cumulative Impacts that can be Mitigated to a Less than significant Level														
S-22	Cactus Ave.	Redlands Blvd	Street D	Moreno Valley	C	A	**E**	Yes	Widen to 4 lanes	Yes	A	No	No	Pay for improvement
Road Section Cumulative Impacts that are Considered Significant and Unavoidable (because they are not under the control of the City of Moreno Valley)														
S-16	Gilman Springs Rd	Alessandro Blvd (Street C)	Bridge Street	Riverside County	D	**E**	**E**	Yes	Widen to 4 lanes	Yes	A	No	Yes	Pay fair share (30.0%)
S-17	Gilman Springs Rd	SR-60	Alessandro Blvd (Street C)	Riverside County	D	**E**	**E**	Yes	Widen to 4 lanes	Yes	A	No	Yes	Pay fair share (76.7%)

* Section is the number of lanes, with "U" for "undivided" and "D" for "Divided" roadways

** Road currently has 2 lanes in one direction and 1 lane in the other. The capacity shown is based on the narrower direction.

Indicates LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

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- ***Cactus Avenue Redlands Boulevard to Street D (S-22)*** currently has one westbound lane and two eastbound lanes. The WLC would involve the reconstruction of Alessandro Boulevard along a new alignment that ends at Street D, which would connect Cactus Avenue and Alessandro Boulevard as the main route for east-west through traffic. Cactus Avenue would need to be widened to four lanes in conjunction with this change. The City will require the developer to pay for this improvement as a condition of approval. The City will require the developer to pay for this improvement as a condition of approval.
- ***Gilman Springs Road from Alessandro Boulevard to Bridge Street (S-16)*** is already deficient and needs to be widened to four lanes. The City will require the developer to pay a fair-share contribution toward this improvement as a condition of approval.

  However, because Gilman Springs Road is a Riverside County facility and is thus outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. Moreover, there are right-of-way constraints involving sensitive environmental areas that may limit widening to four lanes between Alessandro Boulevard and Bridge Street, or even preclude any widening at all. The project's impacts on Gilman Springs Road must therefore be considered significant and unavoidable. The City will work with Riverside County find funding for improvements that would provide an acceptable LOS on this road to the extent feasible.
- ***Gilman Springs Road from SR-60 to Alessandro Boulevard (S-17)*** is already deficient and needs to be widened to four lanes. The City will require the developer to pay a fair-share contribution towards this improvement as a condition of approval.

  However, because Gilman Springs Road is a Riverside County facility and is thus outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on Gilman Springs Road must therefore be considered significant and unavoidable. The City will work with Riverside County find funding for improvements that would provide an acceptable LOS on this road to the extent feasible.

Intersection Direct Impacts. The project's direct impacts on study intersections are summarized in Table 4.15.AY. These impacts would be:

- ***Redlands Boulevard/Locust Avenue Intersection (IN-10)*** already exceeds the LOS threshold in both the a.m. and p.m. peak hours and traffic using the intersection would experience longer delays under Existing Plus Project conditions. Signalizing the intersection would reduce project impacts to a less than significant level. The City will require the developer to pay for this improvement as a condition of approval.
- ***Redlands Boulevard/SR-60 Westbound Ramps Intersection (IN-13)*** already exceeds the LOS threshold in both the a.m. and p.m. peak hours and traffic using the intersection would experience longer delays under Existing Plus Project conditions. Signalizing the intersection would reduce project impacts to a less than significant level. The City will require the developer to pay for this improvement as a condition of approval.
- ***Oliver Street/Alessandro Boulevard Intersection (IN-20)*** already exceeds the LOS threshold in the a.m. peak hour and traffic using the intersection would experience longer delays under Existing Plus Project conditions. Changing from side-street stop control to all-way stop control would reduce project impacts to a less than significant level. The City will require the developer to pay for this improvement as a condition of approval.
- ***Redlands Boulevard/Cactus Avenue Intersection (IN-27)*** currently operates within the LOS threshold but would exceed the threshold in both the a.m. and p.m. peak hour under Existing Plus Project conditions. Signalizing the intersection would reduce project impacts to a less than significant level. The City will require the developer to pay for this improvement as a condition of approval.

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Table 4.15.AY: Existing plus Project Direct and Cumulative Impacts and Mitigation Measures on Intersections

ID	Study Intersection	LOS Standard	Determination of Impact					2035 With Project & Mitigations					Mitigation Measures Required to Reduce Impact to Less than significant
			AM Peak Hour		PM Peak Hour				AM Peak Hour		PM Peak Hour		
			No Project LOS	Plus Project LOS	No Project LOS	Plus Project LOS	Project Impact?	Traffic Control	Delay	LOS	Delay	LOS	
IN-11	Redlands Blvd/Ironwood Ave	D	D	D	D	**E**	Yes	Signal	44.3	D	49.0	D	Add 2nd SBL.
IN-12	Theodore Street/Ironwood Avenue	D	C	**E**	**F**	**F**	Yes	Signal	6.6	A	7.5	A	Signalize
IN-25	Moreno Beach Dr/Cactus Ave	C	C	C	C	**D**	Yes	Signal	18.8	B	22.9	C	Add 2nd EBL
IN-35	Moreno Beach Dr/Locust Ave	C	**D**	**D**	**E**	**F**	Yes	Signal	7.7	A	18.8	B	Signalize. Add 1 WBL.
IN-37	Moreno Beach Dr/SR-60 EB Ramps	D	**F**	**F**	**F**	**F**	Yes	Signal	51.2	D	53.5	D	Add EBL and 2nd SBL. Increase cycle length to 130s in the PM
IN-39	Iris Ave/Perris Blvd	D	**E**	**E**	**E**	**F**	Yes	Signal	50.9	D	42.6	D	Add 2nd WBL and 2nd SBL
IN-40	Kitching St/Iris Ave	C	**E**	**E**	**F**	**F**	Yes	Signal	29.0	C	31.1	C	Add 2nd WBL. Add 3rd EBT. Widen NB approach and reconfigure to 1 NBL, 2NBT, 2NBR. Provide overlap for NBR.
IN-41	Lasselle Str/Iris Ave	D	C	D	**E**	**F**	Yes	Signal	31.5	C	46.9	D	Add 3rd WBL and 1 EBR.
IN-57	Graham Str/Alessandro Blvd	D	D	D	**F**	**F**	Yes	Signal	32.8	C	41.5	D	Add 2nd NBL and WBL.
IN-64	Indian Str/Cactus Ave	C	C	C	**D**	**D**	Yes	Signal	33.1	C	34.7	C	Add 2nd NBL.
IN-66	Alessandro Blvd/Sycamore Canyon Blvd	D	D	D	**F**	**F**	Yes	Signal	27.7	C	44.0	D	Add 2nd EBL. Add SBR + overlap signal phase
IN-71	Elsworth Str/Alessandro Blvd	D	C	C	D	**E**	Yes	Signal	26.8	C	30.1	C	Add 2nd NBL.
IN-73	I-215 NB Ramps/Cactus Ave	D	**E**	**E**	**F**	**F**	Yes	Signal	18.0	B	47.6	D	Add 1 EBR and 1 WBR. Add 2nd NBL and 2nd SBL.
IN-74	Elsworth Str/Cactus Ave	D	**F**	**F**	**F**	**F**	Yes	Signal	39.6	D	54.8	D	Widen NB approach to add lanes to reconfigure to 3 NBL, 1 NBT and 1 NBR. Add 2nd EBR and 2nd WBL. (Volume increase due to March AB project).
IN-75	Central Ave/Lochmoor Dr.	D	B	C	**E**	**F**	Yes	Signal	14.0	B	45.1	D	Add 2nd NBL.
IN-80	Alessandro Blvd/Mission Grove Pkwy	D	C	C	D	**E**	Yes	Signal	28.4	C	55.0	D	Add NBR overlap signal phase.
IN-85	Martin Luther King Blvd/I-215 NB Ramps	D	**E**	**E**	C	**C**	Yes	Signal	10.1	B	7.8	A	Signalize
IN-86	Central Ave/Chicago Ave	D	D	**E**	**F**	**F**	Yes	Signal	23.0	C	47.6	D	Add NBR overlap signal phase.
IN-88	Central Ave/Canyon Crest Dr	D	D	D	**F**	**F**	Yes	Signal	42.2	D	54.6	D	Add 2nd WBL. Add 2nd NBL. Add SBR with signal phase overalp. Add EBR.
IN-90	Arlington Ave/Riverside Ave/SR-91 SB Ramps	D	D	D	**E**	**E**	Yes	Signal	33.3	C	52.7	D	Add 3rd SBL.
IN-94	Arlington Ave/Victoria Ave	D	**F**	**F**	**E**	**F**	Yes	Signal	54.1	D	47.1	D	Add 4th EBT and WBT. Add 2nd NBR. Add 2nd SBL.
IN-95	Alessandro Blvd/Chicago Ave	D	**E**	**E**	**F**	**F**	Yes	Signal	36.2	D	54.3	D	Add 3rd EBR and 3rd EBT. Add 4th SBT lane. Add 3rd NBL and 3rd NBT. Add 3rd WBT and 2nd WBR.
IN-98	Alessandro Blvd/Canyon Crest Dr	D	D	**E**	**F**	**F**	Yes	Signal	49.6	D	46.5	D	Widen EB approach and reconfigure to 2 EBL, 1 EBT/R and 1 EBR.
IN-101	Ramona Expy/Indian St	E	**F**	**F**	**F**	**F**	Yes	Signal	77.6	E	56.2	E	Add 1 EBR. Add 2nd NBL and 1 NBR. Provide signal phase overlap for all right turn pockets.
IN-107	Evans Rd/Rider St	C	**D**	**D**	C	C	Yes	Signal	29.8	C	28.7	C	Modified signal timing to protected/permitted for all left turns.
IN-123	Gilman Springs Rd/Bridge Str	C	**F**	**F**	**F**	**F**	Yes	Signal	9.3	A	12.0	B	Signalize
IN-129	W 6th St/California Ave	C	**F**	**F**	**F**	**F**	Yes	Signal	19.7	B	20.0	B	Signalize
IN-130	W 6th St/Beaumont Ave	C	**D**	**D**	**F**	**F**	Yes	Signal	28.6	C	34.6	C	Change signal phasing for EBL/WBL to permitted/protected . Add NB right-turn lane with signal phase overlap. Add 2nd SBL. Add 2nd WBT (remove parking). Add EBR with signal phase overlap
IN-131	Reche Canyon Rd/Reche Vista Dr	C	C	**D**	**F**	**F**	Yes	Signal	11.3	B	26.8	C	Convert NBR to shared NBL and NBR.

Notes:
"CSS" means cross-street is stop-controlled
"AWS" means all-way stop
"RABT" means roundabout
Indicates that the LOS exceeds the target level
"NB" and "SB" denote northbound and southbound respectively
"EB" and "WB" denote eastbound and westbound respectively
"LT" and "RT" denote left turn and right turn respectively
Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

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- ***Moreno Beach Drive/John Kennedy Drive Intersection (IN-28)*** currently operates within the LOS threshold but would exceed the threshold in the p.m. peak hour under Existing Plus Project conditions. Adding a westbound left-turn lane would reduce project impacts to a less than significant level. The City will impose as a condition of approval that the WLC will provide funds to cover the cost of this improvement, which the City will use to construct the turn lane.
- ***Moreno Beach Drive/Ironwood Avenue Intersection (IN-36)*** currently operates within the LOS threshold but would exceed the threshold in the a.m. peak hour under Existing Plus Project conditions. Adding a northbound right-turn lane would reduce project impacts to a less than significant level. The City will require the developer to pay for this improvement as a condition of approval.
- ***Moreno Beach Drive/SR-60 Eastbound Ramps Intersection (IN-37)*** already exceeds the LOS threshold in the p.m. peak hour and traffic using the intersection would experience longer delays under Existing Plus Project conditions. Adding an eastbound right-turn lane would reduce project impacts to a less than significant level. The City will require the developer to pay for this improvement as a condition of approval.
- ***Lasselle Street/Cactus Avenue Intersection (IN-53)*** already exceeds the LOS threshold in both the a.m. and p.m. peak hours and traffic using the intersection would experience longer delays under Existing Plus Project conditions. Constructing an additional lane for the westbound left turn, northbound left turn, southbound left turn, eastbound through, southbound right turn movements, and modifying the traffic signal to provide overlap phasing for northbound right turns and eastbound right turns would reduce project impacts to a less than significant level. The City will require the developer to pay for this improvement as a condition of approval.
- ***Arlington Avenue/Victoria Avenue Intersection (IN-94)*** currently operates within the LOS threshold but would exceed the threshold in the a.m. peak hour under Existing Plus Project conditions. Adding an additional westbound left-turn lane would reduce project impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Riverside. The City will require the developer to pay for this improvement as a condition of approval. However, because the intersection is outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Riverside to develop a mechanism for implementing improvements that would provide an acceptable LOS at this intersection.
- ***Alessandro Boulevard/Chicago Avenue intersection (IN-95)*** is already built out to near the practical limit before grade separation is required (it has five lanes for each approach). Despite this it already operates at LOS "E" in the p.m. peak period. To achieve the target LOS under Existing Plus Project conditions would require the addition of another eastbound right turn lane. There are established residential communities on each corner that would be impacted by such a widening or by grade separation. These mitigation measures are thus likely to be infeasible, and the project impact at this location is therefore considered to be a significant and unavoidable.
- ***Evans Road/Rider Street Intersection (IN-107)*** currently operates within the LOS threshold but would exceed the threshold in the a.m. peak hour under Existing Plus Project conditions. Modifying the signal timing to allow protected/permitted left-turns for the northbound and southbound approaches would reduce project impacts to a less than significant level.

  Because this intersection is under the jurisdiction of the City of Perris and is thus outside the control of the City of Moreno Valley, the City cannot ensure that the signal timing will be changed. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Perris to Riverside to change the signal timing for this intersection.

- ***Bridge Street/Ramona Expressway Intersection (IN-122)*** currently operates within the LOS threshold but would exceed the threshold in the a.m. and p.m. peak hours under Existing Plus Project conditions. Signalizing the intersection would reduce project impacts to a less than significant level. However, there is a plan to close this intersection in the future and replace it with a grade-separated crossing west of the current location as part of the Villages of Lakeview project. It may not be worthwhile to signalize this intersection for only a few years before closing it.

  This intersection is under the jurisdiction of the Riverside County. The City will require the developer to pay for this improvement as a condition of approval. However, because the intersection is outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the Riverside County to develop a mechanism for implementing improvements that would provide an acceptable LOS at this intersection.

- ***Gilman Springs Road/Bridge Street Intersection (IN-123)*** already exceeds the LOS threshold in a.m. peak hour and traffic using the intersection would experience longer delays under Existing Plus Project conditions. Signalizing this intersection would reduce project impacts to a less than significant level.

  This intersection is under the jurisdiction of the Riverside County. The City will require the developer to pay for this improvement as a condition of approval. However, because the intersection is outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the Riverside County to develop a mechanism for implementing improvements that would provide an acceptable LOS at this intersection.

- ***SR-79 (Sanderson Avenue) Northbound/Gilman Springs Road Intersection (IN-124)*** already exceeds the LOS threshold in both the a.m. and p.m. peak hours and traffic using the intersection would experience longer delays under Existing Plus Project conditions. Signalizing this intersection would reduce project impacts to a less than significant level.

  This intersection is under the jurisdiction of the Riverside County. The City will require the developer to pay a fair-share contribution towards improvement of this intersection as a condition of approval. However, because intersection is outside the jurisdiction of the City of Moreno Valley and because no mechanism is in place for ensuring the availability of the non-project portion of the needed funds, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Riverside to develop a mechanism for implementing improvements that would provide an acceptable LOS at this intersection.

- ***SR-79 (Sanderson Avenue) Southbound/Gilman Springs Road Intersection (IN-125)*** already exceeds the LOS threshold in both the a.m. and p.m. peak hours and traffic using the intersection would experience longer delays under Existing Plus Project conditions. Signalizing this intersection would reduce project impacts to a less than significant level.

  This intersection is under the jurisdiction of the Riverside County. The City will require the developer to pay a fair-share contribution towards improvement of this intersection as a condition of approval. However, because intersection is outside the jurisdiction of the City of Moreno Valley and because no mechanism is in place for ensuring the availability of the non-project portion of the needed funds, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable.

- ***San Timoteo Canyon Road/Alessandro Road Intersection (IN-132)*** already exceeds the LOS threshold in the a.m. peak hour and traffic using the intersection would experience longer delays under Existing Plus Project conditions. Signalizing this intersection would reduce project impacts to a less than significant level.

This intersection is under the jurisdiction of the City of Redlands. The City will require the developer to pay for this improvement as a condition of approval. However, because the intersection is outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Redlands to develop a mechanism for implementing improvements that would provide an acceptable LOS at this intersection.

- ***San Timoteo Canyon Road/Live Oak Canyon Road Intersection (IN-133)*** already exceeds the LOS threshold in both the a.m. and p.m. peak hours and traffic using the intersection would experience longer delays under Existing Plus Project conditions. Signalizing this intersection would reduce project impacts to a less than significant level.

  This intersection is under the jurisdiction of the Riverside County. The City will require the developer to pay a fair-share contribution towards improvement of this intersection as a condition of approval. However, because intersection is outside the jurisdiction of the City of Moreno Valley and because no mechanism is in place for ensuring the availability of the non-project portion of the needed funds, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable.

- ***Redlands Boulevard/San Timoteo Canyon Road Intersection (IN-134)*** already exceeds the LOS threshold in both the a.m. and p.m. peak hours and traffic using the intersection would experience longer delays under Existing Plus Project conditions. Signalizing this intersection and adding a right-turn storage lane would reduce project impacts to a less than significant level.

  This intersection is under the jurisdiction of the Riverside County. The City will require the developer to pay a fair-share contribution towards improvement of this intersection as a condition of approval. However, because intersection is outside the jurisdiction of the City of Moreno Valley and because no mechanism is in place for ensuring the availability of the non-project portion of the needed funds, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable.

Freeway Direct Impacts. Unlike the surface streets, where intersection improvements are generally both feasible and desirable, the strategic situation for freeways in western Riverside County is such that major freeway improvements are becoming increasingly problematic over time. A key problem is that the rights-of way are essentially built out in many locations and cannot be expanded without severe impacts to existing communities (loss of homes and businesses, visual intrusion, increased noise and air quality impacts, etc.) and high costs to replace overcrossing structures. Moreover, there is a growing consensus that over-provision of freeway capacity facilitates long-distance commuting by car and leads to more auto-oriented residential development on the urban fringe, which in turn increases greenhouse gas emissions. This has resulted in a policy shift away from continued expansion of the freeway system, as reflected, for example, in the Riverside County Transportation Commission Ordinance No. 02-001 which reads in part,

> *"State Routes 91 and 60 and Interstate Routes 15 and 215 cannot cost effectively be widened enough to provide for the traffic expected as Riverside County continues to grow. In addition to the specific highway improvements listed in Section 1 above, congestion relief for these highways will require that new north–south and east-west transportation corridors will have to be developed to provide mobility within Riverside County and between Riverside County and its neighboring Orange and San Bernardino Counties."*

In other words, as a matter of policy, with the exception of spot improvements in some specific locations, the overall strategy to relieve congestion on SR-60 and SR-91 is to improve the capacity of surface streets that could serve as alternate routes to freeways. The policy to forego further widening of some sections of SR-60 and SR-91 is also noted in the Riverside County Congestion Management

Program (CMP) which permits LOS F for some of the study freeway sections because those sections already operated at LOS F when the CMP was established in 1991. For these reasons, some of the identified mitigation measures may not be pursued even if they are deemed feasible in an engineering sense. In such cases, the project's payment into the TUMF and DIF programs and funding for the surface street improvements that would constitute their mitigation because they help create viable alternative routes that would substitute for freeway travel for some trips.

The project's direct and cumulative impacts on the regional freeway system are summarized in Table 4.15.AZ. These impacts would be:

- ***Direct Impacts on Freeway Mainline Basic Sections***
    - *Eastbound SR-60 from Euclid Avenue to Grove Avenue (F-6)* already exceeds the LOS threshold in the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold. Although the addition of a lane is called for in the Concept Route Report, the cost would be high because of the need to construct a retaining wall. Moreover, widening the freeway would bring the freeway very close to an existing residential community, thus exposing it to increased levels of air and noise pollution. Since the mitigation measure needed to create an acceptable LOS is infeasible, this impact must be considered significant and unavoidable.
    - *Eastbound SR-60 from Martin Luther King Boulevard to Central Avenue (F-24)* already exceeds the LOS threshold in the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold. The Concept Route Report does not call for further widening of this section, which could only be accomplished by eliminating the existing shoulder. Since this would create safety problems that would be less acceptable than a low LOS, mitigating this impact is infeasible. This impact is therefore significant and unavoidable.
    - *Westbound SR-60 from I-215 to Day Street (F-27)* already exceeds the LOS threshold in the a.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold. However, the cost would be high because of the need to construct a retaining wall. Moreover, widening the freeway would bring the freeway very close to existing homes and businesses, exposing them to increased levels of air and noise pollution. Since the improvements needed to bring the section within the target LOS are infeasible, this impact is significant and unavoidable.
    - *Westbound SR-60 from I-215 to Day Street (F-27)* already exceeds the LOS threshold in the a.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold. However, the cost would be high because of the need to construct a retaining wall. Moreover, widening the freeway would bring the freeway very close to existing homes and businesses, exposing them to increased levels of air and noise pollution. Since the improvements needed to bring the section within the target LOS are infeasible, this impact is significant and unavoidable.
    - *Westbound SR-60 from Pigeon Pass Road/Frederick Street to Heacock Street (F-29)* currently operates at an acceptable LOS but would exceed the LOS threshold in the p.m. peak hour under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold. However, this would be prohibitively costly due to the need to replace the existing embankment with a retaining wall and sound wall. Moreover, widening the freeway would bring the freeway very close to existing homes, exposing them to increased levels of air and noise pollution. Since the improvements needed to bring the section within the target LOS are infeasible, this impact is significant and unavoidable.

Table 4.15.AZ: Existing plus Project Direct and Cumulative Impacts and Mitigation Measures on Freeway Facilities

Study Facility		Jurisdiction	LOS Standard	Determination of Impact					Mitigation Measures Required to Reduce Impact to Less than significant	Is Mitigation Feasible?	LOS After Feasible Mitigations are Implemented		Impact Significant After Mitigation?	Is There an Existing Difficiency?	Developer Action Required
				Existing		Existing Plus Project		Does the Project Have a Significant Impact?			AM LOS	PM LOS			
				AM	PM	AM	PM								
(A)		(B)	(C)	(D)		(E)		(F)	(G)	(H)	(I)		(J)	(K)	(L)
Freeway Mainline Basic Sections - All Impacts are Considered Significant and Unavoidable (because they are not feasible, not part of an existing fee program, and/or not under the control of the City of Moreno Valley)															
F-6	EB SR-60 Euclid Ave to Grove Ave	Caltrans	D	D	**E**	**E**	**F**	Yes	Add 1 mixed flow lane	No	**E**	**F**	**Yes**	Yes	N/A*
F-24	EB SR-60 Martin Luther King Blvd to Central Ave	Caltrans	D	C	**F**	D	**F**	Yes	Add 1 mixed flow lane	No	D	**F**	**Yes**	Yes	N/A*
F-27	WB SR-60 I-215 to Day St.	Caltrans	D	**F**	B	**F**	C	Yes	Add 1 mixed flow lane	No	**F**	C	**Yes**	No	N/A*
F-29	WB SR-60 Pigeon Pass Rd/Frederick St to Heacock St	Caltrans	D	C	D	C	**E**	Yes	Add 1 mixed flow lane	No	C	**E**	**Yes**	No	N/A*
F-41	WB SR-91 Pierce St to Magnolia Ave	Caltrans	D	C	**F**	C	**F**	Yes	Add 1 mixed flow lane	Yes	B	D	No	Yes	Pay fair share (14%)
F-42	WB SR-91 Magnolia Ave to La Sierra Ave	Caltrans	D	C	**F**	C	**F**	Yes	Add 1 mixed flow lane	No	C	**F**	**Yes**	Yes	N/A*
F-49	EB SR-91 Central Ave to 14th St	Caltrans	D	D	D	**E**	D	Yes	Add 1 mixed flow lane	No	**E**	D	**Yes**		N/A*
F-71	SB I-215 SR-74/Case Rd to Redlands Blvd	Caltrans	D	**E**	D	**F**	D	Yes	Add 1 mixed flow lane	Yes	C	C	No	Yes	Pay fair share (8%)
F-83	SB I-215 Baseline Rd to Highland Ave	Caltrans	D	**E**	**F**	**F**	**F**	Yes	Add 1 mixed flow lane	No	**E**	**F**	**Yes**	Yes	N/A*
Freeway Weaving Sections - All Impacts are Considered Significant and Unavoidable (because they are not feasible, not part of an existing fee program, and/or not under the control of the City of Moreno Valley)															
W-1	EB SR-60 SR-71/S Garey Ave to S Reservoir Rd	Caltrans	D	C	**E**	C	**E**	Yes	Add 1 mixed flow lane	Yes	C	D	No	Yes	Pay fair share (5%)
W-21	EB SR-60 SR-91 to W Blaine St/3rd St	Caltrans	D	B	**E**	B	**E**	Yes	Add 1 mixed flow lane	No	B	**E**	**Yes**	Yes	N/A*
W-22	EB SR-60 W Blaine St/3rd St to University Ave	Caltrans	D	B	**E**	C	**E**	Yes	Add 1 mixed flow lane	No	C	**E**	**Yes**	Yes	N/A*
W-25	EB SR-60 Central Ave to Fair Isle Dr/Box Springs Rd	Caltrans	D	B	D	C	**E**	Yes	Add 1 mixed flow lane	No	C	**E**	**Yes**	No	N/A*
W-25	WB SR-60 Central Ave to Fair Isle Dr/Box Springs Rd	Caltrans	D	**E**	D	**E**	**E**	Yes	Add 1 mixed flow lane	Yes	D	C	No	Yes	Pay fair share (100%)**
W-48	EB SR-91 Arlington Ave to Central Ave	Caltrans	D	**E**	B	**E**	B	Yes	Add 1 mixed flow lane	Yes	D	B	No	Yes	Pay fair share (15%)
W-50	WB SR-91 14th St to University Ave	Caltrans	D	C	**E**	C	**E**	Yes	Add second off-ramp lane	Yes	C	D	No	Yes	Pay fair share (6%)
Freeway Ramps - All Impacts are Considered Significant and Unavoidable (because they are not under the control of the City of Moreno Valley)															
R-2	SR-60 EB On-Ramp from Central Ave	Caltrans	D	B	C	**F**	**F**	Yes	Add 1 mixed flow lane	No	B	**F**	**Yes**	Yes	N/A*

Indicates LOS exceeds the target level * Not applicable because mitigation is infeasible ** Fair share based on the fact that the project causes the facility to change from below the LOS threshold to above in one of the time periods

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

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- *Westbound SR-91 from Pierce Street to Magnolia Avenue (F-41)* already exceeds the LOS threshold in the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold.

  SR-91 is a state facility outside the jurisdiction of the City of Moreno Valley. The City will require the developer to pay a fair-share contribution towards improvement of this section as a condition of approval. However, because the freeway is outside the jurisdiction of the City of Moreno Valley and because no mechanism is in place for ensuring the availability of the non-project portion of the needed funds, the City cannot ensure that the identified improvements would be made. The project's impacts on this section must therefore be considered significant and unavoidable.

- *Westbound SR-91 from Magnolia Avenue to La Sierra Avenue (F-42)* already exceeds the LOS threshold in the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold. However, this could only be accomplished by eliminating the existing shoulder. Since this would create safety problems that would be less acceptable than a low LOS, mitigating this impact is infeasible. This impact is therefore significant and unavoidable.

- *Eastbound SR-91 from Central Avenue to 14th Street (F-49)* currently operates at an acceptable LOS but would exceed the LOS threshold in the a.m. peak hour under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold. However, this is infeasible due to potential impacts on the adjacent railway line. Since the improvements needed to bring the section within the target LOS are infeasible, this impact is significant and unavoidable.

- *Southbound I-215 from SR-74/Case Road to Redlands Boulevard (F-71)* already exceeds the LOS threshold in the a.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold.

  I-215 is a state facility outside the jurisdiction of the City of Moreno Valley. The City will require the developer to pay a fair-share contribution towards improvement of this section as a condition of approval. However, because the freeway is outside the jurisdiction of the City of Moreno Valley and because no mechanism is in place for ensuring the availability of the non-project portion of the needed funds, the City cannot ensure that the identified improvements would be made. The project's impacts on this section must therefore be considered significant and unavoidable.

- *Southbound I-215 from Baseline Road to Highland Avenue (F-83)* already exceeds the LOS threshold in both the a.m. and p.m. peak hours and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. The existing freeway right-of-way in this section cannot accommodate an additional lane and cannot be widened without impacting the adjacent railroad. Since widening the freeway is infeasible, this impact is significant and unavoidable.

- ***Direct Impacts on Freeway Weaving Sections***

  - *Eastbound SR-60: SR-71/S Garey Avenue to S. Reservoir Road (W-1)* already exceeds the LOS threshold in the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold.

    SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley. The City will require the developer to pay a fair-share contribution towards improvement of this section as a condition of approval. However, because the freeway is outside the jurisdiction of the City of Moreno Valley and because no mechanism is in place for ensuring the availability of the

non-project portion of the needed funds, the City cannot ensure that the identified improvements would be made. The project's impacts on this section must therefore be considered significant and unavoidable.

- *Eastbound SR-60 from SR-91 to W. Blaine Street/3rd Street (W-21)* already exceeds the LOS threshold in the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. The existing freeway right-of-way in this section cannot accommodate an additional lane and cannot be widened without impacting the adjacent residential community. Since widening the freeway is infeasible, this impact is significant and unavoidable.
- *Eastbound SR-60 from W Blaine Street/3rd Street to University Avenue (W-22)* already exceeds the LOS threshold in the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. The existing freeway right-of-way in this section cannot accommodate an additional lane and cannot be widened without impacting the adjacent businesses. Since widening the freeway is infeasible, this impact is significant and unavoidable.
- *Eastbound SR-60 from Central Avenue to Fair Isle Drive/Box Springs Road (W-25)* operates near capacity now and the addition of the project would increase traffic above the target LOS threshold. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. The existing freeway right-of-way in this section cannot accommodate an additional lane and cannot be widened without eliminating the adjacent frontage road. Since widening the freeway is infeasible, this impact is significant and unavoidable.
- *Westbound SR-60 from Central Avenue to Fair Isle Drive/Box Springs Road (W-25)* already exceeds the LOS threshold in the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. Widening would be costly due to the rough terrain and the need to avoid impacts to the nearby railway.

  SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley. The City will require the developer to pay a fair-share contribution towards improvement of this section as a condition of approval. However, because the freeway is outside the jurisdiction of the City of Moreno Valley and because no mechanism is in place for ensuring the availability of the non-project portion of the needed funds, the City cannot ensure that the identified improvements would be made. The project's impacts on this section must therefore be considered significant and unavoidable.
- *Northbound SR-91: Arlington Avenue to Central Avenue (W-48)* already exceeds the LOS threshold in the a.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold.

  SR-91 is a state facility outside the jurisdiction of the City of Moreno Valley. The City will require the developer to pay a fair-share contribution towards improvement of this section as a condition of approval. However, because the freeway is outside the jurisdiction of the City of Moreno Valley and because no mechanism is in place for ensuring the availability of the non-project portion of the needed funds, the City cannot ensure that the identified improvements would be made. The project's impacts on this section must therefore be considered significant and unavoidable.
- *Westbound SR-91 from 14th Street to University Avenue (W-50)* will change from below the LOS target to above the target with the addition of the project. Adding a second off-ramp lane would reduce the cumulative impact to a less than significant level.

  SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley. The City will require the developer to pay a fair-share contribution towards improvement of this section as

a condition of approval. However, because the freeway is outside the jurisdiction of the City of Moreno Valley and because no mechanism is in place for ensuring the availability of the non-project portion of the needed funds, the City cannot ensure that the identified improvements would be made. The project's impacts on this section must therefore be considered significant and unavoidable.

- ***Direct Impacts on Freeway Ramps***
    - *Eastbound SR-60 from On-Ramp from Central Avenue (R-2)* already exceeds the LOS threshold in the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. The existing freeway right-of-way in this section cannot accommodate an additional lane and cannot be widened without eliminating the adjacent frontage road. Since widening the freeway is infeasible, this impact is significant and unavoidable.

As individual projects within the WLC are processed the City will require that each project do a traffic impact assessment in accordance with City guidelines. These project-level assessments will determine the timing of each mitigation measure.

PROJECT CUMULATIVE IMPACTS

The cumulative impacts of the WLC project were determined by comparing the LOS of study facilities under 2035 No-Project and 2035 Plus Project conditions.

The cumulative impacts of the project and their associated mitigation measures are described below. In cases where the facility had mitigation measures identified for direct impacts and requires additional improvements under cumulative conditions, the improvements described below are the improvements required beyond those described in the previous section on direct impacts.

Cumulative Impacts on Road Sections. The project's direct impacts on road sections are summarized in Table 4.15.BA. These impacts would be:

- ***Theodore Street from SR-60 Westbound Ramps to Ironwood Avenue (S-1)*** may need to be widened to four lanes sometime in the 2022–2035 timeframe. The 2022 Plus Project analysis indicates that this section would not have capacity problems upon full buildout of the WLC; problems would arise only when additional traffic is generated by the buildout of the City's General Plan. This road is eligible for funds under the DIF program. The City will collect DIFs in accordance with City Municipal Code 3.42.030 and 3.42.040, and use these fees to widen the road to 4 lanes.
- ***Gilman Springs Road from Alessandro Boulevard to Bridge Street (S-16)*** should be widened from 2 lanes to 4 lanes in the short term (see previous section on direct impacts) and may need to be further widened from 4 lanes to 8 lanes sometime in the 2022–2035 timeframe. Gilman Springs is a TUMF facility. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because Gilman Springs Road is a Riverside County facility and is thus outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. Moreover, there are right-of-way constraints involving sensitive environmental areas that may limit widening to six lanes between Alessandro Boulevard and Bridge Street, or even preclude any widening at all. The project's impacts on Gilman Springs Road must therefore be considered significant and unavoidable. The City will work with Riverside County and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS on this road to the extent feasible.

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Table 4.15.BA: General Plan Buildout Direct Impacts and Mitigation Measures on Roadway Segments

	Roadway	From	To	LOS Standard***	2035 No-Project			2035 Plus Project			Project Significant Impact?	Mitigation Measures Required to Reduce Project Impacts to Less than significant	LOS After Mitigation
					Roadway Section*	Daily Volume	LOS	Roadway Section*	Daily Volume	LOS			
S-1	Theodore Street (A)	SR-60 WB Ramps	Ironwood Avenue	D	2U	9,653	C	2U	14,617	**E**	Yes	Widen to 4 lanes	A
S-2	Theodore Street (A)	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	2U	8,699	B	6D	34,518	B	No		
S-3	Fir (Eucalyptus) Ave.	Redlands Blvd	Theodore Street (A)	D	2U	7,346	A	4D	12,045	A	No		
S-4	Eucalyptus Ave (B)	Theodore Street (A)	Gilman Springs Rd	N/A	Future Road			6D	33,818	A	No		
S-5	Theodore Street (A)	Fir (Eucalyptus) Ave.	Street E	D	2U	1,664	A	6D	36,947	B	No		
S-6	Street E	Theodore Street (A)	Street D	N/A	Future Road			4U	14,123	A	No		
S-7	Street F	Theodore Street (A)	Alessandro Blvd (Street C)	N/A	Future Road			2U	5,161	A	No		
S-8	Theodore Street (A)	Fir (Eucalyptus) Ave.	Alessandro Blvd (Street C)	D	2U	1,724	A	4D	14,068	A	No		
S-9	Alessandro Blvd (Street E)	Merwin Street	Theodore Street (A)	D	2U	5,501	A	4U	15,396	B	No		
S-10	Street D	Alessandro Blvd (Street E)	Cactus Ave.	N/A	Future Road			4U	16,557	B	No		
S-11	Alessandro Blvd (Street C)	Theodore Street (A)	Street F	D	2U	7,953	B	4U	17,410	B	No		
S-12	Street F	Street C	Street G	N/A	Future Road			2U	6,745	A	No		
S-13	Alessandro Blvd (Street C)	Street F	Gilman Springs Rd	D	2U	7,953	B	4U	19,428	A	No		
S-14	Street G	Street F	Street H	N/A	Future Road			2U	4,906	A	No		
S-15	Street H	Street G	Alessandro Blvd (Street C)	N/A	Future Road			2U	9,790	C	No		
S-16	Gilman Springs Rd	Alessandro Blvd (Street C)	Bridge Street	D	6D	48,013	D	6D	61,901	**E**	Yes	Widen to 8 lanes	A
S-17	Gilman Springs Rd	SR-60	Alessandro Blvd (Street C)	D	6D	41,536	C	6D	48,203	D	No		
S-18	Redlands Blvd	SR-60 EB Ramps	Fir (Eucalyptus) Ave.	D	4U	13,802	A	4U	18,872	C	No		
S-19	Redlands Blvd	Fir (Eucalyptus) Ave.	Alessandro Blvd	C	4U	7,840	A	4U	4,497	A	No		
S-20	Alessandro Blvd	Redlands Blvd	Merwin Street	C	4U	10,022	A	4U	673	A	No		
S-21	Redlands Blvd	Alessandro Blvd	Cactus Ave.	C	4U	11,263	A	4U	4,678	A	No		
S-22	Cactus Ave.	Redlands Blvd	Street D	C	4U	342	A	4U	16,557	A	No		

* Section is the number of lanes, with "U" for "undivided" and "D" for "Divided" roadways

LOS Standard is "C" in residential areas and "D" for roads in employment-generating areas or near freeways

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

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- ***Gilman Springs Road from SR-60 to Alessandro Boulevard (S-17)*** should be widened from 2 lanes to 4 lanes in the short term (see previous section on direct impacts) and may need to be further widened from 4 lanes to 6 lanes sometime in the 2022–2035 timeframe. Gilman Springs is a TUMF facility. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because Gilman Springs Road is a Riverside County facility and is thus outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. Moreover, there are right-of-way constraints involving sensitive environmental areas that may limit widening to six lanes between Alessandro Boulevard and Bridge Street, or even preclude any widening at all. The project's impacts on Gilman Springs Road must therefore be considered significant and unavoidable. The City will work with Riverside County and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS on this road to the extent feasible.

Cumulative Impacts on Study Intersections. The WLC project's cumulative impacts on study intersections is summarized in Table 4.15.BB, and described in detail below:

- ***Redlands Boulevard/Ironwood Avenue Intersection (IN-11)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a second southbound left-turn lane would reduce cumulative impacts to a less than significant level. This intersection is eligible for funds under the DIF program. The City will collect DIF funds in accordance with City Municipal Code 3.42.030 and 3.42.040, and use these fees to improve this intersection.
- ***Theodore Street/Ironwood Avenue Intersection (IN-12)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Signalizing the intersection would reduce cumulative impacts to a less than significant level. This intersection is eligible for funds under the DIF program. The City will collect DIF funds in accordance with City Municipal Code 3.42.030 and 3.42.040, and use these fees to improve this intersection.
- ***Moreno Beach Drive/Cactus Avenue Intersection (IN-25)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a second eastbound left-turn lane would reduce cumulative impacts to a less than significant level. This intersection is eligible for funds under the DIF program. The City will collect DIF funds in accordance with City Municipal Code 3.42.030 and 3.42.040, and use these fees to improve this intersection.
- ***Moreno Beach Drive/Locust Avenue Intersection (IN-35)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Signalizing the intersection and constructing a westbound left-turn lane would reduce cumulative impacts to a less than significant level. This intersection is eligible for funds under the DIF program. The City will collect DIF funds in accordance with City Municipal Code 3.42.030 and 3.42.040, and use these fees to improve this intersection.
- ***Moreno Beach Drive/SR-60 EB Ramps Intersection (IN-37)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing an eastbound left-turn lane and increasing traffic signal cycle length to 130 seconds in the p.m. peak hour would reduce cumulative impacts to a less than significant level. This intersection is eligible for funds under the DIF program. The City will collect DIF funds in accordance with City Municipal Code 3.42.030 and 3.42.040, and use these fees to improve this intersection.
- ***Iris Avenue/Perris Boulevard Intersection (IN-39)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a second southbound left-turn lane would reduce cumulative impacts to a less than significant level. This intersection is eligible for funds under the DIF program. The City will collect DIF funds in accordance with City Municipal Code 3.42.030 and 3.42.040, and use these fees to improve this intersection.

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Table 4.15.BB: General Plan Buildout (Year 2035) Direct and Cumulative Impacts and Mitigation Measures on Intersections

Study Intersection		Jurisdiction	LOS Standard	Existing		Existing Plus Project		Does the Project Have a Significant Impact?	Mitigation Measures Required to Reduce Impact to Less than significant	Is Mitigation Feasible?	LOS After Feasible Mitigations are Implemented		Impact Significant After Mitigation?	Is There an Existing Deficiency?	Developer Action Required
				AM	PM	AM	PM				AM LOS	PM LOS			
(A)		(B)	(C)	(D)		(E)		(F)	(G)	(H)	(I)		(J)	(K)	(L)
Intersection Direct Impacts that can be Mitigated to a Less than significant Level															
IN-10	Redlands Blvd/Locust Ave	Moreno Valley	C	**D**	**E**	**F**	**F**	Yes	Signalize	Yes	A	B	No	Yes	Pay for improvement
IN-13	Redlands Blvd/SR-60 WB ramps	Moreno Valley	D	**E**	**F**	**E**	**F**	Yes	Signalize	Yes	B	B	No	Yes	Pay for improvement
IN-20	Oliver Str/Alessandro Blvd	Moreno Valley	C	**D**	B	**F**	C	Yes	Change to AWSC	Yes	C	B	No	Yes	Pay for improvement
IN-27	Redlands Blvd/Cactus Ave	Moreno Valley	C	B	A	**F**	**F**	Yes	Signalize	Yes	C	C	No	No	Pay for improvement
IN-28	Moreno Beach Dr/John Kennedy Dr	Moreno Valley	D	B	B	C	**F**	Yes	Add 1 WB LT Lane	Yes	B	B	No	No	Pay for improvement
IN-36	Moreno Beach Drive & Ironwood Avenue	Moreno Valley	D	D	D	**E**	D	Yes	Add 1 NBRT lane	Yes	D	D	No	No	Pay for improvement
IN-37	Moreno Beach Dr/SR-60 EB Ramps	Moreno Valley	D	D	**E**	D	**F**	Yes	Add EB right-turn lane.	Yes	C	C	No	Yes	Pay for improvement
IN-53	Lasselle Str/Cactus Ave	Moreno Valley	C	**D**	**D**	**D**	**D**	Yes	Add 1 WBLT, 1 NBLT, 1 SBLT, 1 EBTH, 1 SBRT, add OL phase for EBRT & NBRT	Yes	C	C	No	Yes	Pay for improvement
Intersection Direct Impacts that are Considered Significant and Unavoidable (either because they are not under the control of the City of Moreno Valley or because mitigation is infeasible)															
IN-94	Arlington Ave/Victoria Ave	City of Riverside	D	D	C	**E**	D	Yes	Added WBL turn lane	Yes	D	C	No	No	Pay for improvement
IN-95	Alessandro Blvd/Chicago Ave	City of Riverside	D	D	**E**	D	**E**	Yes	Add 3rd EBT. Add 3rd WBT and 2nd WBR.	No	D	**E**	**Yes**	Yes	N/A*
IN-107	Evans Rd/Rider St	Perris	C	C	C	**D**	C	Yes	Modified signal timing to protected/permitted NB and SB left turns	Yes	C	C	No	No	Pay for improvement
IN-122	Bridge St/Ramona Expy	Riverside County	C	C	C	**E**	**D**	Yes	Signalize	Yes	A	A	No	No	Pay for improvement
IN-123	Gilman Springs Rd/Bridge Str	Riverside County	C	**D**	C	**F**	**D**	Yes	Signalize	Yes	A	A	No	Yes	Pay for improvement
IN-124	SR-79(Sanderson Ave) NB/Gilman Springs Rd	Riverside County	C	**D**	**D**	**F**	**F**	Yes	Signalize	Yes	A	A	No	Yes	Pay fair share (50%)
IN-125	SR-79(Sanderson Ave) SB/Gilman Springs Rd	Riverside County	C	**D**	**E**	**E**	**F**	Yes	Signalize	Yes	A	A	No	Yes	Pay fair share (69%)
IN-132	San Timoteo Canyon Rd/Alessandro Rd	Redlands	D	**F**	C	**F**	**F**	Yes	Signalize	Yes	D	B	No	Yes	Pay for improvement
IN-133	San Timoteo Canyon Rd/Live Oak Canyon Rd	Riverside County	C	**F**	**F**	**F**	**F**	Yes	Signalize	Yes	B	B	No	Yes	Pay fair share (72%)
IN-134	Redlands Blvd/San Timoteo Canyon Rd	Riverside County	C	**F**	**F**	**F**	**F**	Yes	Signalize. Add right turn storage lane EB	Yes	B	B	No	Yes	Pay fair share (60%)

Notes: "CSS" means cross-street is stop-controlled
"AWS" means all-way stop
Indicates LOS exceeds the target level
"LT" and "RT" denote left turn and right turn respectively
* Not applicable because mitigation is infeasible
"NB" and "SB" denote northbound and southbound respectively
"EB" and "WB" denote eastbound and westbound respectively

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

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- ***Kitching Street/Iris Avenue Intersection (IN-40)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a third eastbound through lane, widening and reconfiguring the northbound approach to provide 1 left-turn lane, 2 through lanes, and 2 right-turn lanes, and modifying the traffic signal to provide overlap phasing for the northbound right-turn movement would reduce cumulative impacts to a less than significant level. The City will impose as a condition of approval that the WLC will provide fair-share funds to cover the cost of this improvement, which the City will use to construct the needed improvements.
- ***Lasselle Street/Iris Avenue Intersection (IN-41)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a third westbound lane and an eastbound right-turn lane would reduce project impacts to a less than significant level. This improvement is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Riverside and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.
- ***Graham Street/Alessandro Boulevard Intersection (IN-57)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a westbound left-turn lane would reduce cumulative impacts to a less than significant level. This intersection is eligible for funds under the DIF program. The City will collect DIF funds in accordance with City Municipal Code 3.42.030 and 3.42.040, and use these fees to improve this intersection.
- ***Indian Street/Cactus Avenue Intersection (IN-64)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a second northbound left-turn lane would reduce cumulative impacts to a less than significant level. This intersection is eligible for funds under the DIF program. The City will collect DIF funds in accordance with City Municipal Code 3.42.030 and 3.42.040, and use these fees to improve this intersection.
- ***Alessandro Boulevard/Sycamore Canyon Boulevard Intersection (IN-66)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a second eastbound left-turn lane would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Riverside. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Riverside and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.
- ***Elsworth Street/Alessandro Boulevard Intersection (IN-71)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a second northbound left-turn lane would reduce cumulative impacts to a less than significant level. This intersection is eligible for funds under the DIF program. The City will collect DIF funds in accordance with City Municipal Code 3.42.030 and 3.42.040, and use these fees to improve this intersection.
- ***I-215 NB Ramps/Cactus Avenue Intersection (IN-73)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing an eastbound right-turn lane, a westbound right-turn lane, a second northbound left-turn lane, and a second southbound left-turn lane would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the March AFB Joint Powers Authority. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter

3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the March AFB Joint Powers Authority and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.

- ***Elsworth Street/Cactus Avenue Intersection (IN-74)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a second eastbound left-turn lane and a second westbound left-turn lane would reduce cumulative impacts to a less than significant level. This intersection is eligible for funds under the DIF program. The City will collect DIF funds in accordance with City Municipal Code 3.42.030 and 3.42.040, and use these fees to improve this intersection.
- ***Central Avenue/Lochmoor Drive Intersection (IN-75)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a second north left-turn lane would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Riverside. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Riverside and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.
- ***Alessandro Boulevard/Mission Grove Parkway Intersection (IN-80)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Modifying the traffic signal to provide overlap phasing for the northbound right-turn movement would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Riverside. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Riverside and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.
- ***Martin Luther King Boulevard/I-215 Northbound Ramps Intersection (IN-85)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Signalizing the intersection would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Riverside. It is not eligible for TUMF funding. The City will work with the City of Riverside to establish a mechanism for collecting and distributing payments from developers for inter-jurisdictional impacts not covered by the TUMF program. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable.
- ***Central Avenue/Chicago Avenue. Intersection (IN-86)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Modifying the traffic signal to provide overlap phasing for the northbound right-turn movement would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Riverside. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and

payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Riverside and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.

- ***Central Avenue/Canyon Crest Drive Intersection (IN-88)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a southbound right-turn lane, an eastbound right-turn lane, a second westbound left-turn lane, and a second northbound left-turn lane, and modifying the traffic signal to provide overlap phasing for the southbound right-turn movement would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Riverside. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Riverside and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.

- ***Arlington Avenue/Riverside Avenue/SR-91 Southbound Ramps Intersection (IN-90)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a third southbound left-turn lane would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Riverside. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Riverside and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.

- ***Arlington Avenue/Victoria Avenue Intersection (IN-94)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a fourth eastbound through lane, a fourth westbound through lane, and a second westbound right-turn lane would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Riverside. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Riverside and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.

- ***Alessandro Boulevard/Chicago Avenue Intersection (IN-95).*** This intersection is already built out to near the practical limit before grade separation is required (it has five lanes for each approach). Despite this it already operates at LOS E in the p.m. peak period. To achieve the target LOS in 2035 would require the addition of two lanes each to the eastbound, northbound, and westbound directions as well as one southbound lane. There are established residential communities on each corner that would be impacted by such a widening or by grade separation.

These mitigation measures are thus likely to be infeasible, and the project impact at this location is therefore considered to be a significant and unavoidable.

- ***Alessandro Boulevard/Canyon Crest Drive Intersection (IN-98)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Widening and reconfiguring the eastbound approach to provide two left-turn lanes, one eastbound shared-through/right lane, and one eastbound right-turn lane would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Riverside. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Riverside and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.

- ***Ramona Expressway/Indian Street Intersection (IN-101)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing one eastbound right-turn lane, a second northbound left-turn lane, and one northbound right-turn lane, and modifying the traffic signal to provide overlap phasing for all right-turn movements would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Perris. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Perris and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.

- ***Evans Road/Rider Street Intersection (IN-107)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Modifying traffic signal to provide protected/permitted phasing for eastbound and westbound left-turn movements would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Perris. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Perris and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.

- ***W. 6th Street/California Avenue Intersection (IN-129)*** already exceeds the LOS threshold in both the a.m. and p.m. peak hours and traffic using the intersection would experience longer delays under Existing Plus Project conditions. Signalizing this intersection would reduce project impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Beaumont. Although it is a TUMF facility signalization is not currently eligible for TUMF funding. The City will work with the City of Beaumont to establish a mechanism for collecting and distributing payments from developers for inter-jurisdictional impacts not covered by the TUMF program. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable.

- ***W. 6th Street/Beaumont Avenue Intersection (IN-130)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Constructing a northbound right-turn lane, an eastbound right-turn lane, and a second southbound left-turn lane, removing on-street parking and restriping to provide a second westbound through lane, and modifying the traffic signal to provide protected/permitted phasing for eastbound and westbound left-turn movements, and overlap phasing for northbound and eastbound right-turn movements would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the City of Beaumont. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the City of Beaumont and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.

- ***Reche Canyon Road/Reche Vista Drive Intersection (IN-131)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Converting the existing right-turn lane into a shared left-turn-and-right-turn lane would reduce cumulative impacts to a less than significant level.

  This intersection is under the jurisdiction of the Riverside County. It is eligible for TUMF funding. The City will collect TUMF payments in accordance with Municipal Code Chapter 3.44, and payment of these fees will constitute the mitigation for this impact. However, because both the intersection and the funding source are outside the jurisdiction of the City of Moreno Valley, the City cannot ensure that the identified improvements would be made. The project's impacts on this intersection must therefore be considered significant and unavoidable. The City will work with the Riverside County and WRCOG to direct TUMF funding for improvements that would provide an acceptable LOS at this intersection.

Cumulative Freeway Mainline Mitigations. The WLC's cumulative impacts on the freeways system are summarized in Table 4.15.BC, and described in detail below:

- ***Eastbound SR-60 from S. Reservoir Road to Ramona Avenue (F-2)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. Although the addition of a lane is called for in the Concept Route Report, the cost would be high because of the need to construct a retaining wall.

  The state freeway system is owned and operated by Caltrans and is thus outside the jurisdiction of the City of Moreno Valley. The City will work with Caltrans to establish a mechanism for collecting funds from developers for use in funding needed freeway improvements. However, since at the present time no such mechanism exists that would ensure that WLC funds contributed to Caltrans or any other state agency would be used to implement specific improvements that mitigate WLC impacts, and there is no mechanism by which the City can construct or guarantee the construction of any improvements to the freeway system by itself, this and all other freeway impacts must be considered as significant and unavoidable.

- ***Westbound SR-60 from South Reservoir Road to Ramona Avenue (F-2)*** will exceed the target LOS threshold at some point in the 2022–2035 period. Adding a mixed-flow lane would bring the LOS to within the target threshold. Although the addition of a lane is called for in the Concept Route Report, the cost would be high because of the need to construct a retaining wall.

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Table 4.15.BC-1: General Plan Buildout (Year 2035) Direct and Cumulative Impacts and Mitigation Measures on Freeway Facilities (Northbound/Eastbound)

ID	Freeway	Segment	Determination of Impact					2035 Plus Project & Mitigations						Mitigation Measures Required to Reduce Impact to Less than significant
			AM Peak Hour		PM Peak Hour			AM Peak Hour			PM Peak Hour			
			No Project LOS	Plus Project LOS	No Project LOS	Plus Project LOS	Project Impact?	Freeway Volume	Density (pc/mi/ln)	AM LOS	Freeway Volume	Density (pc/mi/ln)	PM LOS	
F-2	SR-60	S Reservoir Rd to Ramona Ave	**E**	**E**	**E**	**E**	Yes	8,750	29.4	D	8,640	29.0	D	Add 1 mixed flow lane
F-3	SR-60	Ramona Ave to Central Ave	**E**	**E**	**F**	**F**	Yes	8,380	27.6	D	10,130	37.7	**E**	Add 1 mixed flow lane
F-4	SR-60	Central Ave to Mountain Ave	**E**	**F**	**F**	**F**	Yes	9,100	31.2	D	10,110	37.6	**E**	Add 1 mixed flow lane
F-5	SR-60	Mountain Ave to Euclid Ave	**E**	**F**	D	D	Yes	8,990	30.6	D	7,480	24.1	C	Add 1 mixed flow lane
F-6	SR-60	Euclid Ave to Grove Ave	**F**	**F**	**F**	**F**	Yes	10,120	37.3	**E**	9,580	34.1	D	Add 1 mixed flow lane
F-7	SR-60	Grove Ave to Vineyard Ave	**F**	**F**	**F**	**F**	Yes	9,420	32.9	D	9,960	36.5	**E**	Add 1 mixed flow lane
F-8	SR-60	Vineyard Ave to Archibald Ave	**F**	**F**	**F**	**F**	Yes	9,290	31.9	D	10,100	37.5	**E**	Add 1 mixed flow lane
F-9	SR-60	Archibald Ave to Haven Ave	**E**	**E**	D	D	Yes	8,660	28.9	D	7,210	23.0	C	Add 1 mixed flow lane
F-17	SR-60	Valley Way to Rubidoux Blvd	**E**	**E**	C	C	Yes	6,410	26.3	D	3,780	14.9	B	Add 1 mixed flow lane
F-18	SR-60	Rubidoux Blvd to Market St	**E**	**F**	C	C	Yes	6,710	28.0	D	4,130	16.4	B	Add 1 mixed flow lane
F-19	SR-60	Market St to Main St	**E**	**E**	**E**	**F**	Yes	6,250	25.5	C	6,600	27.7	D	Add 1 mixed flow lane
F-24	SR-60	Martin Luther King Blvd to Central Ave	**F**	**F**	**F**	**F**	Yes	9,980	42.7	**E**	10,050	44.7	**E**	Add 1 mixed flow lane
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	D	D	**E**	**E**	Yes	3,600	19.8	C	4,090	22.4	C	Add 1 mixed flow lane
F-30	SR-60	Heacock St to Perris Blvd	C	D	**E**	**E**	Yes	3,540	19.4	C	4,220	23.1	C	Add 1 miexed flow lane
F-36	SR-60	Gilman Springs Rd to Jack Rabbit Trail	C	C	**F**	**F**	Yes	2,320	12.8	B	4,580	26.7	D	Add 1 mixed flow lane
F-37	SR-60	Jack Rabbit Trail to I-10/Potrero Blvd	C	C	**F**	**F**	Yes	2,390	12.4	B	4,950	27.0	D	Add 1 mixed flow lane
F-41	SR-91	Pierce St to Magnolia Ave	**E**	**E**	**E**	**E**	Yes	6,550	26.9	D	6,310	25.8	C	Add 1 mixed flow lane
F-43	SR-91	La Sierra Ave to Tyler St	**E**	**E**	**E**	**E**	Yes	6,250	25.3	C	6,210	25.2	C	Add 1 mixed flow lane
F-46	SR-91	Adam St to Madison St	**E**	**E**	C	C	Yes	8,060	26.7	D	6,000	18.9	C	Add 1 mixed flow lane
F-49	SR-91	Central Ave to 14th St	**E**	**E**	D	D	Yes	6,410	26.0	C	5,580	21.9	C	Add 1 mixed flow lane
F-52	I-10	SR-60 to Beaumont Ave	C	C	**E**	**E**	Yes	5,060	15.9	B	8,230	27.3	D	Add 1 mixed flow lane
F-54	I-10	Pennsylvania Ave to Highland Springs	C	C	**E**	**E**	Yes	5,260	16.5	B	8,200	27.1	D	Add 1 mixed flow lane
F-55	I-10	Highland Springs Ave to Sunset Ave	C	C	**E**	**E**	Yes	5,340	16.8	B	8,230	27.3	D	Add 1 mixed flow lane
F-58	I-10	S 8th St to S Hargrave St	C	C	D	**E**	Yes	4,970	15.6	B	7,810	25.4	C	Add 1 mixed flow lane
F-59	I-10	S Hargrave St to Field Rd	C	C	**E**	**E**	Yes	4,730	14.9	B	8,020	26.3	D	Add 1 mixed flow lane
F-61	I-10	Main St (Cabazon) to Main St	B	B	**E**	**E**	Yes	4,310	13.6	B	7,850	25.6	C	Add 1 mixed flow lane

Indicates that the LOS exceeds the target level

Table 4.15.BC-2: General Plan Buildout (Year 2035) Direct and Cumulative Impacts and Mitigation Measures on Freeway Facilities (Southbound/Westbound)

ID	Freeway	Segment	Determination of Impact					2035 Plus Project & Mitigations						Mitigation Measures Required to Reduce Impact to Less than significant
			AM Peak Hour		PM Peak Hour			AM Peak Hour			PM Peak Hour			
			No Project LOS	Plus Project LOS	No Project LOS	Plus Project LOS	Project Impact?	Freeway Volume	Density (pc/mi/ln)	AM LOS	Freeway Volume	Density (pc/mi/ln)	PM LOS	
F-2	SR-60	S Reservoir Rd to Ramona Ave	**E**	**E**	D	**E**	Yes	8,660	28.9	D	7,920	25.6	C	Add 1 mixed flow lane
F-5	SR-60	Mountain Ave to Euclid Ave	C	C	**E**	**E**	Yes	6,120	19.1	C	8,310	27.3	D	Add 1 mixed flow lane
F-6	SR-60	Euclid Ave to Grove Ave	D	C	**E**	**E**	Yes	6,390	19.9	C	8,050	26.1	D	Add 1 mixed flow lane
F-7	SR-60	Grove Ave to Vineyard Ave	C	C	**E**	**E**	Yes	6,200	19.1	C	8,240	27.0	D	Add 1 mixed flow lane
F-17	SR-60	Valley Way to Rubidoux Blvd	C	C	**E**	**E**	Yes	4,420	17.1	B	6,390	25.9	C	Add 1 mixed flow lane
F-19	SR-60	Market St to Main St	D	D	**E**	**E**	Yes	5,390	21.2	C	6,440	26.1	D	Add 1 mixed flow lane
F-20	SR-60	Main to SR-91	D	D	**E**	**E**	Yes	5,300	20.8	C	6,480	26.3	D	Add 1 mixed flow lane
F-24	SR-60	Martin Luther King Blvd to Central Ave	**F**	**F**	**F**	**F**	Yes	8,220	31.5	D	9,380	39.7	**E**	Add 1 mixed flow lane
F-26	SR-60	Fair Isle Dr/Box Springs Rd to I-215	D	D	**F**	**F**	Yes	7,400	24.3	C	9,260	33.0	D	Add 1 mixed flow lane
F-27	SR-60	I-215 to Day St.	**F**	**F**	C	C	Yes	7,080	30.3	D	3,810	15.5	B	Add 1 mixed flow lane
F-29	SR-60	Pigeon Pass Rd/Frederick St to Heacock St	D	D	D	**E**	Yes	3,570	19.2	C	4,110	22.7	C	Add 1 mixed flow lane
F-30	SR-60	Heacock St to Perris Blvd	D	D	D	**E**	Yes	3,590	19.2	C	3,730	20.4	C	Add 1 mixed flow lane
F-34	SR-60	Redlands Blvd to Theodore St	**E**	**E**	D	**E**	Yes	4,290	23.2	C	3,780	20.3	C	Add 1 mixed flow lane
F-41	SR-91	Pierce St to Magnolia Ave	**E**	**E**	**F**	**F**	Yes	6,160	25.0	C	9,170	48.5	**F**	Add 1 mixed flow lane
F-42	SR-91	Magnolia Ave to La Sierra Ave	**E**	**E**	**F**	**F**	Yes	6,050	24.4	C	8,730	43.3	**E**	Add 1 mixed flow lane
F-43	SR-91	La Sierra Ave to Tyler St	D	D	**E**	**E**	Yes	5,380	21.2	C	6,510	26.7	D	Add 1 mixed flow lane
F-44	SR-91	Tyler St to Van Buren Blvd	D	D	**E**	**E**	Yes	6,810	21.5	C	8,080	26.3	D	Add 1 mixed flow lane
F-45	SR-91	Van Buren Blvd to Adam St	D	D	D	**E**	Yes	6,540	20.6	C	7,830	25.2	C	Add 1 mixed flow lane
F-47	SR-91	Madison St to Indiana Ave	D	D	**E**	**E**	Yes	5,560	22.0	C	6,360	25.7	C	Add 1 mixed flow lane
F-52	I-10	SR-60 to Beaumont Ave	**E**	**E**	C	C	Yes	7,890	25.8	C	6,040	19.0	C	Add 1 mixed flow lane
F-54	I-10	Pennsylvania Ave to Highland Springs	**E**	**E**	C	C	Yes	8,260	27.4	D	5,860	18.5	C	Add 1 mixed flow lane
F-55	I-10	Highland Springs Ave to Sunset Ave	**E**	**E**	C	C	Yes	8,060	26.5	D	5,550	17.5	B	Add 1 mixed flow lane
F-58	I-10	S 8th St to S Hargrave St	**E**	**E**	C	C	Yes	7,860	25.6	C	5,350	16.9	B	Add 1 mixed flow lane
F-71	I-215	SR-74/Case Rd to Redlands Blvd/Ellis	**F**	**F**	**E**	**E**	Yes	7,110	29.6	D	6,000	23.6	C	Add 1 mixed flow lane
F-75	I-215	Center St to Iowa Ave/La Cadena Dr	**E**	**E**	C	C	Yes	6,020	24.0	C	4,740	18.4	C	Add 1 mixed flow lane
F-83	I-215	Baseline Rd to Highland Ave	**F**	**F**	D	D	Yes	6,940	28.6	D	5,820	23.0	C	Add 1 mixed flow lane

Indicates that the LOS exceeds the target level

Source: Traffic Impact Analysis Report for the World Logistics Center, Parsons Brinckerhoff, January 2013.

Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-60 from Ramona Avenue to Central Avenue (F-3)*** already exceeds the LOS threshold in the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold. Although the addition of a lane is called for in the Concept Route Report, the cost would be high because of the need to construct a retaining wall.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-60 from Central Avenue to Mountain Avenue (F-4)*** already exceeds the LOS threshold in both the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold. Although the addition of a lane is called for in the Concept Route Report, the cost would be high because of the need to construct a retaining wall.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-60 from Mountain Avenue to Euclid Avenue (F-5)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound SR-60 from Mountain Avenue to Euclid Avenue (F-5)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  The existing freeway right-of-way in this section cannot accommodate additional lanes and the right-of-way cannot be expanded without severe impacts to the adjacent residential community. Since widening the freeway is infeasible, this impact is significant and unavoidable.

- ***Westbound SR-60 from Euclid Avenue to Grove Avenue (F-6)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  The existing freeway right-of-way in this section cannot accommodate additional lanes and the right-of-way cannot be expanded without severe impacts to the adjacent residential community. Since widening the freeway is infeasible, this impact is significant and unavoidable.

- ***Eastbound SR-60 from Grove Avenue to Vineyard Avenue (F-7)*** already exceeds the LOS threshold in the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold. Although the addition of a lane is called for in the Concept Route Report, the cost would be high because of the need to construct a retaining wall. Moreover, widening the freeway would bring the freeway very close to an existing residential community, thus exposing it to increased levels of air and noise pollution.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound SR-60 from Grove Avenue to Vineyard Avenue (F-7)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  The existing freeway right-of-way in this section cannot accommodate additional lanes and the right-of-way cannot be expanded without severe impacts to the adjacent residential community. Since widening the freeway is infeasible, this impact is significant and unavoidable.

- ***Eastbound SR-60 from Vineyard Avenue to Archibald Avenue (F-8)*** already exceeds the LOS threshold in the p.m. peak hour and traffic density would increases under Existing Plus Project conditions. Adding a mixed-flow lane would bring the LOS to within the target threshold. Although the addition of a lane is called for in the Concept Route Report, the cost would be high because of the need to construct a retaining wall. Moreover, widening the freeway would bring the freeway very close to existing businesses, exposing them to increased levels of air and noise pollution.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-60 from Archibald Avenue to Haven Avenue (F-9)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-60 from Valley Way to Rubidoux Boulevard (F-17)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. Although the addition of a lane is called for in the Concept Route Report, the existing freeway right-of-way in this section cannot accommodate an additional lane without eliminating the shoulder. The right-of-way cannot be expanded without impacting the adjacent residential communities, and with high costs to expand the freeway embankment. Since widening the freeway is infeasible, this impact is significant and unavoidable.

- ***Westbound SR-60 from Valley Way to Rubidoux Boulevard (F-17)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. However, widening would be costly due to the need to construct a retaining wall.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means to either widen the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-60 from Rubidoux Boulevard to Market Street (F-18)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-60 from Market Street to Main Street (F-19)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would bring the LOS to within the target threshold. Although the addition of a lane is called for in the Concept Route Report, the cost would be high because of the need to construct a retaining wall. Moreover, widening the freeway would bring the freeway very close to existing homes and businesses, exposing them to increased levels of air and noise pollution. The needed improvement is therefore infeasible, so this impact is significant and unavoidable.

- ***Westbound SR-60 from Market Street to Main Street (F-19)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. Although the addition of a lane is called for in the Concept Route Report, the existing freeway right-of-way in this section cannot accommodate an additional lane without eliminating the shoulder. The right-of-way cannot be expanded without impacting the adjacent residential communities, and with high costs to expand the freeway embankment. Since widening the freeway is infeasible, this impact is significant and unavoidable.
- ***Westbound SR-60 from Main Street to SR-91 (F-20)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.
- ***Westbound SR-60 from Martin Luther King Boulevard to Central Avenue (F-24)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level but is not in the Concept Route Report.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.
- ***Westbound SR-60 from Fair Isle Drive/Box Springs Road to I-215 (F-26)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.
- ***Eastbound SR-60 from Pigeon Pass Road/Frederick Street to Heacock Street (F-29)*** currently operates at an acceptable LOS but will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would bring the LOS to within the target threshold. However, this would be prohibitively costly due to the need to replace the existing embankment with a retaining wall and sound wall. Moreover, widening the freeway would bring the freeway very close to existing homes, exposing them to increased levels of air and noise pollution. Since the improvements needed to bring the section within the target LOS are infeasible, this impact is significant and unavoidable.
- ***Eastbound SR-60 from Heacock Street to Perris Boulevard (F-30)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.
- ***Westbound SR-60 from Heacock Street to Perris Boulevard (F-30)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound SR-60 from Redlands Boulevard to Theodore Street (F-34)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-60 from Gilman Springs Road to Jack Rabbit Trail (F-36)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow or truck passing lane would reduce the cumulative impact to a less than significant level.

  Caltrans already has plans to build a truck climbing lane in this area. However, because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-60 from Jack Rabbit Trail to I-10/Potrero Boulevard (F-37)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow or truck climbing lane would reduce the cumulative impact to a less than significant level.

  Caltrans already has plans to build a truck climbing lane in this area. However, Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-91 from Pierce Street to Magnolia Avenue (F-41)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-91 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-91 from La Sierra Avenue to Tyler Street (F-43)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-91 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound SR-91 from La Sierra Avenue to Tyler Street (F-43)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-91 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound SR-91 from Tyler Street to Van Buren Boulevard (F-44)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-91 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound SR-91 from Van Buren Boulevard to Adam Street (F-45)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

Because SR-91 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-91 from Adam Street to Madison Street (F-46)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. The existing freeway right-of-way in this section cannot accommodate an additional lane and cannot be widened without impacting the adjacent residential community. Since widening the freeway is infeasible, this impact is significant and unavoidable.
- ***Westbound SR-91 from Madison Street to Indiana Avenue (F-47)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-91 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.
- ***Eastbound I-10 from SR-60 to Beaumont Avenue (F-52)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because I-10 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.
- ***Westbound I-10 from SR-60 to Beaumont Avenue (F-52)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because I-10 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.
- ***Eastbound I-10 from Pennsylvania Avenue to Highland Springs Avenue (F-54)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because I-10 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.
- ***Westbound I-10 from Pennsylvania Avenue to Highland Springs Avenue (F-54)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because I-10 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.
- ***Eastbound I-10 from Highland Springs Avenue to Sunset Avenue (F-55)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because I-10 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound I-10 from Highland Springs Avenue to Sunset Avenue (F-55)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because I-10 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound I-10 from S. 8th Street to S. Hargrave Street (F-58)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because I-10 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound I-10 from S. 8th Street to S. Hargrave Street (F-58)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because I-10 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound I-10 from S. Hargrave Street to Field Road (F-59)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because I-10 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound I-10 from Main Street (Cabazon) to Main Street (F-61)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because I-10 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Southbound I-215 from Center Street to Iowa Avenue/La Cadena Drive (F-75)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. The existing freeway right-of-way in this section cannot accommodate an additional lane and cannot be widened without impacting the adjacent frontage road. Since widening the freeway is infeasible, this impact is significant and unavoidable.

Cumulative Freeway Weaving Mitigations

- **Westbound SR-60 from Haven Avenue to Archibald Avenue (W-9)** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-60 from Main Street to SR-91 (W-20)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound SR-60 from SR-91 to W. Blaine Street/3rd Street (W-21)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. The existing freeway right-of-way in this section cannot accommodate an additional lane and cannot be widened without impacting the adjacent residential community. Since widening the freeway is infeasible, this impact is significant and unavoidable.
- ***Westbound SR-60 from W Blaine Street/3rd Street to University Avenue (W-22)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. The existing freeway right-of-way in this section cannot accommodate an additional lane and cannot be widened without impacting the adjacent residential community. Since widening the freeway is infeasible, this impact is significant and unavoidable.
- ***Eastbound SR-60 from University Avenue to Martin Luther King Boulevard (W-23)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. The existing freeway right-of-way in this section cannot accommodate an additional lane and cannot be widened without impacting the adjacent electrical substation. Since widening the freeway is infeasible, this impact is significant and unavoidable.
- ***Westbound SR-60 from University Avenue to Martin Luther King Boulevard (W-23)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level. The existing freeway right-of-way in this section cannot accommodate an additional lane and cannot be widened without impacting the adjacent university. Since widening the freeway is infeasible, this impact is significant and unavoidable.
- ***Eastbound SR-60 from Central Avenue to Box Springs Road (W-25)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a second on-ramp lane would reduce the cumulative impact to a less than significant level. The existing freeway right-of-way in this section cannot accommodate an additional lane and cannot be widened without eliminating the adjacent frontage road. Since widening the freeway is infeasible, this impact is significant and unavoidable.
- ***Westbound SR-60 from Day Street to Pigeon Pass Road/Frederick Street (W-28)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane and a second off-ramp lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

Cumulative Freeway Ramp Mitigations

- ***Eastbound SR-60 from On-Ramp from Martin Luther King Boulevard (R-1)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Eastbound SR-60 from On-Ramp from Gilman Springs Road (R-10)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Caltrans has plans to re-configure the SR-60/Gilman Springs Road interchange in the future. However, as explained above, because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound SR-60 from On-Ramp from Theodore Street (R-14)*** will need to have the acceleration lane lengthened to a minimum of 850 ft. to accommodate future traffic. The City will collect fund from the developer to implement this improvement in conjunction with the reconfiguration of the SR-60/Theodore Street. Interchange.

- ***Westbound SR-60 from Off-Ramp to Redlands Boulevard (R-15)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Increasing the length of the deceleration lane to a minimum of 1200 ft. would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound SR-60 from Loop On-Ramp from Redlands Boulevard (R-16)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound SR-60 from Direct On-Ramp from Redlands Boulevard (R-17)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound SR-60 from Off-Ramp to Central Avenue (R-18)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

- ***Westbound SR-60 from Off-Ramp to Martin Luther King Boulevard (R-19)*** will exceed the target LOS threshold at some point in the 2022–2035 period this intersection. Adding a mixed-flow lane would reduce the cumulative impact to a less than significant level.

  Because SR-60 is a state facility outside the jurisdiction of the City of Moreno Valley, the City has no means for either widening the freeway itself or for guaranteeing that some other agency will widen the freeway. This impact must therefore be considered significant and unavoidable.

4.15.7.4 Mitigation Measures

4.15.7.4A When processing future individual development permits under the World Logistics Center Specific Plan, as part of the City's discretionary approval

process, the City shall require each project to perform a project-specific traffic impact study to ensure that the assumptions set forth in the TIA prepared for the programmatic level entitlement remain valid. These traffic impact analyses shall conform to the traffic impact analysis guidelines prepared by the City of Moreno Valley and the California Department of Transportation and shall be used to impose project-specific mitigation on the individually-proposed projects. These traffic analyses shall be completed prior to the issuance of grading permits for the requested development. It should be noted that the City will require that the applicant to fully fund or to pay a fair share of some of the improvements identified in Tables 4.15.AX through 4.15.BC. These improvements will be required by the City as a Condition of Approval.

4.15.7.4B As a condition of approval for individual development permits processed in the future under the World Logistics Center Specific Plan, the City shall require the dedication of appropriate right-of-way consistent with the Subdivision Map Act for frontage street improvements contained within the World Logistics Center Specific Plan Circulation Map, as shown in DEIR Figure 3-10.Required dedications shall be made prior to the issuance of occupancy permits for the requested development.

4.15.7.4C As a condition of approval for individual development permits processed in the future under the World Logistics Center Specific Plan, the City shall require each project to pay the Development Impact Fee (DIF) as set forth in Municipal Code Chapter 3.42. Required DIF payments shall be made prior to the issuance of occupancy permits for the requested development.

4.15.7.4D As a condition of approval for individual development permits processed in the future under the World Logistics Center Specific Plan, the City shall require each project to pay the requisite Transportation Uniform Mitigation Fee (TUMF) as set forth in Municipal Code Sections 3.55.050 and 3.55.060. Required TUMF payments shall be made prior to the issuance of occupancy permits for the requested development.

4.15.7.4E As a condition of approval for individual development permits processed in the future under the World Logistics Center Specific Plan, the City shall require each project to pay the requisite fair-share obligation for infrastructure improvements not covered by the City's DIF or TUMF and demonstrated to be required by the individual project-level traffic impact analysis to mitigate project-level impacts to less than significant levels. Required fair share payments shall be made prior to the issuance of occupancy permits for the requested development.

4.15.7.4F City shall participate in a multi-jurisdictional effort with Caltrans and adjacent cities to develop a study to identify fair-share contribution funding sources to supplement other regional and State funding sources necessary to implement the State facility and extra-territorial improvements identified in Tables 4.15.AZ and 4.15.BC necessary to mitigate the identified programmatic impacts to less than significant levels. The study shall include fair-share contributions related to other private and public development and shall be based on the nexus requirements contained in the Mitigation Fee Act (Govt. Code Section 66000, et seq.) and 14 Cal. Code of Regs. Section 15126.4(a)(4). The Study shall also be compliant with Government Code Section 66001(g) and other applicable provisions of law. The Study shall set forth a timeline and other agreed upon relevant criteria for implementation of the improvements recommended in this EIR. Once the study is approved, the City shall impose the fair-share fees on each project that is developed under the World Logistics Center as part of the individual review of each development project. Prior to the adoption of the Study, City shall impose a fair-share payment requirements on each development project processed under

the World Logistics Center Specific Plan in accordance with the requirements of the Mitigation Fee Act. Required fair share payments shall be made prior to the issuance of occupancy permits for each requested development.

4.15.7.4G City shall work directly with WRCOG to request that TUMF funding priorities be shifted to align with the improvements identified in this TIA.

4.15.7.4H The City will work directly with WLCSP development and other jurisdictions to coordinate the funding and installation of intersection and roadway improvements outside of the City of Moreno Valley. This measure shall be implemented to the satisfaction of the City Engineer.

4.15.7.5 Level of Significance after Mitigation

Even with implementation of Mitigation Measures 4.15.7.4.A through 4.15.7.4.H, and implementation of all the improvements indentified in Tables 4.15.AX through 4.15.BC, direct and cumulative impacts on study area roadway segments, intersections, and freeway facilities would not be reduced to less than significant levels, including all improvement locations not under the control of the lead agency (i.e., outside of the City of Moreno Valley).

4.16 UTILITIES AND SERVICE SYSTEMS

This section analyzes the existing and planned water supply, wastewater facilities, drainage or storm water facilities (as they relate to water), solid waste facilities, and natural gas and electrical facilities for the project site and the surrounding area, and evaluates the impacts to utility providers that could result from the construction and operation of the proposed on-site uses.

For the reader's reference, this EIR and each of the technical reports and analyses contained herein have been written to address a series of planning entitlements, which affect several separate, adjacent and related properties. The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,814 acres, which redesignates approximately 71 percent of the area (2,710 acres) for logistics warehousing and the remaining 29 percent (1,104 acres) for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the World Logistics Center for the 2,710 acres. A separate zoning amendment will also be processed and adopted to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering 1,539 acres (property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner.

The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

This section is based on information obtained from utility providers serving the proposed WLC project site, most of which are included in Appendix J of this EIR:

- *City of Moreno Valley General Plan;*[1]
- Eastern Municipal Water District's *2010 Urban Water Management Plan;*[2]
- *Water Supply Assessment* (WSA) approved by the Eastern Municipal Water District Board of Directors on March 21, 2012);
- *Technical Memorandum – Dry Utilities World Logistics Center, Moreno Valley, CA*, Utilities Specialists, December 19, 2012; and
- *Sanitary Sewer Analysis Memorandum,* CH2MHill, November 2, 2012.

This section differs slightly from other sections in that it is organized by utility/service system type so continuity is maintained. Water Supply is found in Section 4.16.1, Wastewater Services are discussed

[1] *City of Moreno Valley General Plan*, City of Moreno Valley, adopted by City Council Resolution No. 2006-83, July 11, 2006.
[2] *EMWD 2010 Urban Water Management Plan,* Eastern Municipal Water District*,* June 2011.

in Section 4.16.2, Solid Waste Services are found in Section 4.16.3, and Energy Consumption is addressed in Section 4.16.4.

4.16.1 Water Supply

4.16.1.1 Existing Setting

The project site is located within the service area of the Eastern Municipal Water District (EMWD),[1] which owns, operates, and maintains the water system within the limits of the City and will be the purveyor of water to the proposed WLC project site. As illustrated in Figure 4.16.1, the EMWD's service area encompasses approximately 555 square miles. The water supply available to the EMWD in 2010 totals approximately 154,700 acre-feet (AF).[2] Water sources for the EMWD include imported water purchased from the Metropolitan Water District of Southern California (Metropolitan), groundwater sources, desalted groundwater, and recycled water from the EMWD's five regional water reclamation facilities. Imported water from Metropolitan is delivered to EMWD in several ways: directly as potable water; as raw water and treated at two local EMWD filtration plants; or as raw water for non-potable use. Approximately 80 percent of the EMWD's water is imported from Metropolitan and the remaining 20 percent is supplied by groundwater wells. Approximately 33 percent of the water produced by EMWD is recycled water. Groundwater supplies are drawn from the EMWD wells located in the Hemet, San Jacinto, Moreno Valley, Perris Valley, and Murrieta areas.

In June of 2011, the EMWD adopted its *2010 Urban Water Management Plan* (UWMP), which details the EMWD's current and future water supply. The document found that with all of its existing and planned supplies, the EMWD can meet 100 percent of projected supplemental demand through 2035, even with a repeat of a severe drought. In addition, the UWMP addresses conservation, local supplies and reliability of imported supplies. Table 4.16.A identifies the EWMD's past, present, and projected water supplies and demand.

Table 4.16.A: EMWD Water Supplies and Demand for Average Year Hydrology

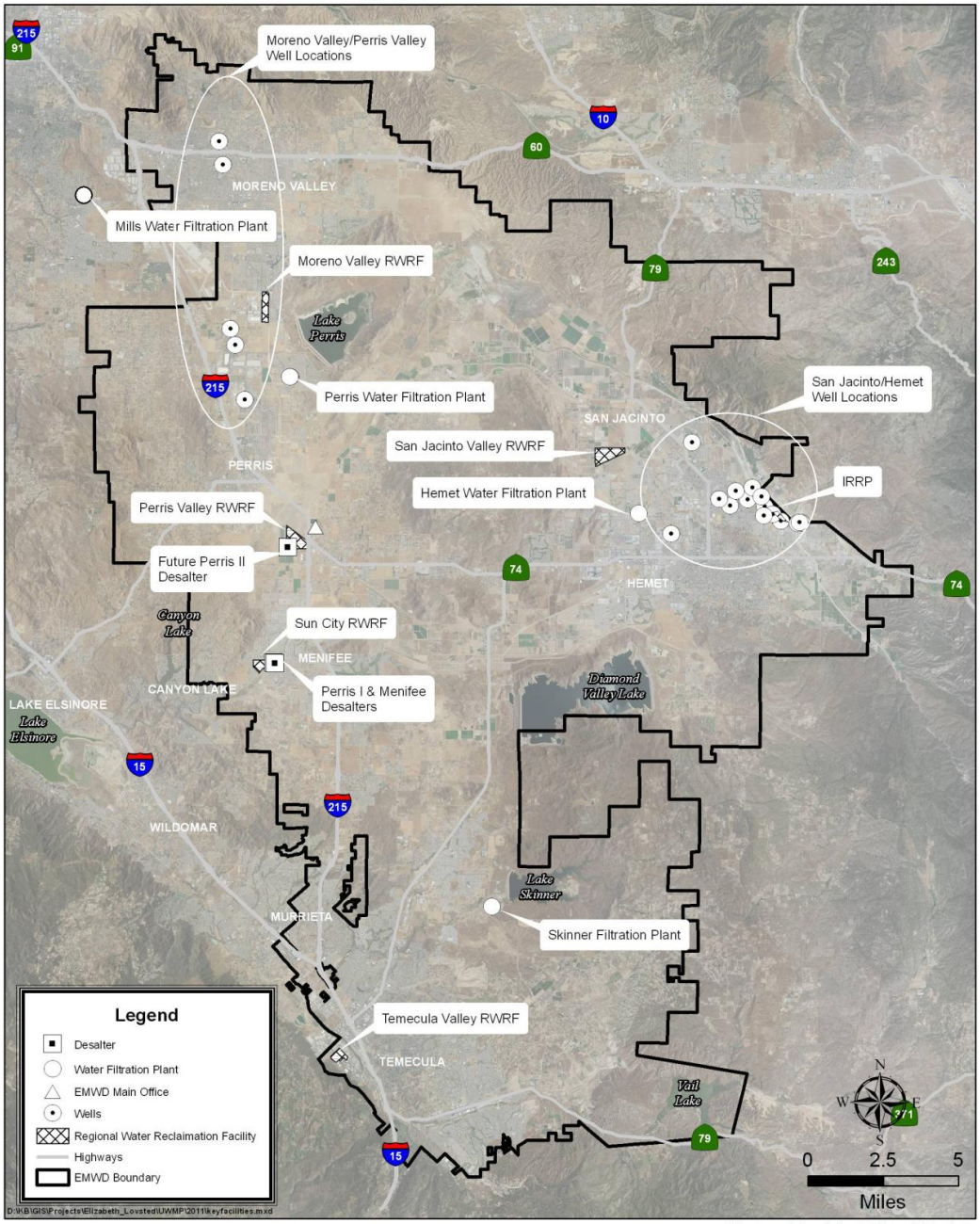
		2015	2020	2025	2030	2035
EMWD Water Supplies						
Supply Type	**Supply Source**	**acre-feet per year**				
Imported	Metropolitan Water District	149,300	170,700	190,700	210,000	226,200
Imported-Locally Treated	Metropolitan Water District					
Groundwater	West San Jacinto Management Area	13,200	13,200	13,200	13,200	13,200
Desalination	West San Jacinto Management Area	7,500	7,500	7,500	7,500	7,500
Recycled	EMWD Regional Water Reclamation Facilities	43,900	50,000	53,900	54,900	55,300
	Supply Total	**213,900**	**241,400**	**265,300**	**285,600**	**302,200**
EMWD Water Demands						
Demand Source		**acre-feet per year**				
Retail Potable Water Sales		113,800	120,700	136,100	150,300	162,200
Water Sales to Other Agencies		47,600	61,600	65,000	69,000	72,400
Other Water Uses/Losses		52,500	59,100	64,200	66,300	67,600
	Demand Total	**213,900**	**241,400**	**265,300**	**285,600**	**302,200**

Source: *EMWD 2010 Urban Water Management Plan*, Eastern Municipal Water District, June 2011 (Tables 3 and 9, WSA 2012).

[1] *Eastern Municipal Water District Service Area,* Eastern Municipal Water District, http://www.emwd.org/index.aspx?page=59, website accessed April 2, 2012.

[2] An acre-foot covers one acre to a depth of one foot. An acre-foot is approximately 326,000 gallons which is enough to meet the needs of two average southern California households a year.

Figure 3.2 - Locations of Supplies



LSA

FIGURE 4.16.1

World Logistics Center Project
Environmental Impact Report

Location of Eastern Municipal Water District Supplies

SOURCE: Eastern Municipal Water District 2010 Urban Water Management Plan, 2011

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The proposed WLC project site is located within EMWD Pressure Zones (PZ) 1764 and 1900. Water is supplied to the project area via a pump station (1900 PZ pump station) located north of the intersection of Redlands Boulevard and Cottonwood Avenue. This pump station also delivers water to areas north of State Route 60 (SR-60). A 20-inch transmission main underlying Redlands Boulevard (Redlands Transmission Pipeline) delivers the pumped water from the 1900 PZ pump station to the 2080 PZ pump station located at Redlands Boulevard and Ironwood Avenue. The nearest recycled water line is a 24-inch transmission main located approximately 0.25 mile southwest of the project site, at the intersection of Redlands Boulevard and Cactus Avenue. Although there are no active recycled water lines adjacent to the project site, in the future, it may be possible to serve this project site with recycled water.

Water imported by the EMWD is treated at two facilities owned and operated by Metropolitan, the Mills and Skinner Filtration Plants, which serve the northwest and southern areas of the EMWD service area. Treated water is supplied north of the EMWD service area by the Mills Metropolitan Water Treatment Facility and in the southeastern portion of the EMWD service area by the Lake Skinner Water Treatment Facility. The City is located within the area served by the Mills Filtration Plant, which has a treatment capacity of 326 million gallons per day (mgd). The EMWD also utilizes untreated water delivered by Metropolitan from the State Water Project (SWP) pipeline running through the EMWD's jurisdiction. The EMWD currently treats the raw water for potable use or uses it raw for agriculture and for recharge. Treatment of raw water occurs at water filtration plants in Perris and in Hemet. The Hemet microfiltration plant has a capacity to filter 8,800 acre-feet per year (AFY) and the Perris microfiltration plant has the capacity to filter 17,600 AFY.

The EMWD constructed the Menifee Desalter and Perris Desalter facilities to recover high total dissolved solids (TDS) groundwater for potable use. In addition to being a source of water, the desalter facilities play a part in managing the groundwater subbasins by addressing the migration of brackish groundwater into areas of good quality groundwater. Additionally, the EMWD is currently in the process of constructing a third desalter facility, the Perris II Desalter.[1] This additional facility will increase the production of desalinated water to approximately 12,000 AFY.

Based on the Water Allocation analysis released by the California Department of Water Resources (DWR) on March 22, 2010, export restriction could reduce Metropolitan deliveries by 150 to 200 thousand acre-feet (TAF) under mean hydrologic conditions, and operations could remain restricted until a long-term solution is found to improve the stability of the Bay-Delta region.

The SWP and Central Valley Project (CVP) are the responsible partners for operation of the DWR and Bureau of Reclamation (Reclamation), respectively. In November 1986, DWR and Reclamation signed the Coordinated Operations Agreement (COA). The COA was subsequently authorized and approved by the California State Legislature and Congress. Under COA, DWR and Reclamation agree to operate the SWP and CVP in a balanced manner to coordinate releases from upstream reservoirs and unregulated flows to meet Sacramento Valley in-basin and in-Delta uses, including water quality standards established by the State Water Resources Control Board (SWRCB).

Reclamation, as a Federal agency is required to consult with National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Federal Endangered Species Act (FESA) to determine if a Federal action that it authorizes, funds, or implements could jeopardize the continued existence of a listed species in the wild, or destroy or modify the species' critical habitat. Because the SWP and CVP are operated in a balanced manner, the findings under Section 7 of the FESA affect operations of both the SWP and CVP.

[1] *Water Supply Desalination Infrastructure South Perris Project, Perris II Desalter,* http://www.emwd.org/modules/showdocument.aspx?documentid=90, website accessed April 2, 2012.

The initial biological opinions related to long-term operations of the SWP and CVP were issued in 1993 by NMFS for protection of the winter-run Chinook salmon and by USFWS for protection of delta smelt. Operations of the SWP and CVP were modified to reduce potential adverse impacts to these species primarily through:

- Increased storage volumes of water in upstream reservoirs to provide adequate flows with appropriate temperatures for the winter-run Chinook salmon and adequate flows in the Delta for both species;
- Flows released from upstream reservoirs to provide adequate in-Delta flows and Delta outflows for these species; and
- Modification of periods of time when water can be diverted at the SWP and CVP south Delta intakes to reduce the potential for reverse flows, reduce the potential for high salinity in the south Delta, and reduce the potential for entrainment and entrapment of fish in the SWP and CVP south Delta intake facilities.

The biological opinions were modified as DWR and Reclamation modified operations of the SWP and CVP and new information related to aquatic resources became available. During this period, NMFS redesignated the Sacramento River winter-run Chinook salmon as "endangered" and designated two species as "threatened" (i.e., Central Valley spring-run Chinook salmon and Central Valley steelhead). Therefore, the consultations under Section 7 of the FESA were modified and new biological opinions were issued between 2000 and 2004. In 2005, the Department of the Interior was sued with respect to 2004 biological opinion issued by USFWS. Subsequently, USFWS re-issued the biological opinion in 2005; however, the Department of the Interior was sued in 2005 with respect to the re-issued biological opinion. The 2005 USFWS biological opinion was invalidated and United States District Court for the Eastern District of California (the Court) ordered a new biological opinion and issued interim operations orders to protect delta smelt until a new biological opinion could be issued in 2008. The interim operations criteria included limitations for operation of the SWP and CVP south Delta intakes to protect delta smelt.

In response to these actions, Reclamation requested consultation with USFWS and NMFS in August 2008 with respect to the coordinated long-term operation of the SWP and CVP. In December 2008, the USFWS issued a new biological opinion on the coordinated long-term operation of the SWP and CVP on the effects to delta smelt. In June 2009, the NMFS issued a new biological opinion on the coordinated long-term operation of the SWP and CVP on the effects to currently listed species (e.g., Central Valley spring-run Chinook salmon, Central Valley steelhead, Southern District Population Segment of North American green sturgeon, and Southern Resident killer whale). Reclamation provisionally accepted and then implemented the Reasonable and Prudent Alternatives included in these biological opinions. The operational criteria included in the Reasonable and Prudent Alternatives resulted in changes to operations of upstream reservoirs, stream flows, Delta outflow, and SWP and CVP south Delta intakes.

Several lawsuits were filed in the Court related to various aspects of the USFWS and NMFS biological opinions, and to the acceptance and implementation of the associated Reasonable and Prudent Alternatives by Reclamation. Between 2009 and 2010, the Court ruled that Reclamation failed to conduct an environmental analysis under the National Environmental Policy Act (NEPA) of potential impacts to the human environment before provisionally accepting and implementing the Biological Opinion Reasonable and Prudent Alternatives. In 2010, the Court found certain portions of the USFWS biological opinion to be arbitrary and capricious, and remanded those portions of the biological opinion to USFWS. The Court ordered Reclamation to review the biological opinion and Reasonable and Prudent Alternative in accordance with NEPA. In 2011, the Court remanded the biological opinion to NMFS.

Reclamation has continued the consultation with USFWS and NMFS for modification of the biological opinions, and has initiated the NEPA process through publication of the Notice of Intent on March 28, 2012. The Court order required completion by Reclamation of the Environmental Impact Statement (EIS) and the USFWS biological opinion related to delta smelt by December 1, 2013. The Court order also required completion by Reclamation of the EIS and the NMFS biological opinion related to Central Valley spring-run Chinook salmon, Central Valley steelhead, Southern District Population Segment of North American green sturgeon, and Southern Resident killer whale by February 1, 2016. The Court did not vacate the biological opinions and, therefore, SWP and CVP operations are analyzed each year with respect to the Reasonable and Prudent Alternatives.

The most recent Metropolitan Regional Urban Water Management Plan (RUWMP) (Metropolitan November 2010, page 1-18) indicates that operational constraints similar to the most recent biological opinions and associated Reasonable and Prudent Alternatives would likely be continued until future long-term plans, such as the Bay Delta Conservation Plan (BDCP), would be implemented. A similar discussion was included in the EMWD Urban Water Management Plan (UWMP) (2010, page 38).

To address potential constraints on the SWP, Metropolitan is working with stakeholders throughout the State to develop and implement long-term solutions to the problem in the Bay Delta. The BDCP developed by State and Federal resource agencies, addresses ecosystem needs and securing long-term operating permits for the SWP. A working draft of the BDCP was released in November 2010 and reflects significant progress toward consensus on a plan to restoring the Bay-Delta ecosystem and associated sensitive species and provide for improved water supply and reliability.

The Metropolitan RUWMP also indicates that the SWP supplies with these considerations plus other water supplies (e.g., conservation, local and regional supplies, and Colorado River) would be adequate to meet Metropolitan water demands during dry years when water supplies generally are restricted (Metropolitan November 2010, page 1-34, Figure 1-9). A similar discussion was included in the EMWD UWMP (2010, page 30, Table 3.3).

In evaluating the supply reliability for the 2010 RUWMP, Metropolitan assumed a new Delta conveyance would be fully operational by 2022, bringing supply reliability close to 2005 levels prior to supply restrictions imposed due to the Biological Opinions. This assumption is consistent with Metropolitan's long-term Delta action plan approved in 2007, and supported by recently passed legislation that included a roadmap for establishing governance structures and financing approaches to implement and manage a Delta solution. In response to the recent developments in the Delta, Metropolitan is engaged in planning processes that will identify solutions that, when combined with the rest of its supply portfolio, it will ensure a reliable long-term water supply for its member agencies. In the near term, Metropolitan will continue to rely on the plans and policies outlined in its RUWMP and Integrated Resources Plan (IRP) to address water supply shortages and interruptions (including potential shut downs of SWP pumps) to meet water demands. An aggressive campaign for voluntary conservation and recycled water usage, curtailment of groundwater replenishment water and agricultural water delivery are some of the actions outlined in the RUWMP. Metropolitan is maximizing supplies from existing agreements for water supply from its Palo Verde Crop Management and Water Supply Program and working with the State of Arizona in withdrawing water previously stored in that state's groundwater basin.

Imported sources of water will be supplemented by an increase in desalination of brackish groundwater, recycled water use, and water use efficiency. Metropolitan has analyzed the reliability of water delivery through the SWP and the Colorado River Aqueduct. Metropolitan's IRP and 2010 RUWMP conclude that, with the storage and transfer programs developed by Metropolitan, there will be a reliable source of water to serve its member agencies' needs through 2035.[1]

[1] *Eastern Municipal Water District 2010 Urban Water Management Plan,* Eastern Municipal Water District, June 2011.

NOP/Scoping Comments. A few residents asked how much water the project would use and if there was enough if we had another drought.

4.16.1.2 Existing Policies and Regulations

Policies and regulations for water sources include the following:

- Federal Water Pollution Control Act;
- Water Conservation in Landscaping Act;
- Water Recycling in Landscaping Act;
- Sections 13550–13556 of the State Water Code;
- Urban Water Management Planning Act;
- Senate Bill 901;
- Senate Bill 610; and
- City of Moreno Valley General Plan.

Federal Water Pollution Control Act. The Federal Water Pollution Control Act requires discharges (from point and non-point sources) into navigable water to meet stringent National Pollutant Discharge Elimination System (NPDES) permit standards. The U.S. Environmental Protection Agency (EPA) has published regulations establishing requirements for application of storm water permits for specified categories of industries, municipalities, and certain construction activities. The regulations require that discharges of storm water from construction activity of 1.0 acre or more must be regulated and covered by an NPDES permit. When a construction area exceeds 1.0 acre in size, the applicant must develop and implement a Storm Water Pollution Prevention Plan (SWPPP). Additional analysis and information regarding NPDES requirements and regulations is provided in Section 4.9, *Hydrology and Water Quality*, of this EIR.

Water Conservation in Landscaping Act. To ensure adequate supplies are available for future uses and to promote the conservation and efficient use of water, local agencies are required to adopt water-efficient landscape ordinances. When such an ordinance has not been adopted, a finding as to why (based on the climatic, geologic, or topographical conditions) such an ordinance is not necessary must be adopted. In the absence of such, an ordinance drafted by the State of California applies within the affected jurisdiction. The City of Moreno Valley implements landscape and irrigation design standards (Chapter 9.17 of the City's Municipal Code), which address the proper maintenance of landscaping or irrigation systems.[1]

Water Recycling in Landscaping Act. The Water Recycling in Landscaping Act requires that a water producer capable of providing recycled water that meets certain conditions notify local agencies eligible to receive the recycled water. It also requires necessary infrastructure be provided to support the delivery of recycled water. The EMWD enforces Ordinance No. 68.2 *Amended Rules and Regulations Governing the Provision of Recycled Water System Facilities and Service,* to promote the conservation and reuse of water resources and to ensure maximum public benefit from the use of the EMWD's recycled water supply by regulating its use in accordance with applicable Federal, State, and local regulations. Upon the determination that the EMWD is capable of providing recycled water services to the proposed site, the project applicant must submit an application form for the EMWD to

[1] *Landscape Requirements City of Moreno Valley, California,* City of Moreno Valley.

review. The EMWD may prescribe requirements in writing to the applicant as to the off-site or on-site facilities necessary to be constructed, the manner of connection, the financial responsibility, and the use of the recycled water. Prior to receiving recycled water service, the proposed use shall be approved by the DHS. The EMWD will inspect on-site recycled water facilities to ensure initial and future continued compliance with the EMWD's regulations and other applicable requirements.

Sections 13550–13556 of the State Water Code. These sections of the State Water Code state that local, regional, or state agencies shall not use water from any quality source of potable water for non-potable uses if suitable recycled water is available as provided in Section 13550 of the Water Code.

Urban Water Management Planning Act (Cal. Water Code Section 10631). Since 1984, the Urban Water Management Planning Act, has required "urban water suppliers" to develop written "urban water management plans." While generally aimed at encouraging water suppliers to implement water conservation measures, it also created long-term planning obligations.

In preparing urban water management plans, urban water suppliers must describe the following:

- Existing and planned water supply and demand;
- Water conservation measures and a schedule for implementing and evaluating such measures; and
- Water shortage contingency measures.

The Urban Water Management Planning Act requires that urban water suppliers use a 20-year planning horizon and update the data in the urban water plans every five years.

In preparing their 20-year management plans, water suppliers must directly address the subject of future population growth. The suppliers must also identify sources of supply to meet demand. The plan must "identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier." In identifying these future water sources, the suppliers need not conduct environmental review.

Senate Bill 901: Water Supply and Demand Reliability Assessment (Cal. Water Code Section 10910). Signed into law on October 16, 1995, Senate Bill 901 (SB 901) requires every urban water supplier to identify as part of its UWMP the existing and planned sources of water available to the supplier over a prescribed five-year period. SB 901 requires additional information to be included as part of an urban water management plan if groundwater is identified as a source of water available to the supplier. Provisions of SB 901 would require an urban water supplier to include in the plan a description of all water supply projects and programs that may be undertaken to meet total project water use. A city or county shall request each public water system serving a project to assess the projected water demand associated with said project and an assessment of whether the projected water demand associated with selected projects was included as part of the most recent UWMP. As part of this assessment, the public water system is required to indicate whether its total projected water supplies available during normal, single-dry, and multiple-dry water years will meet the project demand associated with the proposed WLC project, in addition to the public water system's existing and planned uses.

Pursuant to Section 10912 of the State Water Code, a "project" is specifically defined as development meeting any of the following criteria:

- 500 or more dwelling units;

- Commercial center employing more than 1,000 persons or having more than 500,000 square feet;
- Office building employing more than 1,000 persons or having more than 250,000 square feet;
- A hotel/motel with 500 or more rooms;
- An industrial, manufacturing, processing plant, or industrial park employing more than 1,000 persons or occupying more than 40 acres, or having more than 650,000 square feet of floor area;
- A mixed-use project that would demand an amount of water equal to the amount of water required by a 500-dwelling unit project; or
- In areas where the public water system has fewer than 5,000 service connections, any development that would increase water demand by 10 percent or greater in the number of existing service connections, or in the case of a mixed-use development, an increase in water required by residential development representing a 10 percent or greater increase in the number of existing service connections.

After receiving such information, cities and counties may agree or disagree with the conclusions of the water purveyors, but cannot approve projects in the face of documented water shortfalls without first making certain findings.

The proposed WLC project is an Industrial Specific Plan that would meet the definition of a "project" and the water purveyor (EMWD) is therefore required to conduct a Water Supply Assessment (included as Appendix J) to indicate a reliable supply of water for the proposed WLC project.

Senate Bill 610: Water Supply Planning (Cal. Water Code Section Sections 10910 through 10915). Signed into law October 9, 2001, Senate Bill 610 (SB 610) resulted in amendments to Section 21151.9 of the Public Resources Code. Additionally, several sections of the Water Code were amended, one was repealed, while portions of one section were added and/or repealed. Revising provisions established by SB 901 and SB 610 requires that any city or county having determined that a project is subject to CEQA identify any public water systems that may supply water for the project and to request those public water systems to prepare a specified water supply assessment if the project exceeds the specified threshold for a water supply assessment (WSA). Such an assessment would include, among other information, the following:

- Identification of existing water entitlements, water rights, or water service contracts relevant to the water supply identified for a proposed WLC project; and
- The amount of water received pursuant to such entitlements, rights, or contracts.

SB 610 requires the public water system, city, or county to submit plans for acquiring the required water supply for the proposed WLC project if the WSA concludes that water supplies are or will become insufficient. Any such WSA and other information would be included in the environmental document prepared for the project pursuant to CEQA. A WSA[1] was prepared for the proposed WLC project to identify existing water entitlements, water rights, and/or water service contracts relevant to the water supply as it relates to the operation of the proposed WLC project.

City of Moreno Valley General Plan. The following policies within the *Community Development Element* and *Conservation Element* of the *City of Moreno Valley General Plan* pertain to utilities and are applicable to the proposed WLC project.

[1] *Water Supply Assessment for the World Logistics Center Specific Plan*, EMWD, March 21, 2012.

Community Development Element Policies

Policy 2.11.1 Permit new development only where and when adequate water services can be provided.

Policy 2.13.1 Limit the amount of development to that which can be adequately served by public services and facilities, based upon current information concerning the capability of public services and facilities.

Policy 2.13.2 Unless otherwise approved by the City, public water, sewer, drainage and other backbone facilities needed for a project phase shall be constructed prior to or concurrent with initial development within that phase.

Policy 2.13.3 It shall be the ultimate responsibility of the sponsor of a development project to ensure that all necessary infrastructure improvements (including system-wide improvements) needed to support project development are available at the time that they are needed.

Conservation Element Policies

Policy 7.3.1 Require water-conserving landscape and irrigation systems through development review. Minimize the use of lawn within private development, and within parkway areas. The use of mulch and native and drought-tolerant landscaping shall be encouraged.

Policy 7.3.2 Encourage the use of reclaimed wastewater, stored rainwater, or other legally acceptable non-potable water supply for irrigation.

4.16.1.3 Methodology

The WSA is based on evaluating the existing water supply available to the City, future water supply that is anticipated to be available to the City, and the identification of existing water demand and future demand with the development of the proposed WLC project. The analysis also identifies water conservation measures that would be incorporated by the proposed WLC project to reduce the project's total water demand, with special reference to outdoor water usage and associated landscaping systems.

4.16.1.4 Thresholds of Significance

The following thresholds of significance regarding impacts to utilities and service systems are based on the recommended questions contained in *Guidelines for California Environmental Quality Act* (as amended through January 1, 2011). A project would have a significant impact on the provision of utilities or service systems related to water supply if it would result in any of the following:

- Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; and/or
- Have insufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements.

For the purpose of this EIR, significant and unavoidable impacts would occur if the aforementioned conditions cannot be overcome by reasonable design, construction, and maintenance practices.

4.16.1.5 Less than Significant Impacts

4.16.1.5.1 Construction or Expansion of Water Treatment Facilities

Threshold	Would the proposed WLC project require the construction of new water treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?

As previously identified, Metropolitan currently does not have surplus water available, due in part to pumping restrictions imposed on the SWP to avoid and minimize impacts to Federal- and State-protected fish species in the Delta. Imported sources of water will be supplemented by an increase in desalination of brackish groundwater, recycled water use, and water use efficiency. Metropolitan and the EMWD have analyzed the reliability of water delivery through the SWP and the Colorado River Aqueduct. Metropolitan's IRP and 2010 RUWMP conclude that, with the storage and transfer programs developed by Metropolitan, there will be a reliable source of water to serve its member agencies' needs through 2035. Based on the WSA prepared for the proposed WLC project, water demand for the proposed on-site uses would total approximately 1,991.25 AFY.[1] As identified in previously referenced Table 4.16.A, anticipated water supplies for the EMWD total 213,900 and 302,200 AFY in 2015 and 2035. The water demand required for the proposed WLC project totals 0.93 and 0.66 percent of the 2015 and 2035 projected EMWD supplies.

The EMWD's *2010 Urban Water Management Plan* and Metropolitan's *2010 Regional Urban Water Management Plan*[2] have stated that, with the addition of all existing and planned water supplies, it would have the ability to meet all of its member agencies' projected supplemental demand through 2035, despite the latest ruling regarding the allocation of SWP water. This is based on continued commitment to conservation programs, water recycling, and development of local water resources.

While the EMWD is capable of meeting all of its member agencies' projected demand through 2035, other efforts are taken to further reduce the retail demand due to demographics change and population growth. Passive conservation efforts already implemented by the EMWD include adherence to the plumbing code and installation of low-flow toilets and showerheads in all new construction. In addition to passive programs, active conservation programs/measures are also implemented. The EMWD has implemented all of the California Urban Water Conservation Council (CUWCC) and Best Management Practices (BMPs). The CUWCC was created to increase efficient water use throughout the State through partnership with urban water agencies (including the EMWD), public interest organizations, and private entities. In 1992, the EMWD signed the CUWCC's Memorandum of Understanding (MOU) Regarding Water Conservation in California and committed to developing and implementing fourteen comprehensive BMPs for urban water management. The BMPs correspond to the fourteen Demand Management Measures (DMMs) listed in the Water Code Section 10631 (f) and include the following:

- Water survey programs for single-family residential and multifamily customers;
- Plumbing retrofits;
- Distribution system water audits, leak detection, and repair;
- Metering with commodity rates;
- Large landscape water audits and incentives;
- High-efficiency washing machine rebates;
- Public information;

[1] 0.75 acre-foot per acre × 2,655 acres = 1,991.25 acre-feet per year.
[2] *The Metropolitan Water District of Southern California Regional Urban Water Management Plan,* Metropolitan Water District of Southern California, November 2010.

- School education;
- Commercial, industrial, and institutional water conservation;
- Wholesale agency programs;
- Conservation pricing;
- Conservation corridor;
- Water waste prohibition; and
- Ultra-low flush toilet replacements.

With implementation of passive and active conservation measures, the EMWD can significantly reduce its retail water demand and continue to do so in the future.

As previously identified, Metropolitan has analyzed the reliability of water delivery through the SWP and the Colorado River Aqueduct. Metropolitan's IRP and 2010 RUWMP conclude that, with the storage and transfer programs developed by Metropolitan, there will be a reliable source of water to serve its member agencies' needs through 2035.

The amount of water demand would be within the existing available supply even with a reduction in deliveries from the SWP. Imported sources of water will be supplemented by an increase in desalination of brackish groundwater, recycled water use, and water use efficiency, and implementation of aggressive conservation measures by the EMWD. The proposed WLC project would not require the construction of new water treatment facilities or expansion of existing facilities, which could cause significant environmental effects.

Annually, a 5-year Capital Improvement Plan (CIP) is prepared by the EMWD. The EMWD's CIP outlines specific projects and their funding sources. Each project is also submitted individually to the Board for authorization and approval. This allows the EMWD to match needed facilities with development trends accurately. Funding for the EMWD's microfiltration plants, distribution pipes, and the recharge and recovery program is listed in the most recent EMWD CIP.

All necessary water distribution facilities would be installed simultaneously with required roadway frontage improvements for each phase of development of the proposed WLC project. Therefore, the connection to the existing water delivery system would not result in substantial disturbance of existing roadways or water facilities. As previously identified, the potable water demand that would be required for the proposed WLC project would total 1,991.25 AFY. The amount of water demand would be within the existing available supply even with a reduction in deliveries from the SWP. Imported sources of water will be supplemented by an increase in desalination of brackish groundwater, recycled water use, and water use efficiency, and implementation of aggressive conservation measures by the EMWD. The proposed WLC project would not require the construction of new water treatment facilities or expansion of existing facilities, which could cause significant environmental effects.

It should be noted that the water consumption estimates in this section for future logistics uses within the WLCSP are likely overestimated by a significant factor, as a result of the emphasis on xeriscape or low-impact development (i.e., water conserving) design in the WLCSP. Chapter 4.13.3 (Sustainable Design) of the Specific Plan indicates that project design will incorporate features such as low-flow faucets and fixtures, rainwater harvesting systems for irrigation (where practical), and native non-irrigated landscaping to reduce the project's reliance on water. The size and composition of the landscape palette and the landscaping plan of the Specific Plan were developed in consultation with Robert Perry, a well-known horticultural scientist with many years of experience with drought-tolerant and low-water maintenance landscaping. Although water consumption on the WLC property will likely be much lower than anticipated, the analysis of environmental impacts relative to water

consumption used a "worst-case" scenario as outlined in the WSA prepared by the EMWD (March 21, 2012).

Adherence to standard requirements identified by EMWD and the City associated with the design and installation of new water infrastructure, including the additional water storage tanks and connections to existing and future water infrastructure, would ensure that no significant impacts would result from the construction or operation of the proposed WLC project. Therefore, impacts related to this issue would be less than significant and no mitigation measures would be required other than those measures recommended in other sections addressing potential impacts of off-site improvements (e.g., cultural resources and biological resources).

In summary, development of the proposed WLC project will not result in the need for the construction of new water treatment facilities by the Eastern Municipal Water District, Metropolitan Water District of Southern California, or others. However, it will result in the need for several new water storage reservoirs, as shown in previously referenced Figure 3.7, *Offsite Improvement Areas*, and Figure 3.13, *Water System*.

4.16.1.6 Significant Impacts

4.16.1.6.1 Adequate Water Supply

Threshold	Would the proposed WLC project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

A project-specific WSA[1] was prepared for the proposed WLC project to assess the water supply availability to the project site to satisfy the requirements under SB 610 and to make a determination that adequate water supplies are and will be available to meet the water demand associated with the proposed WLC project. In accordance with Water Code Section 10910(d) – (f), the WSA identifies:

- Any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed WLC project, and provides a description of the quantities of water received in prior years by the public water system, under existing water supply entitlements, water rights, or water service contracts.
- If no water has been received in prior years by the public water system, identify other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts to the same source of water as the public water system.
- If groundwater is included in the proposed supply, identify the groundwater basin or basins from which the proposed WLC project will be supplied, and include any applicable documentation of adjudicated rights to pump. If the basin is not adjudicated, regardless of whether the basin has been identified as over-drafted, provide a detailed description and analysis of the amount and location of groundwater pumped by the public water system for the past five years from any groundwater basin from which the proposed WLC project will be supplied, and provide a detailed description and analysis of the amount and location of groundwater from the basin or basins from which the proposed WLC project will be supplied to meet the projected water demand associated with the proposed WLC project.

There has been a shift in the water demand patterns in the last 15 years, as the residential market has replaced the agricultural market as the largest local consumer of water. Metropolitan, based on

[1] *Water Supply Assessment for the World Logistics Center Specific Plan*, EMWD, March 21, 2012.

its 2010 RUWMP,[1] has stated that, with the addition of all water supplies existing and planned, it would have the ability to meet all of its member agencies' projected supplemental demand through 2035 even under a repeat of a worst drought scenario. Based on this assertion, the EMWD has stated it is able to meet an increased demand for water over the next 20 years, even during drought conditions. This is based on continued commitment to conservation programs, additional water recycling, and continued development of local water resources.

It should be noted that the project site currently contains several non-potable agricultural water wells, but no yields from these wells were used to calculate water supply or demand related to the proposed project.

The EMWD continues to work closely with Metropolitan in the implementation of water management plans as a means of ensuring the reliability of the EMWD's water supplies. Efforts to ensure reliable water supplies include the preparation and/or implementation of Groundwater Management Plans, Desalination Program, Seasonal Storage, and Conjunctive Use Water Recycling. The EMWD's 2010 UWMP presents fifteen DMMs related to water conservation and water recycling programs split into two types (Foundational and Programmatic).

The potable water demand estimated for the proposed WLC project is within the limit of retail growth projected by the EMWD. Table 4.16.B presents the EMWD's total water use. To develop the projections used in the WSA, the EMWD used a development-tracking database that assesses future water demands for specific projects. The EMWD uses this database to help plan for future water supply and infrastructure needs by monitoring new projects through various stages of development. Changes in density and land use are also tracked in this database for planning purposes.

Table 4.16.B: EMWD Average Water Demand (2010–2035)

	Actual	Projected				
Demand Sources (acre-feet/year)	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Retail Potable Water Sales	77,700	113,800	120,700	136,100	150,300	162,200
Water Sales to Other Agencies	27,100	47,600	61,600	65,000	69,000	72,400
Other Water Uses/Losses	49,900	52,500	59,100	64,200	66,300	67,600
Total Average Demand	**154,700**	**213,900**	**241,400**	**265,300**	**285,600**	**302,200**

Source: *Water Supply Assessment, Table 9*, EMWD, March 21, 2012.

The EMWD's *2010 UWMP* also discusses the supply reliability for the EMWD during dry years. The supply for dry years is driven by demand. Demand increases slightly (less than 2%) during dry years, primarily due to the increased demand in winter for landscaping or agricultural water, and can be decreased up to 10 percent due to conservation as dry periods are extended. Tables 4.16.C, 4.16.D, and 4.16.E present estimates of demand from 2015 to 2035 in five-year increments for an average year, single dry year, and multiple dry years, respectively.

Neither groundwater production nor recycled water deliveries are expected to increase or decrease significantly during dry years. The EMWD depends on Metropolitan to supply additional water during dry years. Based on Metropolitan's 2010 RUWMP, the EMWD is confident of its ability to meet customer demands beyond the next 20 years in all reasonably predictable hydrological scenarios. For water shortages and interruptions, the plans and policies outlined in the RUWMP will be implemented.

[1] IRPSIM is a sophisticated water supply and demand-balancing model that utilizes 77 sequential hydrologies to determine variations in supply and demand due to changes in weather conditions.

4.16.C: EMWD Water Resources, Average Year Hydrology (2015–2035)

Water Conditions [1]	2015	2020	2025	2030	2035
Metropolitan Water District	149,300	170,700	190,700	210,000	226,200
Recycled Water	43,900	50,000	53,900	54,900	55,300
Groundwater	13,200	13,200	13,200	13,200	13,200
Existing Desalter	7,500	7,500	7,500	7,500	7,500
Existing Total Supplies	**213,900**	**241,400**	**265,300**	**285,600**	**302,200**
Total Projected Demand	**213,900**	**241,400**	**265,300**	**285,600**	**302,200**

[1] based on a repeat of 2004–2009 conditions
Source: *Water Supply Assessment, Table 11*, EMWD, March 21, 2012.

4.16.D: EMWD Water Resources, Single Dry Year Hydrology (2015–2035)

Water Conditions [1]	2015	2020	2025	2030	2035
Metropolitan Water District	155,300	177,600	198,300	218,300	235,100
Recycled Water	45,500	51,800	55,800	56,900	57,300
Groundwater	13,200	13,200	13,200	13,200	13,200
Existing Desalter	7,500	7,500	7,500	7,500	7,500
Existing Total Supplies	**221,500**	**250,100**	**274,800**	**295,900**	**313,100**
Total Projected Demand	**221,500**	**250,100**	**274,800**	**295,900**	**313,100**

[1] based on a repeat of 1977 conditions
Source: *Water Supply Assessment, Table 12*, EMWD, March 21, 2012.

4.16.E: EMWD Water Resources, Multiple Dry Years Hydrology (2015–2035)

Water Conditions [1]	2015	2020	2025	2030	2035
Metropolitan Water District	156,600	179,000	199,800	219,900	236,900
Recycled Water	45,800	52,200	56,200	57,300	57,700
Groundwater	13,200	13,200	13,200	13,200	13,200
Existing Desalter	7,500	7,500	7,500	7,500	7,500
Existing Total Supplies	**223,100**	**251,900**	**276,700**	**297,900**	**315,300**
Total Projected Demand	**223,100**	**251,900**	**276,700**	**297,900**	**315,300**

[1] based on a repeat of 1990–1992 conditions
Source: *Water Supply Assessment, Table 13*, EMWD, March 21, 2012.

It is anticipated that the majority of water for future development would be supplied by imported water from Metropolitan, recognizing the following conditions:

- The ability of Metropolitan to meet the demands of member agencies as described in the 2010 RUWMP as the majority of EMWD's current and future supply rely on Metropolitan's supplies. This assessment is based on representations by Metropolitan that it will provide the water requested by the EMWD for the next 20 years under the conditions set forth in Water Code Section 10910 as authorized by Water Code Section 10631(k). This assessment is subject to review, modification, or rescission in the event that regulations, court decisions, or other events reduce or impair Metropolitan's ability to provide such water.
- The cost of new water supplies will continue to increase. The developer of this project is required to help fund the acquisition of new water supplies, new treatment or recycled water facilities, and water efficiency measures for existing customers to develop new water supplies.

- New customers may also be required to pay a higher commodity rate for water used than existing customers to offset the rising costs to the EMWD for new water supplies.
- The developer will install water-efficient devices such as low-flow toilets and landscaping according to the requirements of the EMWD's water use efficiency ordinance(s) at the time of construction to reduce the impact of this project on water supplies.

Metropolitan does not place imported water limits on a member agency, but predicts the future water demand based on regional growth information. Metropolitan stated in its 2010 RUWMP that, with the addition of all water supplies, existing and planned, Metropolitan would have the ability to meet all of its member agencies' projected supplemental demand through 2035 even under a repeat of historic drought scenarios. For any short-term water shortages and interruptions caused by disaster or unprecedented drought, the plans and policies outlined in the 2010 RUWMP will be implemented.

The proposed WLC project may be conditioned by the City to construct off-site and on-site water facilities needed to distribute water throughout the project area. A plan of service for the proposed WLC project would be approved by the EMWD that would identify specific on-site improvements. The nearest recycled water line is a 24-inch transmission main located approximately 0.25 mile southwest of the project site, at the intersection of Redlands Boulevard and Cactus Avenue. Although currently active recycled water lines are not adjacent to the project site, in the future, it may be possible to serve this project site with recycled water. Irrigated landscaped areas of the proposed WLC project site will be designed to connect to the recycled water system and would utilize recycled water in landscape areas to the extent feasible. EMWD policy recognizes recycled water as the preferred source of supply for all non-potable water demands, including irrigation of recreation areas, green-belts, open space common areas, commercial landscaping, and supply for aesthetic impoundment or other water features. The majority of irrigated landscaped areas within the project site will be designed to use recycled water to the greatest extent possible when it becomes available.

Water Demand Based on the Existing General Plan Land Uses for the Project Site. As noted in Section 3.0, *Project Description*, the Community Development Element[1] of the City's General Plan currently designates the project site as a mix of residential, commercial, business park, and open space land uses. These land use designations are based on the previously approved (1992) Moreno Highlands Specific Plan (MHSP) and were used in developing EMWD's 2010 UWMP. Table 4.16.F summarizes the current land use designations at the project site, their associated acreages, and expected water demand from the 1992 MHSP EIR. The EIR prepared for the MHSP indicated that project would consume 11.8 million[2] gallons per day (mgd) or 9,840 acre-feet/year (AFY) of water at buildout of all the residential and non-residential uses.

Table 4.16.F: Moreno Highland Specific Plan Land Use Designations and Acreages

Land Use Designation	Acreage	Demand (AFY)
Residential Community		
Residential (7,283 dwelling units)	1,359.3	4,315
Parks and Open Space	701.9	3,159
Neighborhood Commercial	10.0	22
Cemetery	16.5	74
Public Facilities	347.7	1,168
Planned Business Center		
Business Park	360.8	271

1 *City of Moreno Valley General Plan Community Development Element,* City of Moreno Valley, July 11, 2006.
2 Based on 27,015 population times 200 gallons/person/day and 24,019 jobs at buildout

Table 4.16.F: Moreno Highland Specific Plan Land Use Designations and Acreages

Land Use Designation	Acreage	Demand (AFY)
Mixed Use	80.5	218
Community Commercial	16.0	36
Parks and Open Space	77.9	351
Public Facilities	67.4	226
Total	**3,038**	**9,840**

Source: Moreno Highlands Specific Plan, 1992.

The WSA prepared for the proposed project by the EMWD concluded that the water demand for the proposed on-site uses would be approximately 1,991.25 AFY.[1] The EMWD considers this a "worst-case" estimate based on the total acres and amount of square footage of warehousing proposed by the project. This estimate does not take into account the proposed project landscaping design with xeriscape (drought-tolerant plants) and on-site collection of runoff and channeling it to landscaped areas to minimize irrigation on the interior of the project site. For example, the "Water Budget Technical Memorandum' prepared by CH2MHill (see Appendix N) in September 2011 for the WLC project indicates that actual water usage of on-site buildings, based on the specific development characteristics of the WLC Specific Plan, would be on the order of 450 AFY, which is less than a quarter of the amount estimated by EMWD; however, this estimate does not include on-site irrigation of landscaping and could only be achieved if all on-site landscaping was irrigated by collection and distribution of on-site runoff from roofs and hardscape areas.

Taking into account the proposed water xeriscape landscaping plan, it is likely that actual water use for development within the WLC Specific Plan will be substantially less than the worst-case EMWD estimate. Therefore, for the purposes of analysis in this EIR, both the CH2MHill figure of 450 AFY and the EMWD's worst-case estimate of 1,991 AFY figure will be used relative to water consumption. Under either scenario, the anticipated water demand for the proposed WLC project is substantially less than what is identified above for the General Plan land uses and what was used in the formulation of the 2010 UWMP. As identified in previously referenced Table 4.16.A, anticipated water supplies in the EMWD total 213,900 and 302,200 AFY in 2015 and 2035, respectively. The water demand required for the proposed WLC project would total 0.93 and 0.66 percent of the EMWD's 2015 and 2035 supplies under worst-case conditions. The demand estimated for this project is substantially less and therefore still within the limit of growth projected in the 2010 UWMP.

When compared to the currently approved MHSP, there would be an 80 percent decrease in projected water demand (7,849 AFY) with the development of the proposed WLC project. The site's water usage would decrease under the current development plan for the proposed WLC project and it would remain lower than what is anticipated in the General Plan and the 2010 UWMP. Additionally, the increased water demand for the site has been analyzed by the WSA, which determined that a suitable water supply exists for the proposed WLC project well into the future.

The project's water consumption represents substantially less than 1 percent of the consumption yearly capacity and because the EMWD indicates that water to service the project's proposed industrial uses is available, no significant water supply impacts would occur with implementation of the industrial use, and no mitigation would be necessary.

Metropolitan is currently engaged in planning processes that will identify solutions that, when combined with the rest of its supply portfolio, will ensure a reliable long-term water supply for its member agencies, the EMWD has determined that it will be able to provide adequate water supply to meet the potable water demand for the project in addition to existing and future users. However, until

[1] *Water Supply Assessment Report for the World Logistics Center Specific Plan in Moreno Valley,* Eastern Municipal Water District, March 21, 2012.

these supplies are secured, potential impacts of the proposed project on regional water supplies may be significant, and mitigation is required.

Specific Plan Design Features. Section 6.0 of the Specific Plan requires the careful use of xeriscape or drought-tolerant vegetation with minimal mechanical irrigation to minimize water use for landscaping. Sections 4.2 and 5.3 require implementation of water-conserving landscaping and Section 5.1.3 provides architectural design guidelines that will help minimize the consumption of water for landscape irrigation.

Mitigation Measures. The following measures are recommended to help ensure that the proposed WLC project will have less than significant impacts on long-term regional water supplies.

4.16.1.6.1A Prior to issuance of a precise grading permit for development within the WLCSP, the developer shall submit landscape plans that demonstrate compliance with the WLCSP, the State of California Model Water Efficient Landscape Ordinance (AB 1881), and Conservation in Landscaping Act (AB 325). Landscape plans shall be approved prior to issuance of building permits and incorporate the following:

- Use of xeriscape, drought-tolerant, and water-conserving landscape plant materials wherever feasible and as outlined in Section 6.0 of the WLCSP;
- Use of vacuums, sweepers, and other "dry" cleaning equipment to reduce the use of water for wash down of exterior areas;
- Weather-based automatic irrigation controllers for outdoor irrigation (i.e., use moisture sensors);
- Use of irrigation systems primarily at night or early morning, when evaporation rates are lowest;
- Use of recirculation systems in any outdoor water features, fountains, etc.;
- Use of low-flow sprinkler heads in irrigation system;
- Provide information to the public in conspicuous places regarding outdoor water conservation; and
- Use of reclaimed water for irrigation if it becomes available.

4.16.1.6.1B Prior to issuance of any building permit for development within the WLCSP, the developer shall submit building plans that demonstrate the project has water-efficient design features outlined in Section 4.0 of the WLCSP including, but not limited to the following:

- Instantaneous (flash) or solar water heaters;
- Automatic on and off water facets;
- Water-efficient appliances;
- Low-flow fittings, fixtures and equipment;
- Use of high efficiency toilets (1.28 gallons per flush [gpf] or less);
- Use of waterless or very low water use urinals (0.0 gpf to 0.25 gpf);
- Use of self-closing valves for drinking fountains;
- Infrared sensors on drinking fountains, sinks, toilets and urinals;

- Low-flow showerheads;
- Water-efficient ice machines, dishwashers, clothes washers, and other water-using appliances;
- Cooling tower recirculating system where applicable;
- Provide information to the public in conspicuous places regarding indoor water conservation; and
- Use of reclaimed water for wash down if it becomes available.

4.16.1.6.1C Prior to issuance of any precise grading permit for development within the WLCSP, the developer shall submit irrigation plans that demonstrate the development will have separate irrigation lines for recycled water. The irrigation plans shall be approved prior to issuance of a building permit. All irrigation systems shall be designed so that they will function properly with recycled water if it becomes available in the future.

Level of Impact After Mitigation. With implementation of the recommended mitigation measures, expected impacts to water supply over the long term will be reduced to less than significant levels.

4.16.1.6.2 Storm Water Drainage Requirements

Threshold	Would the proposed WLC project result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

As identified in the *Draft Master Plan of Drainage Report for World Logistics Center Specific Plan and Environmental Impact Report*[1] (Draft Drainage Report) and Section 4.9, *Hydrology and Water Quality*, the proposed WLC project storm water flows from the project site eventually drain into the Perris Valley Storm Channel (PVSC) then into Reach 3 of the San Jacinto River. The storm channel is owned and maintained by the Riverside County Flood Control and Water Conservation District (RCFCWCD). Flows routed to the PVSC are transported through Perris Valley and ultimately to the San Jacinto River. Flows are then conveyed through the San Jacinto River, Canyon Lake, again to the San Jacinto River (Reach 1), and ultimately to Lake Elsinore. In the event Lake Elsinore is at or beyond capacity, flows continue through Temescal Creek, the Santa Ana River (Reaches 1–3) and then to the Pacific Ocean.

The proposed WLC project includes the development of up to approximately 41.6 million square feet of logistics warehouse facilities and related uses on approximately 2,635 acres. It is anticipated that the development of these logistics warehouse facilities would include the construction of buildings, parking areas, sidewalks, roads and other infrastructure such as water, recycled water, and sewer infrastructure features. Because the development of the proposed WLC project would introduce a greater percentage of impervious surfaces, the post-development flow volumes generated on site are anticipated to be substantially higher than the pre-development flows.

Conditions resulting from this change would include increased runoff volumes and velocity; reduced infiltration; increased flow frequency, duration, and peak; shorter time to reach peak flow; and degradation in water quality. The majority of the proposed WLC project area currently has a low runoff coefficient, meaning that runoff during storms represents a relatively small portion of the total

[1] *Draft Master Plan of Drainage Report for World Logistics Center Specific Plan and Environmental Impact Report*, CH2M Hill, November 2012.

rainfall. The majority of the precipitation, particularly in smaller storms, infiltrates into the subsurface. The development of the proposed WLC project with impervious surfaces (such as roadways, parking lots, and buildings) would result in a condition in which nearly all rainfall becomes runoff. A significant impact would occur in the event that post-development storm water flows are greater than pre-development storm water flows leaving the site.

As detailed in the *Draft Master Plan of Drainage Report,*[1] the storm water runoff from the proposed WLC project site generally flows in a southerly direction toward the San Jacinto River. A topographic divide generally located west of Theodore Street separates storm water flows to the San Jacinto River in two directions. Runoff east of the divide flows at a gradient ranging from 1 to 2 percent toward the San Jacinto Wildlife Area (SJWA) and ultimately drains toward the Gilman Hot Springs hydro-subarea; and runoff west of the divide flows to the Perris Valley Storm Drain at a gradient ranging from 1 to 2 percent and ultimately drains toward the Perris Valley hydro-subarea. Both hydro-subareas eventually flow to the San Jacinto River, approximately 10 miles south of the project site. The project site is located in the Moreno Valley drainage area and is tributary to the San Jacinto River.

The westerly portion of the proposed WLC project site is located within the Moreno Master Drainage Plan (MMDP). The existing MMDP indicates that storm flows north of SR-60 will be routed to the proposed Sinclair Detention Basin. Flows released from the proposed basin will pass under SR-60 through the existing culverts and be conveyed to the drainage system identified as Line "F" in MMDP. The proposed basin will not be constructed prior to the proposed WLC project; therefore, this analysis assumes that the Sinclair Detention Basin is not in place prior to construction and operation of the proposed WLC project.

As detailed in the *Draft Master Plan of Drainage Report*, storm flows originating from the Badlands reaching SR-60 are conveyed through a series of five culverts under SR-60 between Redlands Boulevard and Theodore Street, to earthen ditches that flow in a southerly direction. Based on the Logistic Building Runoff Management Plan (LBRMP) prepared by RBF in 2008, some of the culverts were partially blocked by sediment and debris allowing little flow from the culverts to enter the proposed WLC project site thus attenuating the flow during a 100-year storm event. Drainage peak flow rates from water ponds north of SR-60 are reduced due to the capacity of the existing culverts. As part of the construction of the Highland Fairview Corporate Park (HFCP) project, these existing culverts were combined into a 12-foot by 8-foot reinforced concrete box (RCB).[2] The RCB drains to the south along the west side of the logistics building within the HFCP project. A 36-inch and 42-inch storm drain underlying Eucalyptus Avenue join the RCB. The outflow from the drainage system sheet flows via a spreading area in to the agricultural land downstream. Farther south, the agricultural land drains to a RCFCWCD earthen channel at Redlands Boulevard, which flows to a Greenbelt Channel located south of Cactus Avenue and East of Redlands Boulevard and ultimately drains to the Perris Valley Storm Drain. Along the east side of Redlands Boulevard from Dracaea Street to the earthen channel collects flows from the west side of the project boundary. The v-ditch also outlets to the existing RCFCWCD earthen channel.

Open ditches along the Theodore Street convey runoff from adjacent areas. A series of existing drainage culverts crosses Gilman Springs Road conveying off-site runoff from the Badlands area onto the project site. Four of these culverts drain into somewhat defined natural drainage courses and drain into the SJWA. The existing culverts along Gilman Springs Road are undersized and therefore inadequate. The culverts provide some level of peak flow mitigation under a 100-year storm event; however, runoff will pond and overtop the road crossing onto the eastern portion of the proposed WLC project site. Therefore, the existing drainage courses in this area are undersized for the 100-year flow.

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1 *Ibid.*

2 The drainage facilities planned in the RCFCWCD MMDP (dated April 1991) were considered and incorporated in to the RCB storm drain system.

Previously referenced Tables 4.9.H and 4.9.I (Section 4.9, *Hydrology and Water Quality*) identify changes in the volume of storm water runoff that would result from the development of buildings and impermeable surfaces without and with the development of the on-site basins. Due to the installation of impervious surfaces on the project site, the post-development flows would be higher than the pre-development flows. To avoid a significant impact to the existing drainage capacity, the post-development flows coming from the proposed WLC project site are required to be equal to or less than pre-development flows.[1] To reduce flows to below or equal to pre-development conditions, the on-site storm water flows would be routed to a series of on-site detention basins[2] by phase before flows are routed off site. While the increase in impervious surfaces attributable to the proposed WLC project would contribute to a greater volume and higher velocity of storm water flows, the proposed WLC project's detention basins would accept and accommodate runoff that would result from project construction at pre-project conditions (previously referenced Tables 4.9.H and 4.9.I).

As identified in the *Draft Master Plan of Drainage Report*[3] prepared for the project, the hydrology analysis consisted of dividing the area into six existing and proposed off-site and on-site tributary areas (A through F; refer to previously referenced Figure 4.9.1). There are five proposed drainage systems to be constructed as part of the proposed WLC project and are identified as Line A (consistent with Line F in the MMDP), Line B, Line C, Line D, and Line FJ as depicted in previously referenced Figure 4.9.3. Hydrologic modeling results identify that the 100-year 3-hour storm provides the highest peak flows.

The land uses and roadway facilities proposed under the Specific Plan would require modifications to the existing sub watersheds of the project vicinity. Table 4.16.G provides a comparison of the existing and proposed drainage areas and shows the proposed modifications to the existing sub watersheds would not substantially alter the existing drainage pattern of the project vicinity. A comparison of the total area in acres shows no change.

Table 4.16.G: Comparison of Existing and Proposed Drainage Areas

Existing Condition			Proposed Condition		
Watershed	**Area (acres)**	**Hydro-subarea**	**Watershed**	**Area (acres)**	**Hydro-subarea**
A	2,657	Perris Valley	A	2,728	Perris Valley
B	1,361	Gilman Hot Springs	B	1,165	Gilman Hot Springs
C	1,061	Gilman Hot Springs	C	1,149	Gilman Hot Springs
D	965	Gilman Hot Springs	D	1,013	Gilman Hot Springs
E	2,510	Gilman Hot Springs	E	2,446	Gilman Hot Springs
F	445	Gilman Hot Springs	F	498	Gilman Hot Springs
Total	**8,999**			**8,999**	

Source: Table 4.1, Draft Master Plan of Drainage Report, CH2M HILL, November 2012

To adequately contain and store the greatest volume that would be generated during the 2-year, 5-year, 10-year, and 100-year storm events (i.e., 100-year 3-hour storm event), the project site would require the construction of on-site detention basins, on-site culverts, and on-site energy dissipaters. Table 4.16.H provides a comparison of the existing and proposed storm water runoff for the 100-year 3-hour storm events. As shown in Table 4.16.H, the proposed WLC project site in the existing

[1] As part of the MS4 Permit issuance requirements, projects must identify any Hydrologic Conditions of Concern and demonstrate that changes to hydrology are minimized to ensure that post-development runoff rates and velocities from a site do not adversely impact downstream erosion, sedimentation or stream habitat.

[2] A detention basin is an area where excess storm water is stored or held temporarily and then slowly drains when water levels in the receiving channel recede. In essence, the water in a detention basin is temporarily detained until additional room becomes available in the receiving channel.

[3] *Draft Master Plan of Drainage Report for World Logistics Center Specific Plan and Environmental Impact Report*, CH2M Hill, November 2012.

condition currently discharges at a rate of 2,810 cfs to the Perris Valley Hydro-Subarea and 5,250 cfs to the Gilman Hot Springs Hydro-Subarea. With the installation of the on-site detention basins, culverts, and energy dissipaters, expected discharges that would occur as a result of development of the site under the Specific Plan would discharge at a rate of 2,190 cfs to the Perris Valley Hydro-Subarea and 5,020 cfs to the Gilman Hot Springs Hydro-Subarea, which is less than the existing condition.

Table 4.16.H: Comparison of Existing and Proposed Storm Water Runoff for 100-Year 3-Hour Storm Event

Hydro-Subarea	Watershed	Existing Condition	Proposed Condition
		Peak Discharge (cfs)	
Perris Valley	A	2,810	2,190
Gilman Hot Springs	B	1,130	1,080
	C	820	825
	D	815	740
	E	1,990	1,950
	F	495	425
	Total	**5,250**[1]	**5,020**[1]

Source: Table 4-2 Draft Drainage Report, CH2M Hill, November 2012

Specific Plan Design Features. The preceding information has outlined the Drainage Master Plan (DMP) for the proposed WLCSP. The DMP is designed to retain increased on-site runoff that will occur due to the presence of more impervious surfaces (e.g., roofs, parking lots, and streets) and channel it to landscaped areas. The DMP is also designed to prevent off-site runoff from exceeding that which occurs under existing conditions. Section 6.0 of the Specific Plan requires the careful use of xeriscape or drought-tolerant vegetation with minimal mechanical irrigation to minimize water use for landscaping. Sections 4.2 and 5.3 require implementation of water-conserving landscaping, and Section 5.1.3 provides architectural design guidelines that will help minimize the consumption of water for landscape irrigation.

In addition to the Specific Plan design features, the following mitigation is recommended to ensure that impacts associated with project-related drainage capacity are reduced to less significant levels.

Mitigation Measures. Implementation of **Mitigation Measures 4.16.1.6.2A** through **4.16.1.6.2.C** would ensure that the proposed WLC project would not result in storm water drainage flows that would require the construction of new storm water drainage facilities or expansion of existing storm water drainage facilities that would in turn cause significant environmental effects.

4.16.1.6.2A Concurrent with the submittal of applications for discretionary approvals in the WLCSP, the applicant shall submit grading and drainage studies for each development area, with supporting engineering calculations, to the City Engineer for review and approval. The plans shall specify that detention basins shall be placed within each proposed watershed to mitigate the impacts of increased peak flow rate, velocity, flow volume, and reduced time of concentration by storing increased runoff for a limited period of time and release of the outflow in a way that the flow existing the project boundary will return to a sheet flow pattern similar to the existing condition. This measure shall be implemented to the satisfaction of the City Engineer.

4.16.1.6.2B Concurrent with the submittal of applications for discretionary approvals along the southern boundary of the WLCSP, the applicant shall submit grading and drainage

studies, with supporting engineering calculations, to the City Engineer for review and approval. The plans shall specify that energy dissipaters shall be used in the spillways of basins to reduce the runoff velocity and dissipate the flow energy. Basins with weir structures shall be constructed where the existing drainages exit the WLCSP property onto the San Jacinto Wildlife Area property to spread the outflow in a way that the flow exiting the project boundary will return to a sheet flow pattern similar to the existing condition. This measure shall be implemented to the satisfaction of the City Engineer.

4.16.1.6.2C Concurrent with the submittal of applications for discretionary approvals in the WLCSP, the applicant shall submit a concept grading and drainage plan, with supporting engineering calculations, to the City Engineer for review and approval. The plans shall specify that offsite flows shall be conveyed through the project in such a way that the existing sediment carrying capacity of the drainage courses exiting the project area is similar to the existing condition. The runoff leaving the project site shall be comparable to the sheet flow of the existing condition to maintain the sediment carrying capacity and amount of available sediment for transport so that no increased erosion will occur downstream. This measure shall be implemented to the satisfaction of the City Engineer.

Level of Significance after Mitigation. Adherence to **Mitigation Measures 4.16.1.6.2A** through **4.16.1.6.2.C** would result in the project's compliance with the City's existing storm water infrastructure requirements, reducing the potential impact associated with storm water drainage capacity to a less than significant level. Discussion of hydrological impacts from construction and operation of the WLC project are addressed in Section 4.9.6.1, *Construction-Related Water Quality Impacts,* and Section 4.9.6.2, *Operational Water Quality Impacts.*

4.16.1.7 Cumulative Impacts to Water Supply Services

The cumulative area for water supply-related issues is the EMWD service area (previously referenced Figure 4.16.1). Existing and future development within the EMWD's service area would demand additional quantities of water. The adopted UWMP (2010) projects population within the EMWD service area to increase to 1,111,729 persons by the year 2035. Increases in population, square footage, and intensity of uses would contribute to increases in the overall regional water demand. The anticipated conversion of water-intensive uses (i.e., agriculture) and the implementation of existing water conservation measures and recycling programs would reduce the need for increased water supply.

As previously identified, Metropolitan will continue to rely on the plans and policies outlined in its RUWMP and IRP to address water supply shortages and interruptions (including potential shut downs of SWP pumps) to meet water demands. An aggressive campaign for voluntary conservation and recycled water usage, curtailment of groundwater replenishment water and agricultural water delivery are some of the actions outlined in the RUWMP. As previously stated, Metropolitan currently does not have surplus water available, due in part to pumping restrictions imposed on the SWP in place to avoid and minimize impacts to Federal- and State-protected fish species in the Delta. However, Metropolitan has analyzed the reliability of water delivery through the SWP and the Colorado River Aqueduct. Metropolitan's IRP and RUWMP conclude that, with the storage and transfer programs developed by Metropolitan, there will be a reliable source of water to serve its member agencies' needs through 2035. The EWMD would have water supplies for projected growth through 2035 in wet, dry, and multiple-dry years, so cumulative impacts to water supply would be less than significant. The proposed WLC project would connect to existing conveyance infrastructure and adequate treatment capacity is available, so the proposed WLC project would not make a significant contribution to any cumulatively considerable impacts on water supply or infrastructure.

With implementation of the WLC Specific Plan as proposed and **Mitigation Measures 4.16.6.1A** through **4.16.6.1D**, potential cumulative impacts to regional long-term water supplies will not be cumulatively considerable.

4.16.2 Wastewater Services

4.16.2.1 Existing Setting

The EMWD and the Edgemont Community Services District (ECSD) provides wastewater (sewer) services in the City of Moreno Valley. The EMWD provides wastewater treatment, collection, and disposal service to most of the City and surrounding area and the ECSD provides sewer service to a small area in the southwestern portion of the City limits. The EMWD owns, operates, and maintains four regional water reclamation facilities including the Moreno Valley Regional Water Reclamation Facility (MVRWRF). The MVRWRF facility is located south of the City limits and east of Perris Boulevard, south and adjacent to Mariposa Avenue. The MVRWRF treats domestic, commercial, and industrial wastewater, and currently accepts an average daily flow of approximately 11.2[1] mgd, with an existing capacity of approximately 16 mgd.[2] Reclaimed water from the MVRWRF is primarily used to irrigate agriculture lands, greenbelts, and median strip areas. The existing development on the site (seven residences and associated farming facilities) is served by private septic tank systems. An existing sewer pipeline is located underlying Redlands Boulevard along the western perimeter of the project limits and Fir Avenue along the northern perimeter of the project limits.

NOP/Scoping Comments. No comments were received during the scoping period specifically regarding wastewater service.

4.16.2.2 Existing Policies and Regulations for Wastewater Services

Federal Water Pollution Control Act The major piece of Federal legislation dealing with wastewater is the Federal Water Pollution Control Act, which is designed to restore and preserve the integrity of the nation's waters. In addition to the Federal Water Pollution Control Act, other Federal environmental laws have a bearing on the location, type, planning, and funding of wastewater treatment facilities.

Regional Water Quality Control Board. Operation of the MVRWRF is subject to regulations set forth by the California Department of Health Services (DHS) and the Regional Water Quality Control Board (RWQCB). NPDES permits are required for operators of publically owned treatment works, municipal separate storm sewer systems (MS4s), construction, projects, and industrial facilities who discharge to surface waters within the City.

City of Moreno Valley General Plan. The following are policies in the City's General Plan that pertain to wastewater services and are applicable to the proposed WLC project:

Community Development Element

Policy 2.12.1 Prior to the approval of any new development application, ensure that adequate septic or sewer service capacity exists or will be available in a timely manner.

[1] Plus 0.4 mgd diverted to the Perris Valley Regional Water Reclamation Facility.
[2] Eastern Municipal Water District Moreno Valley Regional Water Reclamation Facility, http://www.emwd.org/modules/showdocument.aspx?documentid=1423, website accessed April 3, 2012.

Policy 2.13.1 Limit the amount of development to that which can be adequately served by public services and facilities, based upon current information concerning the capability of public services and facilities.

Policy 2.13.2 Unless otherwise approved by the City, public water, sewer, drainage and other backbone facilities needed for a project phase shall be constructed prior to or concurrent with initial development within that phase.

Policy 2.13.3 It shall be the ultimate responsibility of the sponsor of a development project to ensure that all necessary infrastructure improvements (including system-wide improvements) needed to support project development are available at the time that they are needed.

4.16.2.3 Methodology

The methodology of determining wastewater service impacts is based on evaluating the existing wastewater infrastructure and capacity available to the City, future wastewater demand and capacity that is anticipated to be available to the City, and the identification of existing wastewater demands and future wastewater demands with the development of the proposed WLC project.

4.16.2.4 Wastewater Services Thresholds of Significance

The proposed WLC project is considered to have a significant impact on wastewater services if any of the following occurs:

- The project would exceed wastewater treatment requirements of the Santa Ana Regional Water Quality Control Board;
- The project would result in a determination by the wastewater treatment provider, which serves or may serve the project, that it lacks adequate capacity to serve the project's projected demand in addition to the provider's existing commitments; and/or
- The project would require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

4.16.2.5 Less than Significant Impacts

4.16.2.5.1 Wastewater Treatment Requirements

Threshold	Would the proposed WLC project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Local governments and water districts are responsible for complying with Federal regulations, both for wastewater plant operation and the collection systems (e.g., sanitary sewers) that convey wastewater to the wastewater treatment facility. Proper operation and maintenance is critical for sewage collection and treatment as impacts from these processes can degrade water resources and affect human health. For these reasons, publicly owned treatment works (POTWs) receive Waste Discharge Requirements (WDRs) to ensure that such wastewater facilities operate in compliance with water quality regulations set forth by the State. WDRs, issued by the State, establish effluent limits on the kinds and quantities of pollutants that POTWs can discharge. These permits also contain pollutant monitoring, recordkeeping, and reporting requirements. POTWs that intend to discharge into the nation's waters must obtain a WDR prior to initiating discharge.

The proposed WLC project would result in a connection to the sewer line underlying Redlands Boulevard in the vicinity of the intersection of Redlands Boulevard and Brodiaea Avenue. It is anticipated that all wastewater generated by the proposed WLC project would be routed to and treated by the MVRWRF. The MVRWRF is considered to be a POTW, so operational discharge flows treated at the MVRWRF would be required to comply with waste discharge requirements contained within the WDRs for that facility. Compliance with condition or permit requirements established by the City, and waste discharge requirements at the MVRWRF would ensure that discharges into the wastewater treatment facility system from the operation of the proposed WLC project would not exceed applicable Santa Ana RWQCB wastewater treatment requirements. Expected wastewater flows from the proposed WLC project will not exceed the capabilities of the serving treatment plant, so no significant impact related to this issue would occur and no mitigation would be required.

4.16.2.5.2 Wastewater Treatment Capacity and/or New or Expanded Wastewater Treatment Facilities

Threshold	Would the proposed WLC project result in a determination by the wastewater treatment provider, which serves or may serve the project, that it lacks adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
Threshold	Would the proposed WLC project require the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

As previously noted, the proposed WLC project would connect to the existing sewer pipeline underlying Redlands Boulevard in the vicinity of the intersection of Redlands Boulevard and Brodiaea Avenue. Wastewater flows from the proposed WLC project site would be handled by the EMWD and would be conveyed to the MVRWRF located in the southwestern portion of the City, southwest of the proposed WLC project site. Current capacity at this facility is 16 mgd[1] with an existing average inflow of approximately 11.2 mgd.[2] Under current conditions, the average daily surplus treatment capacity is approximately 4.5 mgd. Generally, water use and wastewater flows are related in that wastewater is generated from indoor water uses.

Flow from the Logistics Development is based on a factor of water use equivalent to 0.01 gpd/sf. These values were determined based on a water demand analysis and benchmarking study conducted to determine water generation factors for similar facilities as outlined in the Technical Memorandum titled *World Logistics Center Water Demands and Waste Water Generation for Buildings* dated March 13, 2012. Since this study is for Specific Plan purposes and because these wastewater generation factors are less than rates used to cover the broad spectrum of light industrial uses, a facility sizing factor was added. This factor is 2.0 times the 0.01 gpd/sf for a wastewater generation factor of 0.02 gpd/sf. Based on a square footage of 41.6 million, the wastewater generated from the logistics uses on the site is 832,000 gpd. An additional 5,100 gpd of flow was added to account for the in-project fueling station. Thus, the total wastewater generated from the site is 837,100 gpd (0.837 mgd). The additional wastewater treatment demand of 0.837 mgd resulting from development of the proposed WLC project totals approximately 18.6 percent of current surplus treatment capacity. Improvements planned for the MVRWRF facility would increase capacity at this facility from 16 mgd to 18 mgd with an ultimate expansion of this facility of 41 mgd. The planned expansion of the MVRWRF to increase capacity from 16 mgd to 18 mgd is anticipated to be

1 *5.13 Public Services and Utilities*, City of Moreno Valley General Plan Final EIR, July 2006.
2 Eastern Municipal Water District Moreno Valley Regional Water Reclamation Facility, http://www.emwd.org/modules/showdocument.aspx?documentid=1423, website accessed April 2, 2012.

completed by June 2013.[1] Impacts associated with wastewater facilities would be less than significant because the amount of wastewater generated by the project would be within the existing surplus treatment capacity at the MVRWRF. The proposed WLC project would not require the construction of new wastewater treatment facilities or expansion of existing facilities, which could cause significant environmental effects. Therefore, impacts associated with wastewater facilities would be less than significant and no mitigation is required.

4.16.2.6 Significant Impacts

No impacts related to wastewater services or facilities have been identified as significant for the proposed WLC project.

4.16.2.7 Cumulative Impacts to Wastewater Facilities

The cumulative area for wastewater-related issues is the MVRWRF service area (previously referenced Figure 4.16.1). Cumulative population increases and development within the area serviced by the MVRWRF would increase the overall regional demand for wastewater treatment service. The current treatment capacity at the MVRWRF is 16 mgd. Improvements planned for this facility would increase capacity at this facility from 16 mgd to 21 mgd by June 2013. Ultimate expansion of this facility is expected to be 41 mgd. The MVRWRF is expected to have adequate capacity to service the City's wastewater needs through 2030. Any proposed changes to capacity of the MVRWRF or any facility maintained by EMWD are reviewed throughout the year. EMWD has a funding and construction mechanism in place that ensures improvements to EMWD facilities occurs in a timely manner. This funding mechanism is referred to as EMWD's Sewer Financial Participation Charge Program. For all new development within the EMWD service area, the Sewer Financial Participation Charge is allocated to assist in the financing of any future collection and disposal facilities and any future sewer treatment plant facilities. Cumulative development would not exceed the capacity of the wastewater treatment system because the MVRWRF would expand as growth occurred.

The proposed WLC project would not have a cumulatively significant impact on wastewater infrastructure because the proposed WLC project would not require the expansion of existing infrastructure, only connections to existing infrastructure would be required by the project. By adhering to the wastewater treatment requirements established by the Santa Ana RWQCB through the NPDES permit, wastewater from the project site that is processed through the MVRWRF would meet established standards. As the wastewater from all development within the service area of the MVRWRF would be similarly treated under the NPDES, no cumulatively significant exceedance of Santa Ana RWQCB wastewater treatment requirements would occur

4.16.3 Solid Waste Services

4.16.3.1 Existing Setting for Solid Waste Services

Solid waste disposal and recycling services for the proposed WLC project site would be provided by Waste Management of the Inland Empire. [2] Waste Management of the Inland Empire separates and markets recyclable materials collected within its service area. Solid wastes would primarily be transported to the Badlands Sanitary Landfill located at 31125 Ironwood Avenue in Moreno Valley. Additionally, Waste Management of the Inland Empire will also use other County landfills in the area, such as the Lamb Canyon Landfill on County land near the City of Beaumont and the El Sobrante

[1] *3.10.b Regional Water Reclamation Facilities*, West San Jacinto Groundwater Basin Management Plan 2010 Annual Report, Eastern Municipal Water District, June 2011.

[2] Trash service in the City of Moreno Valley is mandatory and Waste Management of Inland Valley is the only solid waste service provider.

Landfill in the City of Corona. The Badlands Sanitary Landfill is designated a Class III landfill run by the County of Riverside.[1] Waste types accepted at the Badlands Sanitary Landfill include agricultural, construction/demolition, industrial, mixed municipal, and tires.

The Badlands Sanitary Landfill currently has a permitted capacity of 33.5 million cubic yards with a remaining capacity of 14.7 million cubic yards.[2] The tonnage of any mass of solid waste is dependent on the material (e.g., metals, paper, and green waste) and its density (compacted or uncompacted). Utilizing conversion factors from various jurisdictions, one cubic yard of compacted municipal solid waste typically weighs 750 pounds (0.37 ton).[3] Based on this conversion factor, remaining space at the Badlands Sanitary Landfill totals approximately 5.45 million tons with an estimated closure date of January 2024. The maximum daily permitted throughput of this facility is 4,000 tons/day. The Badlands Sanitary Landfill currently accepts approximately 1,683 tons/day.[4]

Recyclable materials collected by Waste Management of the Inland Empire are handled at the Moreno Valley Transfer Station owned and operated by Waste Management, Inc. The Moreno Valley Transfer Station is a large volume transfer and processing facility that accepts the following waste types: construction and demolition materials, green materials, metals, and mixed municipal waste. The Moreno Valley Transfer Station currently has a permitted capacity of 2,600 tons per day and currently accepts 2,000 tons per day. This facility currently has the capacity to accept an additional 600 tons per day.

NOP/Scoping Comments. No comments were received during the scoping period specifically regarding solid waste service.

4.16.3.2 Existing Policies and Regulations

Assembly Bill 939 (AB 939) California Integrated Waste Management Act. AB 939 was signed into law in 1989 and established a 50 percent waste reduction requirement for cities and counties by the year 2000, along with a process to ensure environmentally safe disposal of waste that could not be diverted. Jurisdictions select and implement the combination of waste prevention, reuse, recycling, and composting that best meets the needs of their residents while achieving the diversion requirements of the Act. Cities and counties also have the flexibility to work cooperatively toward the 50 percent goal by forming a regional agency. According to the provisions of the Act, in the year 2000, waste-to-energy or biomass conversions may contribute 10 percent toward the goal, with the remaining 40 percent accomplished through source reduction, recycling, and composting. The statute also allows a time extension to meet these goals for cities and counties that experience adverse market or economic conditions.

Assembly Bill 1327 (AB 1327) California Solid Waste Reuse and Recycling Access Act of 1991. Signed into law in 1991, AB 1327 added Chapter 18 to Part 3 of Division 30 of the Public Resources Code. Chapter 18 required the California Integrated Waste Management Board (CIWMB) to develop a model ordinance for adoption of recyclable materials in development projects. Local agencies were then required to adopt the model, or ordinances of their own, in order to govern adequate areas for collection and loading of recyclable materials in development projects by September 1, 1993. If a

[1] Class III landfills are required to be located where adequate separation can be provided between non-hazardous solid waste and surface and subsurface waters. This class of landfill is not permitted to accept hazardous waste.

[2] *Badlands Sanitary Landfill Facility/Site Summary Details,* CalRecycle website, http://www.calrecycle.ca.gov/SWFacilities/Directory/33-AA-0006/Detail/, website accessed April 2, 2012.

[3] http://www.recyclemaniacs.org/doc/measurement-tracking/CURC-profile-input-form-with-conversion-guide.xls, website accessed December 21, 2011.

[4] Based on 2011 average; e-mail correspondence with John Farrar, Administrative Services Assistant, County of Riverside Waste Management Department, December 21, 2011.

local agency had not adopted a model ordinance by that date, the CIWMB model would be adopted and enforced by the local agency.

Senate Bill 1016 (SB 1016). As previously identified, the California Integrated Waste Management Act of 1989 (AB 939) requires each jurisdiction to divert 50 percent of its solid waste from being disposed in landfills. The new per capita disposal measurement system (SB 1016, Wiggins, Chapter 343, Statutes of 2008) became effective January 1, 2009. It builds on AB 939 compliance requirements by implementing a simplified measure of local jurisdictions' performance. SB 1016 accomplishes this by changing to a disposal-based indicator: the per capita disposal rate, which uses only two factors: a jurisdiction's population and its disposal as reported by disposal facilities. SB 1016 changes how each jurisdiction's progress is measured to reach the 50 percent goal for diverting waste from landfills. This measurement is no longer determinative of compliance. In order for the CIWMB and jurisdictions to more properly focus on successful program implementation, SB 1016 shifts from the historical emphasis on using calculated generation and estimated diversion to using annual disposal as a factor when evaluating jurisdictions' program implementation.

Riverside County Integrated Waste Management Plan. The Riverside Countywide Integrated Waste Management Plan (RCIWMP), adopted by the Riverside County Board of Supervisors on January 14, 1997, and approved by the CIWMB on September 23, 1998, outlines the goals, policies, and programs the County and its cities, including the City of Moreno Valley, would implement to create an integrated and cost-effective waste management system that complies with the provisions of AB 939 and its diversion mandates. The RCIWMP is composed of the Riverside Countywide Summary Plan, the Source Reduction and Recycling Element (SRRE) for the County and each of its cities, the Nondisposal Facility Element (NDFE) for the County and each of its cities, the Household Hazardous Waste Element (HHWE) for the County and each of its cities, and the Riverside Countywide Siting Element.

City of Moreno Valley General Plan. The following are policies and programs in the City's General Plan that pertain to solid waste and are applicable to the proposed WLC project:

Conservation Element

Policy 7.8.1 Encourage recycling projects by individuals, non-profit organizations, or corporations and local businesses, as well as programs sponsored through government agencies.

Program 7-1 Support regional solid waste disposal efforts by the County of Riverside.

4.16.3.3 Methodology

The solid waste analysis is based on evaluating the existing capacity of nearby landfills that serve the City, future solid waste capacity that would be available to the City, and the identification of existing solid waste demand and future solid waste demand associated with the development of the proposed WLC project. The analysis also identifies existing City goals, policies, and programs that the City implements to reduce generated waste.

4.16.3.4 Solid Waste Services Thresholds of Significance

Based on Appendix G of the *CEQA Guidelines,* a project is considered to have a significant impact on solid waste services if it results in either of the following:

- The project would be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; and/or
- The project would fail to comply with applicable Federal, State, and local statutes and regulations related to solid waste.

4.16.3.5 Less than Significant Impacts

The following solid waste impacts were determined to be less than significant. Adherence to established regulations, standards, and policies would reduce potential solid waste impacts to a less than significant level.

4.16.3.5.1 Solid Waste Facilities

Threshold	Would the proposed WLC project be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?

Solid waste collection is a "demand-responsive" service and current service levels can be expanded and funded through user fees without difficulty. Based on a solid waste generation of 0.006 pound per square foot per day for industrial uses,[1] the proposed WLC project is anticipated to generate approximately 124.8 tons of solid waste per day (45,552 tons/year).[2] Solid waste from the proposed WLC project would be hauled by Waste Management of Inland Valley and transferred to the Badlands Sanitary Landfill, located in Moreno Valley. The Badlands Sanitary Landfill has a daily permitted throughput of 4,000 tons per day, a remaining capacity of 14,730,025 cubic yards, and an estimated closure date of 2024.[3] The average daily throughput at the Badlands Sanitary Landfill for 2011 is estimated at 1,683 tons/day[4] with a current surplus capacity totaling 2,317 tons/day.

The volume of solid waste generated by the proposed WLC project per day represents 3.12 percent of the current permitted throughput and 5.39 percent of the current surplus capacity at the Badlands Sanitary Landfill. As adequate daily surplus capacity exists at the receiving landfill, development of the proposed WLC project would not significantly affect current operations or the expected lifetime of the landfill serving the project area. No significant solid waste disposal impact would occur and no mitigation is required.

4.16.3.5.2 Solid Waste Reduction

Threshold	Would the proposed WLC project fail to comply with applicable federal, state, and local statutes and regulations related to solid waste?

Federal, State and local governments have enacted a variety of laws and established programs to deal with the transport, use, storage, and disposal of hazardous materials to reduce the risks to public health and the environment. These laws and programs supplement existing regulations designed to control the contamination of air and water resources. There are no active landfills operating in Riverside County that accept hazardous wastes. Hazardous wastes generated within the County are disposed of at distant "Class I" landfills. The DHS regulates companies that haul hazardous waste.

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1 *Estimated Solid Waste Generation Rates,* California Integrated Waste Management Board, http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Industrial.htm, website accessed on April 2, 2012.

2 0.006 pound per square foot per day × 41,600,000 square feet = 249,600 lbs per day; 1 ton/2000 lbs × 249,600 lbs = 124.8 tons per day.

3 *Badlands Sanitary Landfill Facility/Site Summary Details,* CalRecycle website, http://www.calrecycle.ca.gov/SWFacilities/Directory/33-AA-0006/Detail/, website accessed April 2, 2012.

4 Based on 2011 average; e-mail correspondence with John Farrar, Administrative Services Assistant, County of Riverside Waste Management Department, December 2, 2012.

The California Highway Patrol (CHP) is responsible for the inspection of motor carriers that haul hazardous wastes. Inspections are made on roadways, at freeway truck scales and truck yards. The shipment of hazardous materials by truck or rail is regulated by Federal safety standards under the jurisdiction of the USDOT. Federal safety standards are also included in the California Administrative Code, Environmental Health Division. The EPA ensures that containers of hazardous materials are properly labeled with instructions for use. The California Department of Industrial Relations, Cal-OSHA Division regulates the use of hazardous materials in the workplace. Regulations governing the storage and use of hazardous materials are also contained in the Uniform Building Code and the Uniform Fire Code. The Hazardous Materials Branch (HMB) of the Environmental Health Services Division of the Riverside County Health Department operates a hazardous waste program. The HMB inspects those involved in generating, hauling, storage, treating, and disposing of these wastes. The HMB also operates mobile household hazardous waste roundups and checks loads at local landfills for hazardous wastes.

The City of Moreno Valley is responsible for meeting the requirements of AB 939 and SB 1016, which includes a 50 percent reduction in disposal by the start of 2000 and preparation of a solid waste reduction plan to help reduce the amount of solid waste disposed of at the landfills. Programs implemented by the City of Moreno Valley to satisfy the mandated reduction in solid waste include, but are not limited to, the following:

- Public outreach via print and electronic media (public education);
- Municipal solid waste ordinances and product and landfill bans (policy incentives); and
- Operation of material recovery and composting facilities (facility recovery).

The proposed WLC project would be required to coordinate with the waste hauler to develop collection of recyclable materials for the project on a common schedule as set forth in applicable local, regional, and State programs. Recyclable materials that would be recycled by the project include paper products, glass, aluminum, and plastic.

Additionally, the proposed WLC project would be required to comply with applicable elements of AB 1327, Chapter 18 (California Solid Waste Reuse and Recycling Access Act of 1991) and other applicable local, State, and Federal solid waste disposal standards, thereby ensuring that the solid waste stream to the Badlands Sanitary Landfill is reduced in accordance with existing regulations. Impacts are considered less than significant and require no mitigation.

4.16.3.6 Significant Impacts

No impacts related to solid waste services or facilities have been identified as significant for the proposed WLC project; therefore, no mitigation is required.

4.16.3.7 Cumulative Impacts to Solid Waste Services

AB 939 mandates the reduction of solid waste disposal in landfills. While the Badlands Sanitary Landfill has an estimated closure date of 2024, as previously identified, the City's waste hauler will also use other County landfills in the area (e.g., Lamb Canyon Landfill and El Sobrante Landfill). The estimated closure date of the Lamb Canyon Landfill is 2023 and the estimated closure date of the El Sobrante Landfill is 2030. With planned expansion activities of landfills in the project vicinity and projected growth rates contained in the City's General Plan EIR, sufficient landfill capacity would exist to accommodate future disposal needs through City buildout in 2030. Therefore, buildout of the City General Plan would not create demands for solid waste services that would exceed the capabilities of the County's waste management system. Consequently, cumulative impacts associated with solid waste within the City would be considered less than significant.

4.16.4 ENERGY CONSUMPTION

This section discusses the conditions that exist on the project site and the regulatory framework that governs the supply and demand for direct and indirect energy requirements. Appendix F of the *CEQA Guidelines* describes the energy conservation information and analyses that should be included in an EIR, including emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Energy conservation is defined in terms of decreased reliance on natural gas and oil, decreased per capita energy consumption, and increased reliance on renewable energy sources.

4.16.4.1 Existing Setting

Electricity. Southern California Edison (SCE) currently has two existing 115 kilovolt (kV) overhead power transmission lines within the proposed WLC project limits. One is located along Gilman Springs Road from the south to Eucalyptus Avenue, then east on Eucalyptus Avenue to Theodore Street and then north on Theodore Street across SR-60. The second 115 kV transmission line is located along Brodiaea Avenue from the west to Davis Road then southeast into the San Jacinto Wildlife Area. In the project area, SCE also maintains 12 kV overhead distribution lines along Redlands Boulevard, Theodore Street, and Alessandro Boulevard just west of the project site.

The proposed WLC project would be supplied electricity by Moreno Valley Electric Utility (MVEU). MVEU currently has an existing electrical substation west of the project area at the southwest corner of Moreno Beach Drive and Cottonwood Avenue. This substation currently has a capacity to distribute 28 megawatts (MW) of electricity based on two existing 28 MW units (i.e., if one unit goes off, the other unit still maintains capacity to handle the demand). Ultimate capacity of this substation is 90 MW based on four 28 MW units. The current peak load for this substation is 22 to 26 MW; therefore, there is an existing 2 to 6 MW surplus capacity available. MVEU has underground 12 kV distribution lines along Cottonwood Avenue from the west to Redlands Boulevard, then north along Redlands Boulevard to Fir Street (now Eucalyptus Avenue), and then east along Eucalyptus Avenue to Theodore Street. The existing underground conduit underlying Eucalyptus Avenue currently serves the existing Skechers warehouse, office, and factory store. It should be noted that the MVEU indicated these assumptions are valid at this time, but could change if other development occurs before the proposed project.

Natural Gas. The proposed WLC project would be supplied natural gas by the Southern California Gas Company (SCGC). SCGC currently maintain a 4-inch medium-pressure service line underlying Redlands Boulevard that runs from SR-60 on the north to Cactus Avenue on the south and then runs west along Cactus Avenue with a stub-out to the north at Merwin Street. SCGC has low-pressure facilities that serve the residential areas located west of Redlands Boulevard and southwest of Merwin Street and Bay Avenue.

Throughout the proposed WLC project area, there are existing high-pressure natural gas transmission mains ranging in diameters of 16 inches up to 36 inches. SCGC currently maintains two 30-inch diameter transmission pipelines traversing the project site that run in an east-west direction and are located north and south of Alessandro Boulevard. There are also three transmission pipelines (a 16-inch, 30-inch, and 36-inch diameters) that run in a north-south direction along Virginia Street, south of Alessandro Boulevard. The 36-inch diameter pipeline also runs east from Virginia Street parallel with the 30-inch pipeline that runs south of Alessandro Boulevard.

Within the proposed WLC project site, SCGC maintains a gas line blow-down facility and flow metering station at Alessandro Boulevard and Virginia Street. Further south on Virginia Street, the San Diego Gas and Electric Company (SDG&E) maintains a natural gas compression station, known as the Moreno Compressor Station, which supplies gas to San Diego via 16-inch, 30-inch, and 36-inch transmission pipelines that continue to the south. SCGC has a gas transmission regulator station

located at the southeast corner of Gilman Springs Road and Laurene Lane east of the proposed WLC project site.

Questar currently maintains a 16-inch gas transmission pipeline that underlies Alessandro Boulevard from Gilman Springs Road to Theodore Street, where it heads south to the Maltby Avenue alignment and then heads west toward Redlands Boulevard.

NOP/Scoping Comments. There were no specific comments regarding energy systems during the scoping process.

4.16.4.2 Existing Policies and Regulations

4.16.4.2.1 Federal Regulations

Energy Policy and Conservation Act. The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the U.S. Pursuant to the Act, the National Highway Traffic and Safety Administration (NHTSA), which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards. Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. The Corporate Average Fuel Economy (CAFE) program, administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992. The Energy Policy Act (EPAct) of 1992 was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain Federal, State, and local governments and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005. The Energy Policy Act of 2005 includes provisions for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a Federal purchase requirement for renewable energy.

4.16.4.2.2 State Regulations

California Code of Regulations Title 24, Part 6. Enacted in 1978, this part of the California Code established energy efficiency standards for residential and nonresidential buildings in response to a legislative mandate to reduce California's energy consumption. These standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies

and methods. The most recent standards were adopted and went into effect January 1, 2010.[1] Such standards include the provision of cool roofs, demand control ventilation, skylights for day-lighting in buildings, thermal breaks for metal building roofs, and lighting power limits. These standards are expected to reduce the growth in electricity use of residential and non-residential buildings. Continual updates to Title 24 along with the State's implementation of AB 1493 and SB 1368 will have a major impact on the State's attainment of the AB 32 goals.

California Code of Regulations Title 24, Part 11. This part of the California Code is known as the California Green Building Standards Code (CALGreen Code) and was enacted to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts with positive environmental impacts and through encouragement of sustainable construction practices. The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). This update to Part 11 of Title 24 of the California Code of Regulations was effective January 1, 2011.

California Code of Regulations Titles 14 and 27. These parts of the California Code require energy efficient practices as part of solid and hazardous waste handling and disposal.

4.16.4.2.3 Regional and Local Regulations

City of Moreno Valley General Plan. The City's General Plan Chapter 9 (Goals and Objectives) establishes goals and objectives to guide development within the City. Specific policies associated with energy facilities relevant to the proposed WLC project include:

7.5.1 Encourage building, site design, and landscaping techniques that provide passive heating and cooling to reduce energy demand.

7.7.2 Require new electrical and communication lines to be placed underground.

4.16.4.3 Methodology

The energy analysis is based on evaluating the existing energy supply available to the City, future energy supply that is anticipated to be available to the City, and the identification of existing electricity and natural gas demand and future demand with the development of the proposed WLC project. The analysis also identifies energy conservation measures that would be incorporated by the proposed WLC project to reduce the project's total energy demand.

4.16.4.4 Thresholds of Significance

Appendix G of the *CEQA Guidelines* (2011) does not include thresholds to determine potential environmental impacts resulting from project-related electrical and natural gas demand and use. However, Appendix F of the *CEQA Guidelines* (2011) provides guidance on what should be considered in an EIR's discussion of energy impacts. This includes but is not limited to energy-consuming equipment and processes operation; total energy requirements of the project by fuel type and end use; energy conservation equipment and design features; and identification of energy supplies that would serve the project. Consideration of environmental impacts includes an evaluation of the project's energy requirements and energy use during operation and the degree to which the

[1] *Nonresidential Compliance Manual for California's 2008 Energy Efficiency Standards*, California Energy Commission, effective January 1, 2010, http://www.energy.ca.gov/title24/2008standards/index.html, website accessed on March 4, 2010.

project complies with current energy standards. The guidance suggests that particular emphasis be placed on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (see Public Resources Code section 21100(b)(3)).

4.16.4.5 Less than Significant Impacts

Based its size, energy impacts of the WLC project are potentially significant.

4.16.4.6 Significant Impacts

Impact 4.16.4.6.1 Construction or Expansion of Electrical and Natural Gas Facilities

Threshold	Would the proposed WLC project require the construction of new electrical and/or natural gas facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?

Based on calculations contained Tables 4.16.I and 4.16.J, the proposed WLC project would consume approximately 385,698 megawatt-hours (MWh) of electricity and almost 25 million cubic feet of natural gas per year. The estimated electrical demand assumes no on-site electrical generation by photovoltaic panels.

Table 4.16.I: Electrical Demand and Consumption

Land Use Type	% of Total Square Footage	Building Area (sf)	Electrical Demand Factor (w/sf)[1]	Electrical Demand (MW)	Electrical Consumption (MWh/Yr)[2]
Logistics (including offices)	100	41.6 million	1.68	69.9	385,697.9
Total	**100**	**41,600,000**	**—**	**69.9**	**385,697.9**

[1] Electric demand factors based on electric utility demand information from Moreno Valley Electric Utility
[2] Assumes a 63% load factor for all use types. Assumes Logistics and Office Space will operate 24 hours per day 7 days per week or 8,760 hours per year.
sf = square feet, w = watts, MW = Megawatts MWh = megawatt-hours
Source: Technical Memorandum – Dry Utilities, Utility Specialists, December 19, 2012.

Table 4.16.J: Natural Gas Demand and Consumption

Land Use Type	% of Total Square Footage	Building Area (sf)	Natural Gas Consumption Factor (cf/yr/sf)[1]	Natural Gas Consumption (cf/yr)
Logistics	95	39,520,000	—	—
Office Space	5	2,080,000	12.00	24,960,000
Total	**100**	**41,600,000**	**—**	**24,960,000**

cf = cubic feet.
Source: Technical Memorandum – Dry Utilities, Utility Specialists, December 19, 2012.

The WLC Specific Plan allows for the future installation of solar photovoltaic panels (i.e., buildings will be "solar ready") or other alternative energy systems on the roof of each warehouse building to offset the energy demands of the building, up to full roof coverage. The following utility improvements are based on a "worst-case" assumption that on-site solar electrical generation is not available and electrical service would have to be provided by MVEU. In addition, partial or complete connection to the existing electrical grid may be necessary even with roof-mounted solar photovoltaic panels so there is redundancy (backup) in case of an emergency or during nighttime when no on-site power is being generated (i.e., some warehouses may operate 24/7). At this time, it is not anticipated that any uses will install sufficient on-site power generation and storage to be totally independent of the existing electrical grid.

A number of SCE facilities would still require relocation and expansion of MVEU facilities in order to provide network backup (i.e., if the solar generation equipment were to fail) and accommodate the potential increase in electrical demand no matter the contribution of project alternative energy generated. Power poles, guy poles, and guy anchors for the existing overhead 115 kV line along Theodore Street and Gilman Springs Road will need to be relocated at the time these roadways are widened. The portion of the existing 115 kV line along Eucalyptus Avenue may also need to be relocated into the new Eucalyptus Avenue alignment between Theodore Street and Gilman Springs Road at the time the roadway is constructed. The existing 115 kV line along Brodiaea Avenue may be able to be protected in place except for a few hundred feet where the transmission line intersects with the new Merwin Street, which will need to be relocated to accommodate street and storm drain channel improvements.

The existing 12 kV overhead power distribution lines along Redlands Boulevard will need to be undergrounded when the roadway is developed to its ultimate width. The existing 12 kV overhead power feeder lines located along Theodore Street and Alessandro Boulevard will need to be relocated and undergrounded as these roadway improvements take place during the development of the proposed WLC project. The existing 12 kV overhead power feeder line running south along Virginia Street to the Moreno Compressor Station (planned as Open Space) will be protected in place. The existing overhead service lines from the Theodore Street 12 kV line along Dracaea Avenue to the east and along Cottonwood Avenue to the west can be abandoned when existing on-site residences served by these facilities are abandoned. Per SCE requirements, SCE 12 kV undergrounded lines cannot be in a common trench with MVEU facilities and require a separate underground facility with a minimum 6 feet from other utility lines.

Based on the *Technical Memorandum – Dry Utilities World Logistics Center, Moreno Valley, CA*, (Utility Specialists, December 19, 2012) prepared for the proposed WLC project, construction of the first three logistics buildings that would occur during the initial phase of construction can be served by the existing MVEU substation at Cottonwood Avenue and Moreno Beach Drive, as long as capacity is still available at that station. Subsequent buildings in Phase 1 of construction will require the expansion of this substation. The expansion that would occur to meet this demand would be the addition of two new 28 MW transformer units which can be accommodated within the existing substation property. New 12 kV underground feeder circuits, including trenching, conduit, electrical vaults, and conductors will need to be installed from the substation to the proposed WLC project site. These improvements will occur along Cottonwood Avenue, along Moreno Beach Drive, and along Alessandro Boulevard, Brodiaea Avenue, and Cactus Avenue. These improvements are expected to take place concurrently with roadway construction.

To meet the proposed WLC project's ultimate annual demand of 385,698 MW, a new 112 MW substation will be constructed within the project limits at a central location near one of SCE's 115 kV transmission lines that will feed power to the substation. The *Dry Utilities* memo for the project indicates two potential locations; the first adjacent to the SCE transmission lines along Gilman Springs Road, and the other adjacent to the SCE transmission lines along Brodiaea Avenue. Impacts of constructing the new station at either of these on-site locations may be the same.

SCE will require approximately 2 acres for a switching station near the new 112 kV substation proposed by MVEU to serve the proposed WLC project. All MVEU primary distribution conductors within the project will be installed within underground conduits and vaults within the public roadway rights-of-way or within easements as a joint trench with telephone, cable television, and natural gas. Since the installation or relocation of electrical facilities would take place concurrently with roadway construction and/or within dedicated easements, or protected in place, the construction of these facilities would not result in significant environmental effects. Previously referenced Figure 3.16 depicts the proposed electrical facilities assuming 100 percent backup electrical service to the WLC site.

SCGC has indicated that the existing 4-inch medium-pressure line underlying Redlands Boulevard and Cactus Avenue can be extended into and looped around the proposed WLC project roadway alignments to serve the proposed development. New two-inch gas lines will also be installed to accommodate the proposed WLC project's demand. No gas lines will be installed on Gilman Springs Road since all buildings will be served from the interior gas lines. Natural gas facilities will be installed in the public street rights-of-way and easements as a joint trench with telephone, cable TV and electrical services. The gas main in Eucalyptus Avenue will be on the south side of the street and in its own trench as it was not included in the common trench installed to serve the Skechers building.

Relocation of natural gas transmission lines within the proposed WLC project into public street rights-of-way and easements will be necessary to support site development and grading. These include 11,100 feet of the 30-inch gas pipeline in Cottonwood Avenue from Redlands Boulevard to Theodore Street and then southeast to Virginia Street and Alessandro Road intersection; 1,900 feet of 30-inch gas line from Gilman Springs Road at Lisa Lane southwest to Alessandro Boulevard; 1,000 feet of 16-inch gas line owned by Questar from Gilman Springs Road southwest to Alessandro Road and 4,000 feet of 16-inch gas line owned by Questar on the Maltby Avenue alignment from Merwin Street to Theodore Street. The remaining transmission gas lines are anticipated to be protected in place within the proposed streets or easements between buildings. The regulator station located at the southeast corner of Gilman Springs Road and Laurene Lane east of the proposed WLC project will need to be relocated as part of the widening of this road. The gas facility on Alessandro Boulevard and Virginia Street will remain in place as the project develops in this area. The SDG&E natural gas compression station on Virginia Street south of the project site, known as the Moreno Compressor Station, along with a smaller facility on Virginia Street at Boadicea Avenue will be protected in place. Since the installation or relocation of natural gas facilities would take place concurrently with roadway construction and or within dedicated easements, or protected in place, the construction of these facilities would not result in significant environmental effects. Previously referenced Figure 3.16 depicts the proposed natural gas facilities.

The supply of natural gas and electricity is demand-responsive. The project proponent would be required to meet the service requirements of these utility providers, which would ensure that a less than significant impact related to the provision of power would result from development of the proposed logistics uses.

Additionally, the proposed WLC project would be required to adhere to Title 24, Part 6, of the California Code of Regulations, which identifies energy efficiency standards for residential and nonresidential buildings. These standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The most recent standards were adopted and went into effect January 1, 2011. The 2011 standards for residential and non-residential buildings are expected to reduce the growth in electricity use and reduce the growth in natural gas use. Such standards include the provision of cool roofs, demand control ventilation, skylights for day-lighting in buildings, thermal breaks for metal building roofs and lighting power limits.

Specific Plan Design Features. As noted in Section 3.5.9.1 of the Project Description, the project intends to achieve applicable elements of certification from the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED), and encourages LEED Certification. The project will encourage sophisticated construction techniques that will provide pollution prevention and control such as noise, air quality, erosion and sediment controls. Both site planning and future building design will encourage current best practices for use of recycled materials and products, such as recycled steel, and crushed concrete and pavement materials. The use low-emitting VOC building materials will be used on site.

Project design will encourage options for alternative energy generation through the use of rooftop solar systems (i.e., WLCSP will provide "solar ready" buildings) or other technologies reasonably

available at the time of development. Project design and construction techniques will be incorporated to reduce heat island effect, to create thermal gradient differences between developed and undeveloped areas. Such techniques will include the use of materials that have a low solar reflectance index such as white roofs and light-colored pavements.

The project will encourage passive heating and cooling opportunities into the design or modification of the high-cubed warehouse developments and ancillary land uses. On-site renewable energy such as wind and solar will be designed in conformance with the appearance and aesthetics of the proposed WLC project area, including active and passive solar designs.

Compliance with such standards would be reviewed before the issuance of a building permit by the City. Because the proposed WLC project would be required to adhere to standards contained in Title 24 in addition to requirements set forth by the respective utility providers, development of the proposed WLC project would not result in the wasteful, inefficient or unnecessary consumption of energy.

Mitigation Measures. Even with implementation of the WLCSP design measures regarding energy conservation, the following specific measures are recommended to help ensure that potential impacts of the WLC project relative to energy use will remain at less than significant levels:

4.16.4.6.1A Prior to the issuance of any building permit within the WLCSP, each project developer shall submit energy calculations used to demonstrate compliance with the performance approach to the California Energy Efficiency Standards to the Building Department that shows each new structure meets applicable Building and Energy Efficiency Standards. The plans shall also ensure that buildings are in conformance with the State Energy Conservation Efficiency Standards for Nonresidential buildings (Title 24, Part 6, Article 2, California Administrative Code). Plans shall show the following:

- Energy-efficient roofing systems, such as “cool” roofs, that reduce roof temperatures significantly during the summer and therefore reduce the energy requirement for air conditioning. Examples of energy-efficient building materials and suppliers can be found at http://eetd.lbl.gov/ CoolRoofs or similar websites.
- Cool pavement materials such as lighter-colored pavement materials, porous materials, or permeable or porous pavement, for all roadways and walkways not within the public right-of-way, to minimize the absorption of solar heat and subsequent transfer of heat to its surrounding environment. Examples of cool pavement materials are available at http://www.epa.gov/heatisld/images/extra/level3_pavingproducts.html or similar websites.
- Energy-efficient appliances that achieve the 2008 Appliance Energy Efficiency Standards (e.g., EnergyStarappliances) and use of sunlight-filtering window coatings or double-paned windows.

4.16.4.6.1B Prior to the issuance of any building permits within the WLCSP, each project developer shall submit energy calculations used to demonstrate compliance with the performance approach to the California Energy Efficiency Standards to the Building Department that shows each new structure meets the applicable Building and Energy Efficiency Standards. Plans may include but are not necessarily limited to implementing the following as appropriate:

- High-efficiency air-conditioning with EMS (computer) control.
- Variable Air Volume (VAV) air distribution.

- Outside air (100 percent) economizer cycle.
- Staged compressors or variable speed drives to flow varying thermal loads.
- Isolated HVAC zone control by floors/separable activity areas.
- Specification of premium-efficiency electric motors (i.e., compressor motors, air handling units, and fan-coil units).
- Use of occupancy sensors in appropriate spaces.
- Use of compact fluorescent lamps in place of incandescent lamps.
- Use of cold cathode fluorescent lamps.
- Use of Energy Star exit lighting or exit signage.
- Use of T-8 lamps and electronic ballasts where applications of standard fluorescent fixtures are identified.
- Use of lighting power controllers in association with metal-halide or high-pressure sodium (high intensity discharge) lamps for outdoor lighting and parking lots.
- Use of skylights (may conflict with installation of solar panels in some instances).
- Consideration of thermal energy storage air conditioning for spaces or hotel buildings, meeting facilities, theaters, or other intermittent-use spaces or facilities that may require air-conditioning during summer, day-peak periods.
- Use of high efficiency toilets (1.28 gallons per flush [gpf] or less).
- Use of zero to low water use urinals (0.0 gpf to 0.25 gpf).
- Use of weather-based irrigation controllers for outdoor irrigation.
- Use of drought-tolerant and native plants in outdoor landscaping.

4.16.4.7 Cumulative Impacts to Energy Facilities

As indicated in Section 4.16.4.6.1, the proposed WLC project would not result in significant impacts related to energy consumption with implementation of the WLC Specific Plan as proposed, and with the recommended project-specific mitigation measures. The project will adhere to Title 24, Part 6, of the CCR, which identifies state energy efficiency standards. Adherence to these energy efficiency standards would reduce the amount of energy consumed by the proposed WLC project. The WLCSP will allow future development to install solar photovoltaic panels on the roof of each building (i.e., WLCSP will provide “solar ready” buildings), or other alternative energy systems to the extent possible. The proposed WLC project will implement “green building” characteristics and its design will help reduce energy consumption. With these measures, the WLC project will not make a significant contribution to cumulative energy facility impacts.

5.0 OTHER CEQA TOPICS

Section 15126 of the *CEQA Guidelines* requires that all aspects of a project must be considered when evaluating its impacts on the environment, including planning, acquisition, development, and operation. As part of this analysis, the EIR must also identify (1) significant environmental effects of the proposed WLC project; (2) significant environmental effects that cannot be avoided if the proposed WLC project is implemented; and (3) growth-inducing impacts.

5.1 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED WLC PROJECT IS IMPLEMENTED

Table 5.A illustrates the significant unavoidable impacts anticipated to result from the proposed WLC project, even with implementation of the project-specific mitigation measures identified in the Section 4.0 analysis.

Table 5.A: Significant Environmental Effects Which Cannot Be Avoided

Topic	Type of Impact	Impact
Aesthetics	Scenic Vistas	No feasible mitigation is available to mitigate for the direct impacts associated with the loss of existing viewsheds in the area.
Aesthetics	Scenic Resources and Scenic Highways	No feasible mitigation is available to mitigate the changes to existing viewsheds from SR-60 and from Gilman Springs Road, both considered local scenic roads by the City. However, with mitigation, these impacts are consistent with relevant General Plan policies regarding views in the General Plan.
Aesthetics	Substantial degradation of the existing visual character or quality of the site and its surroundings	No feasible mitigation is available to mitigate for the direct impacts associated with the substantial change in visual character from agriculture to high cube warehouse uses with building heights of 60 to 80 feet.
Aesthetics	Cumulative Aesthetic Impacts	The cumulative effect of development in the region will continue to result in the modification of existing viewsheds especially along SR-60. Construction of the proposed WLC project, in conjunction with other planned development, would contribute to the obstruction of existing views. There are no available mitigation measures to reduce this cumulative impact to a less than significant level.
Agricultural Resources	Loss of State Designated Farmland	No mechanism for the mitigation of impacts to the loss of 25 acres of Unique Farmland and/or existing agricultural operations has been enacted by either the City of Moreno Valley or the County of Riverside. Therefore, impacts associated with the conversion of State Designated Farmland remain significant and unavoidable.
Agricultural Resources	Conversion to a Non-agricultural Use	No feasible mitigation is available to mitigate for the direct impacts associated with the conversion of existing agricultural operations and loss of locally important farmland. Therefore, impacts associated with the conversion of farmland to a non-agricultural use remain significant and unavoidable.

Table 5.A: Significant Environmental Effects Which Cannot Be Avoided

Topic	Type of Impact	Impact
Agricultural Resources	Cumulative Loss of Agricultural Resources	The cumulative effect of development in the region will continue to result in the conversion of agricultural lands to non-agricultural uses. Construction of the proposed WLC project, in conjunction with other planned development within the cumulative study area, would contribute to the conversion of agricultural lands to non-agricultural uses. Therefore, cumulative impacts to agricultural resources would remain significant and unavoidable.
Air Quality	Construction Air Pollutant Emissions	Construction activities would result in exceedance of SCAQMD threshold for CO, NO_X, PM_{10}, and $PM_{2.5}$. Even after application of mitigation measures, estimated air pollutant emissions during construction activities would remain significant and unavoidable for NO_X, PM_{10}, and $PM_{2.5}$.
Air Quality	Architectural Coating Emissions	The amount of VOC generated per day during the application of architectural coatings would exceed the SCAQMD VOC threshold. Although the identified mitigation measures would reduce the amount of VOC generated, the SCAQMD threshold would still be exceeded. Impacts would remain significant and unavoidable.
Air Quality	Operational Air Pollutant Emissions	No feasible mitigation is available. Estimated air pollutant emissions during operation of the project will remain significant and unavoidable for ROG, NO_X, PM_{10}, and $PM_{2.5}$.
Air Quality	Consistency with Air Quality Management Plan (AQMP)	The project will produce significant amounts of air pollutants on a daily and cumulative basis, both during construction and operation. Even with implementation of proposed mitigation, emissions will result in exceedances that are not consistent with implementation of the current AQMP.
Air Quality	Cumulative Air Pollutant Emissions	The Basin is in nonattainment for PM_{10} and ozone at the present time. Construction of the proposed WLC project, in conjunction with other planned developments within the cumulative study area, would contribute to the existing nonattainment status. Therefore, the proposed WLC project would exacerbate nonattainment of air quality standards within the SCAQMD and contribute to adverse cumulative air quality impacts.
Climate Change	Cumulative greenhouse gas emissions	Project contributions to cumulatively considerable greenhouse gas emissions in excess of recommended SCAQMD standard.
Land Use and Planning	Divide an existing neighborhood (impacts on existing residences)	The site contains seven rural residences that cannot be effectively buffered against the impacts of adjacent warehouse buildings and operations (i.e., air pollution and health risks).
Noise	Operational Impacts to Surrounding Roadways	Residential land uses along a number of local roadways will experience noise levels that are projected to exceed City standards from project-related traffic. Potential noise attenuation improvements may not be physically or economically feasible due to building and roadway constraints.
Noise	Cumulative Noise Levels	Noise from project-related traffic and cumulative development will eventually exceed City noise standards and the project will make a substantial contribution to that cumulative impact.

Table 5.A: Significant Environmental Effects Which Cannot Be Avoided

Topic	Type of Impact	Impact
Transportation	Opening Year (2013) with Project Level of Service	If the improvements defined in **Mitigation Measures 4.11.6.1A** are constructed, then minimum level of service standards would be maintained for the opening year (2013) with-project scenario and study area intersections and impacts would be reduced to a less than significant level. Because improvements to the freeway roadways and infrastructure are under the authority of Caltrans, it is uncertain if improvements to these roadways would be constructed prior to project opening and impacts to these intersections would be significant and unavoidable.
Transportation	Opening Year (2013) Cumulative with Project Level of Service	If the improvements defined in **Mitigation Measures 4.11.6.2A** are constructed, then minimum level of service standards would be maintained for the opening year (2013) cumulative with-project scenario and study area intersections and impacts would be reduced to a less than significant level. Because improvements to the freeway roadways and infrastructure are under the authority of Caltrans, it is uncertain if improvements to these roadways would be constructed prior to project opening and impacts to these intersections would be significant and unavoidable.
Transportation	Interim Year (2017)	Study area intersections will experience Levels of Service in excess of accepted standards as development occurs through 2017. Because improvements to the freeway roadways and infrastructure are under the authority of Caltrans, it is uncertain if improvements to these roadways would be constructed prior to project opening and impacts to these intersections would be significant and unavoidable.
Transportation	Buildout Year (2023)	Study area intersections will experience Levels of Service in excess of accepted standards as development occurs through 2023. Because improvements to the freeway roadways and infrastructure are under the authority of Caltrans, it is uncertain if improvements to these roadways would be constructed prior to project opening and impacts to these intersections would be significant and unavoidable.
Transportation	Cumulative Traffic Impacts	Construction of the proposed WLC project, in conjunction with other planned developments within the cumulative study area, would contribute to the existing deficient levels of service on the existing roadway network. The improvements identified in **Mitigation Measures 4.11.6.1A** through **4.11.6.3C** would reduce these cumulative impacts at deficient intersections to a less than significant level. However, since the affected freeway ramps and intersections are under the jurisdiction of Caltrans, neither the project proponent nor the City has control over the specific timing of when the improvements would be constructed. It is anticipated that such improvements would not be fully constructed by the opening year (2013) so these cumulative impacts remain significant and unavoidable until such time as the improvements are constructed by Caltrans, WRCOG, and the City of Moreno Valley through the TUMF process.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE CAUSED BY THE PROPOSED PROJECT SHOULD IT BE IMPLEMENTED

Section 15126(c) of the *CEQA Guidelines* mandates that the EIR must address any significant irreversible environmental changes which would be involved in the proposed action should it be implemented. An impact would fall into this category if it resulted in any of the following:

1. The project would involve a large commitment of non-renewable resources;
2. The primary and secondary impacts of the project would generally commit future generations of people to similar uses;
3. The project involves uses in which irreversible damage could result from any potential environmental incidents associated with the project; and/or
4. The project will consume large amounts of energy that are produced from non-renewable fossil fuels, although the WLC Specific Plan indicates the proposed uses will efficiently consume energy and water resources.

Determining whether the proposed WLC project may result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed in such a way that there would be little possibility of restoring them. The project site is generally fallow agricultural land; however, as identified within the City's General Plan, the City anticipates the eventual conversion of agricultural uses to urban uses and the proposed WLC project would permanently alter the site by converting predominantly agricultural uses to urban warehousing. This is a significant irreversible environmental change that would occur as a result of project implementation. Because no significant mineral resources were identified within the project limits, no significant impacts related to this issue would result from development of the project site. Natural resources in the form of construction materials would be utilized in the construction of the proposed WLC project and energy resources in the form of electricity and natural gas would be used during the long-term operation of the project; however, their use is not expected to result in a negative impact related to the availability of these resources. Existing scenic vistas were identified as being visible from the project limits. Implementation of the proposed WLC project would result in the obstruction of views of the Badlands, Russell Mountains and Mystic Lake/San Jacinto Wildlife Preserve from the nearest sensitive visual receptors and those traveling along roadways in the project vicinity. This is a significant and irreversible environmental change that would occur as a result of project implementation. Cumulatively, future development along SR-60 would also result in the obstruction of the existing views of surrounding mountains and visual features.

In addition, this logistics warehouse project, in concert with the other built or approved industrial warehouse projects to the north and west, will fundamentally change the character and land use pattern of this portion of the City. Many of the project-specific impacts are addressed, as outlined above, but the land use change represented by this and other industrial projects represents a substantial irreversible change in community character for this area.

5.3 GROWTH-INDUCING IMPACTS

The project area is largely vacant undeveloped land, although there are seven existing single-family homes in various locations on the proposed WLC project site along with associated ranch/farm buildings. The site has been farmed since the early 1900s and has supported dry (non-irrigated) farming, livestock grazing, and limited citrus groves. Much of the site continues to be used for dry farming.

The northern side of the proposed WLC project site abuts SR-60 and the eastern side abuts Gilman Hot Springs Road. Additionally, the southwestern portion of the project site is adjacent to existing single-family residential uses at the intersection of Redlands Boulevard and Alessandro Boulevard. With implementation of the General Plan Amendment and new Specific Plan, the project has the potential to induce or create conditions that would accelerate development of vacant parcels in the surrounding area from the creation of new employment opportunities and increasing the demand for goods and services.

The City's population has grown steadily over the past decades. Population projections developed by SCAG estimate the City's population will reach approximately 213,700 persons by the year 2020 and approximately 255,200 persons by the year 2035. The extent to which the new jobs created by a project are filled by existing residents is a factor that tends to reduce the growth-inducing effect of a project. Construction of the proposed WLC project will create short-term construction jobs. These short-term positions are anticipated to be filled by workers who, for the most part, reside in the project area; therefore, construction of the proposed WLC project will not generate a permanent increase in population within the project area. Development envisioned under the proposed Specific Plan consists of approximately 41.6 million square feet of logistics warehouse and general warehouse facilities.

Development of the proposed high-cube logistics warehouse and general warehouse facilities will create jobs in the local economy. It is estimated that the WLCSP project would result in approximately 29,500 new jobs (24,960 on-site jobs plus 4,540 direct/induced jobs). The new employment opportunities resulting from development of the proposed high-cube logistics warehouse and general warehouse uses will raise the City's current jobs-to-housing ratio by providing additional jobs to local residents. While the place of residence of the persons accepting employment provided by the proposed uses is uncertain, due to the City's projected jobs/housing ratio, it is reasonable to assume and therefore expect that a large percentage of these jobs would be filled by persons already living within the City or project area. The project does not include a residential component. The proposed WLC project is located within an area that is currently largely vacant and planned for mix of residential, commercial, business park, and open space land uses in accordance with the General Plan Community Development Element. The proposed WLC project includes a General Plan Amendment to change the existing mix of land use designations to Logistics Development and Light Logistics. Therefore, no significant increase in population of the City would result from the development or operation of the proposed WLC project.

The *Fiscal and Economic Impact Study World Logistics Center Moreno Valley, California* ("Study," DTA 2012) estimates that approximately 9,079 indirect/induced jobs will be created in the County, of which 4,540 jobs are projected to be within the City as a result of project implementation. While the specific location of the potential additional indirect/induced jobs created within the County cannot be specifically determined, it is reasonable to assume that a large percentage of these jobs will be support service jobs and are likely to be located in the proposed WLC project vicinity, and therefore the City. As detailed in the Study, total recurring revenues available to the City are estimated at approximately $11,099,672 per year. The greatest percentage of revenue is attributed to the Property Tax In-Lieu of Vehicle License Fee (41.77%), followed by Secured Property Tax (23.51%), and Business Receipts Tax and Licenses (13.41%). Total recurring costs to the City are estimated at approximately $5,453,848 per year. The greatest percentage of cost is attributed to the Police Services (44.89%), followed by Infrastructure and Parks Maintenance Costs (19.26%), and Fire Services (16.66%).

Project recurring annual fiscal surplus that would be available to the City is estimated at $5,645,825, which is equal to 2.04 times the project annual City General Fund costs.

The project proposes to eliminate the potential for 7,700 units of residential housing planned under the Moreno Highlands Specific Plan, although this anticipated change is already included in the City's

current Housing Element which has been certified by HCD. This change would incrementally reduce the population and housing growth potential for this property from that projected in the current SCAG regional growth forecast. However, the project would add 41.6 million square feet of logistics warehouse space in the eastern portion of the City. Since the City currently has a jobs-to-housing ratio lower than the region (i.e., SCAG region), it is likely that much of the employment that would be generated by this project can be accommodated by the City's existing workforce. In that way, the project is growth-inducing in terms of employment. Due to relatively high vacancy rates in the City, it is also likely that the housing needs of new employees that do not already live in the City (i.e., own or rent) could largely be accommodated by the City's existing housing stock. Therefore, the proposed WLC project would only produce modest (i.e., not significant) growth inducement within Moreno Valley.

As previously noted, the specific location of the additional indirect jobs created within the County cannot be specifically determined; however, it is likely that a large percentage of these jobs will be support service jobs and are likely to be located in the project vicinity. The Study assumes that one-half of these indirect jobs will be located within the City. The Study indicates that the creation of new jobs to the City will lead to more consumer spending by employees in existing retail establishments within the City, as well as new retail development that will be attracted to the City as a result of this spending. Job creation also results in increased tax revenues to the City through increased property taxes and sales taxes associated with development of the proposed WLC project. However, it is important to note that because of the difference in timing of the development of the various phases of the proposed WLC project, the number of employees summarized above will not be realized at the same time.

Development of the proposed WLC project is projected to create approximately 16,935 construction-related jobs within the City. Similar to recurring employment (i.e., permanent), it is likely that a large percentage of these jobs will be located in the general vicinity of the proposed WLC project and therefore within the City.

The proposed WLC project does not include a residential component; therefore, the jobs generated by the proposed WLC project would not need to support new households as a result of direct employment or indirect employment. Based on the potential increase in jobs (additional 24,642 jobs) within the City and no substantial increase in population as a result of the project, the City's jobs-to-housing ratio would improve from the existing (2010) ratio of 0.45 to 1.02, thus achieving a greater jobs-to-housing balance within the City. As development of the proposed WLC project is expected to occur over the course of many years, the jobs-to-housing ratio will not be significantly changed immediately. The City's current jobs-to-housing ratio is exceptionally low when compared to SCAG standards; therefore, the need for employment is immediate. A balance between jobs and housing within the City would have a positive impact by decreasing costs associated with commuting, traffic congestion, air pollution, and improves the standard of living. It also provides savings and a better quality of life to consumers in the operation and maintenance of automobiles, lessening commute times and saving to local public agencies in terms of the need to construct and maintain new road improvements.

Streets, water and sewer utilities, and municipal services would be extended to serve the proposed WLC project. The proposed WLC project will benefit other development projects in the project area, and therefore, could potentially induce additional business and job growth by removing an impediment to growth, such as a lack of basic infrastructure or services. However, the proposed WLC project is located proximate to other existing warehouse, commercial, and residential uses. Therefore, the project will not necessitate extension of major infrastructure and the project will not remove obstacles that will result in substantial population growth. The proposed WLC project does not warrant the expansion of existing utility (e.g., water and wastewater treatment) facilities, the development of the proposed WLC project would not induce growth in an area currently devoid of public improvements or promote the extension of infrastructure in a manner facilitating an uneven

pattern (e.g., leapfrog development) of development in the City. As the type and intensity of use proposed for the project site would be consistent once implementation of the General Plan Amendment and Zone Change take place, and because the improvements necessary for development of the site would not facilitate growth that has not been anticipated in the project area, no significant growth-inducing effect would occur, and no mitigation is required.

5.4 URBAN DECAY

A detailed analysis of potential employment and fiscal impacts of the project is provided in Section 4.13, *Population, Housing, and Employment*. This analysis concludes the proposed project is not expected to cause or contribute to any conditions of urban decay within the City of Moreno Valley.

5.5 ENERGY CONSUMPTION

A detailed analysis of energy consumption, according to Appendix F of the *CEQA Guidelines*, is included in Section 4.16, *Utilities and Service Systems*.

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6.0 ALTERNATIVES TO THE PROPOSED PROJECT

6.1 INTRODUCTION

An EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment. In compliance with *CEQA Guidelines* Section 15126.6(a), this Draft EIR must also describe "a range of reasonable alternatives to the project, or to the location of the project which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." The EIR need not consider every conceivable alternative; rather it must consider a reasonable range of potentially feasible alternatives to the project, or to the location of the project, which would avoid or substantially lessen significant effects of the project, even if "these alternatives would impede to some degree the attainment of the project objectives, or would be more costly" (CEQA *Guidelines Section* 15126.6(b)). The discussion of project alternatives must "include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." An EIR must evaluate a "No Project" alternative in order to allow decision-makers to compare the effect of approving the project to the effect of not approving the project.

The City of Moreno Valley (City), acting as the CEQA Lead Agency, is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. The range of alternatives addressed in an EIR is governed by a "rule of reason," which requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. Of the alternatives considered, the EIR need examine in detail only those the Lead Agency determines could feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. Per *CEQA Guidelines* Section 15364, "feasible" has been defined as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

6.1.1 Summary of the Proposed Project

The proposed World Logistics Center (WLC) project is generally located in the eastern portion of the City in northwestern Riverside County. The project site is immediately south of SR-60, between Redlands Boulevard and Gilman Springs Road (the easterly city limit), extending to the southerly city limit. Previously referenced Figure 1.1 in the *Executive Summary* depicts the location of the proposed project within the region and the City. The major roads that currently provide access to the project site are Redlands Boulevard, Theodore Street, Alessandro Boulevard, and Gilman Springs Road.

The overall project site covers 3,918 acres in the Rancho Belago area of the City of Moreno Valley. It includes 3,814 acres of land, which is the subject of various entitlements, plus 104 acres of adjacent unincorporated land affected by off-site improvements needed to support the proposed development. The proposed entitlements are summarized below.

A General Plan Amendment is proposed covering 3,914 acres, which redesignates approximately 71 percent of the project area (2,710 acres) for logistics warehousing including up to a maximum of 41.4 million square feet of "Logistics Development" and 200,000 square feet of warehousing-related uses classified as "Light Logistics." The remaining 29 percent of the project area (1,104 acres) will be designated for permanent open space and public facilities. The following elements of the General Plan are included in the proposed Amendment: Community Development (land use); Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and the General Plan Goals and Objectives.

A new Specific Plan will be adopted to govern development of the WLC for the 2,710 acres that will be governed by the Specific Plan. A separate zoning amendment will also be processed and adopted

to rezone 1,104 acres for open space and public facilities uses and to incorporate the Specific Plan into the City's Zoning Map.

In addition to the General Plan Amendment, Specific Plan, and Zone Change, the project includes a Tentative Parcel Map covering a 1,539-acre site (a portion of the property owned by the project applicant, Highland Fairview) within the project site. This subdivision map is for financing purposes only and will not confer any development rights to the property owner. The project includes pre-annexation zoning for an 85-acre parcel of land within the project area.

Finally, a Development Agreement between the City and Highland Fairview (the project applicant) is included as one of the project entitlements. The details of all the project entitlements are included in Section 3.4 of the EIR, *Project Characteristics*. The environmental impacts of all of these entitlements on the entire project area are addressed in this EIR and the accompanying technical reports and analyses.

The land owned by the California Department of Fish and Wildlife (CDFW; formerly California Department of Fish and Game [CDFG]) immediately south of the WLC Specific Plan property is utilized for dry farming agriculture and forms the northern end of the San Jacinto Wildlife Area (SJWA). The SJWA contains a wide diversity of birds and other wildlife in and around Mystic Lake. The project proposes an amendment to the General Plan to designate this area as Open Space from its current residential and industrial land use designations.

6.1.2 Project Objectives

The primary purposes of the proposed project are to 1) establish the 2,710–acre WLC Specific Plan land use designations and development standards that will direct the development of a world-class corporate park specifically designed to support the logistics warehouse and operational needs of large companies and corporate users; and 2) designate 1,084 acres of vacant land owned by the CDFW as Open Space in the City's General Plan to ensure the continued and intended purpose of the SJWA. The WLC Specific Plan outlines the following overall objectives for development proposed in the Specific Plan:

- Maximize employment opportunities within the City of Moreno Valley and surrounding communities by seeking to entitle one of the fastest-growing economic sectors in California.
- Create a high-quality regional logistics center to meet current market demands and to provide jobs for residents at a variety of income levels.
- Provide the land use designations and infrastructure plans necessary to support the City's Economic Development Action Plan.
- Create a major logistics center in Rancho Belago that takes advantage of the area's close proximity to various freeways and transportation corridors.
- Cluster logistics uses near efficient access points to the State highway system to reduce traffic congestion on surface streets and to reduce concomitant air pollutant emissions from vehicle sources.
- Establish design standards and development guidelines to ensure a consistent and attractive appearance throughout the entire project.
- Establish a master plan for the entire project area to ensure that the project is efficient and business-friendly to accommodate the next-generation of logistics buildings.
- Create a project that will provide a balanced approach to the City's fiscal viability, economic expansion, and environmental integrity.

- Provide the infrastructure improvements required to meet project needs in an efficient and cost-effective manner.
- Encourage new development consistent with regional and municipal service capabilities.
- Maximize employment opportunities within the City to improve the jobs/housing balance and help reduce long-term unemployment within the City.
- Provide thousands of construction job opportunities within the City during the project's buildout phase and help reduce short-term unemployment within the City.
- Provide appropriate transitions between on-site and off-site uses.

6.1.3 Summary of Proposed Project Significant Impacts

The analysis provided in Section 4.0 determined that, despite the implementation of mitigation measures, significant environmental impacts would result from the construction and operation of the proposed project. To satisfactorily provide the CEQA-mandated alternatives analysis, the alternatives considered must reduce any of the following project-related significant unavoidable impact(s):

- Aesthetics: Loss of views, scenic highways, and visual character;
- Agriculture: Loss of unique and locally important farmland;
- Air Quality: Short-term emissions of NO_2, PM_{10}, and $PM_{2.5}$ in excess of SCAQMD daily limits during construction;
- Air Quality: Long-term emissions of CO, VOC, NO_X, PM_{10}, and $PM_{2.5}$ resulting from increased vehicular trips and operation of the proposed on-site uses;
- Air Quality: Inconsistent with AQMP due to change in land uses from existing General Plan;
- Air Quality: Individual cancer risks in excess of 10 in 1 million for both on-site uses and on a cumulative basis in the surrounding region;
- Climate Change: Project contributions to cumulatively considerable greenhouse gas emissions in excess of recommended SCAQMD standard;
- Land Use: Impacts to onsite residences from adjacent warehouse development that cannot be effectively mitigated;
- Noise: On-site and off-site levels of project-related traffic noise cannot be feasibly mitigated with existing level of road and residential development; and
- Transportation: Project contributions to cumulatively considerable impacts to various extra-territorial facilities, various TUMF facilities, and State-controlled transportation facilities.

6.2 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD FOR DETAILED ANALYSIS

In determining an appropriate range of alternatives to be evaluated in the EIR, three possible alternatives were considered and rejected because they could not accomplish the basic objectives of the project as listed above or they were considered infeasible. Per the *CEQA Guidelines* (Section 15126.6(c)), factors that may be considered when addressing the feasibility of alternatives include failure to meet most of the stated project objectives, infeasibility, or inability to avoid significant environmental effects. The purpose of the proposed project is to establish the 2,710-acre WLC Specific Plan that will result in the development of 41.6 million square feet of high-cube logistics warehouse uses and designation of 1,085 acres of vacant land owned by CDFW as Open Space.

The proposed project would provide for and expand employment and revenue opportunities within the City.

The following development scenarios were considered and rejected as potential alternatives to implementation of the proposed project:

- All Residential Use Alternatives; and
- Mixed Use Alternatives that emphasize residential uses.

Based on Section 15126.6 of the *CEQA Guidelines*, these alternatives were rejected based on the criteria of not feasibly attaining most of the basic objectives of the project while reducing or avoiding any of the significant effects of the proposed project. The reason or reasons for not selecting each of the rejected alternatives are discussed below.

6.2.1 All Residential Uses

A number of residential uses, including very low density (2-acre or 5-acre lots) were considered prior to deciding on all warehousing uses, but it was concluded that any residential alternatives, or alternatives that emphasized residential uses, would further exacerbate the City's jobs/housing imbalance and did not meet any of the project goals. In addition, the City's Economic Strategy Plan excludes additional residential development in this area. For these reasons, all Residential Use Alternatives were rejected for further analysis. However, an evaluation of the largely residential Moreno Highlands Specific Plan (MHSP) was provided under the No Project/Existing General Plan alternative (see below).

6.2.2 Mixed Use Alternatives[1]

The EIR examines two Mixed Use Alternatives with varying amounts of residential and non-residential uses. The No Project-Existing General Plan Alternative is based on the approved mixed use MHSP. In addition, Alternative 3 (Mixed Use B) evaluates the impacts of substituting logistics warehouse uses for the non-residential uses currently included in the MHSP. After extensive evaluation, it was concluded that any reasonable combination of residential and non-residential uses (i.e., light industrial, business park, office, commercial) would result in impacts similar to those of the MHSP, Alternative 2 (mixed non-residential uses but no residential uses), or Alternative 3 (Moreno Highlands Specific Plan with logistics warehousing as the main non-residential use). For this reason, no other Mixed Use Alternatives were considered further in this analysis.

6.3 ALTERNATIVES ANALYSIS

6.3.1 Summary of Alternatives

The following alternatives have been identified and evaluated to provide decision-makers with a reasonable range of alternatives that would eliminate or reduce the impacts of the project. Factors considered in selecting the alternatives include site suitability, availability of infrastructure, other plans or regulatory limitations, economic viability, and whether the project proponent can reasonably acquire, control, or otherwise have access to the alternative site. An EIR need not consider an alternative whose impact cannot be reasonably ascertained and whose implementation is remote or speculative. In accordance with *CEQA Guidelines*, the alternatives considered in this EIR include those that 1) could accomplish most of the basic objectives of the project, 2) are reasonably feasible given the nature of the project and surrounding land uses, and 3) could avoid or substantially lessen

[1] Ones that are exclusively residential or ones that emphasize residential uses.

one or more of the significant effects of the project. An EIR need not consider an alternative if impacts cannot be reasonably ascertained and it implementation is remote or speculative. It should also be noted that alternatives proposed in the DEIR are theoretical and may never be developed even if approved. The following development scenarios have been identified as potential alternatives to implementation of the proposed project:

- No Project/No Build Alternative;
- No Project/Existing General Plan (Moreno Highlands Specific Plan);
- Alternative 1: Reduced Density (29 MSF or 30 percent less logistics warehousing);
- Alternative 2: Mixed Use A – Warehousing/Business Park/Office/Commercial;
- Alternative 3: Mixed Use B – MHSP with logistics warehousing; and
- Alternative Sites: Moving the project to some other available site.

Tables 6.A and 6.B summarize the alternatives. Table 6.C shows the current land use designations.

Table 6.A: Summary of Analyzed Alternatives

Project Alternative	Alternative Description
No Project/No Build ("baseline" conditions)	The proposed WLC Specific Plan would not be developed with 2,710 acres proposed for high-cube logistics warehouse. No development would occur and the majority of the site would remain in dry farming, with a small amount in rural residential uses.
No Project/Existing General Plan (Moreno Highlands Specific Plan)	This alternative would result in development of the project with the land uses currently shown in the City's General Plan. The City's General Plan currently designates the project area as a mix of residential, commercial, business park, and open space land uses. The approved 3,038-acre Moreno Highlands Specific Plan (MHSP) is a master planned, mixed-use community, consisting of up to 7,763 residential dwelling units on approximately 2,435 acres and approximately 603 acres of business, retail, institutional, and other uses. The 1,085 acres owned by the CDFW are currently designated as Residential, Public Facilities, and Open Space in the City's General Plan and would be designated as permanent Open Space under this alternative, similar to the proposed project.
Alternative 1 Reduced Density	This alternative would develop approximately 29 million square feet of logistics warehousing (approximately 30% less than under the proposed project) on the 2,710 acres of land under the Specific Plan, including 75 acres for open space. The 1,085 acres owned by the CDFW would be designated as Open Space in the City's General Plan, similar to the proposed project.
Alternative 2 Mixed Use A	This alternative would result in development of the entire property with a mix of 1,410 acres of logistics warehousing (22 million square feet), 1,000 acres of light manufacturing, assembly, or business park uses (20 million square feet), 50 acres of retail commercial uses (500,000 square feet), 100 acres of professional or medical office uses (1 million square feet), and 150 acres of open space. The 1,085 acres owned by the CDFW would be designated as Open Space in the City's General Plan, similar to the proposed project.
Alternative 3 Mixed Use B	This alternative would develop the project site similar to the land use plan of the MHSP but with 10 million square feet of logistics warehousing on the 603 acres proposed for business, retail, institutional, and other uses under the MHSP. The 1,085 acres owned by the CDFW would be designated as Open Space in the City's General Plan, similar to the proposed project.
Alternative Sites	This alternative would relocate development under the proposed project to another site in the surrounding region. This analysis included potential sites in nearby cities and several unincorporated sites in the general project area.

Table 6.B: Alternatives to the World Logistics Center Specific Plan

Alternative	Logistics Warehousing	Light Industrial	Retail Commercial	Office	Other
Proposed Project	2,635 acres 41.6 MSF (100%) 0.36 FAR	0 acres 0 SF	0 acres 0 SF	0 acres 0 SF	75 acres Open Space
No Project/No Build (baseline)	0 acres 0 SF (0%)	0 acres 0 SF	0 acres 0 SF	0 acres 0 SF	2,710 acres Agriculture
No Project/General Plan Moreno Highlands Specific Plan[1]	0 acres 0 SF (0%)	361 acres (BP)	106.5 acres 1.1 MSF (various) 0.23 FAR	0 acres 0 SF	1,359 acres Residential 7,283 units 1,212 acres Open Space and Public Facilities
Alternative 1 Reduced Density	2,635 acres 29 MSF (70%) 0.25 FAR	0 acres 0 SF	0 acres 0 SF	0 acres 0 SF	75 acres Open Space
Alternative 2 Mixed Use A	1,410 acres 22 MSF (53%) 0.36 FAR	1,000 acres 20 MSF 0.46 FAR	50 acres 0.5 MSF 0.23 FAR	100 acres 1.0 MSF 0.23 FAR	150 acres Open Space
Alternative 3 Mixed Use B[2]	603 acres 10 MSF (24%) 0.38 FAR	0 acres 0 SF	0 acres 0 SF	0 acres 0 SF	1,359 acres Residential 7,283 units 1,376 acres Open Space and Public Facilities
Alternative Sites	2,635 acres 41.6 MSF (100%) 0.36 FAR	0 acres 0 SF	0 acres 0 SF	0 acres 0 SF	0 acres 0 SF

FAR = Floor Area Ratio (gross) M = million SF = square feet MHSP = Moreno Highlands Specific Plan BP = business park

1 See Table 6.C below ("Other" includes public facilities, cemetery, open space, etc.).

2 Assumes residential land uses similar to MHSP but with logistics warehousing on land designated for non-residential uses ("Planned Business Center") under the Specific Plan.

Table 6.C: Moreno Highlands Specific Plan (Current Land Use Designations)

Land Use	Acreage
Residential Community	
Residential (7,283 du)	1,359.3
Parks and Open Space	701.9
Neighborhood Commercial	10.0
Cemetery	16.5
Public Facilities	347.7
Subtotal Residential	**2,435.5**
Planned Business Center	
Business Park	360.8
Mixed Use	80.5
Community Commercial	16.0
Parks and Open Space	77.9
Public Facilities	67.4
Subtotal Non-Residential	**602.6**
Project Total	**3,038**

MHSP adopted by City Council March 17, 1992.

6.3.2 Environmental Impacts That Are Similar to the Proposed Project

Eight of the seventeen environmental issues for all the alternatives considered would result in a similar level of impact when compared to the project. Rather than repeat a discussion of these non-significant impacts under each alternative, a summary of these impacts is presented below.

- Agricultural Resources
- Biological Resources
- Hydrology and Water Quality
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Land Use and Planning
- Mineral and Forestry Resources
- Public Services/Recreation

The level of impact associated with these topics would be similar if developed as proposed by the project or if developed with any of the alternatives. Where impacts related to any of these issues do differ among project alternatives, an appropriate discussion is provided for the respective alternative.

6.3.2.1 Agricultural and Forestry Resources

Development of any of the alternatives, with the exception of the Off-Site Alternative, would have similar agricultural-related impacts. The Moreno Valley General Plan policies and zoning designations support agriculture only as an interim use. No land in the City is designated solely for agricultural use or for agricultural preservation and no property within the City limits is located within a Williamson Act contract area. As such, no impacts related to Williamson Act land would occur with implementation of any of the alternatives. As identified in Sections 4.2.6.1 and 4.2.6.2 of the EIR, the development of the project site with urban uses would result in the conversion of State- and locally-designated Farmland (Unique Farmland and Farmland of Local Importance, respectively). Because no feasible mitigation measure is available to fully mitigate for the loss of State- and locally-designated Farmland, impacts associated with development of any of the on-site alternatives would remain significant and

unavoidable. Therefore, compared with the proposed project, all on-site alternatives would have a significant and unavoidable impact on agricultural resources.

There are no lands within the City of Moreno Valley designated as forest or forestland, according to the Fire and Resource Assessment Program mapping system maintained by the California Department of Forestry and Fire Protection. Therefore no impacts related to forestry resources would occur and no mitigation is required.

6.3.2.2 Biological Resources

All build alternatives would require site development resulting in the grading of the entire project site. According to the project biological report, the project area does not contain any wildlife movement corridors or linkages. The project biological report concluded that development of the project as proposed would not have any significant impact on wildlife movement in the area, and would not fragment habitat or adversely affect wildlife movement through the surrounding areas. Therefore, all on-site build alternatives would also similarly have a less than significant impact on wildlife movement and corridors.

While none of the identified special-status species (Table 4.4.E of the EIR) were observed or are believed to be present on the project site, it is possible that one or more of them, especially the listed birds, may utilize the SJWA on a seasonal or permanent basis. Based on available research and expected site conditions, the project and all on-site alternatives may create potentially significant impacts on wildlife, including listed species, from diesel particulate emissions and toxic air contaminants related to truck exhaust (although somewhat reduced by prevailing winds), increased roadkill on Gilman Springs Road and new roadkill on future local streets close to the SJWA, and increased indirect impacts from additional lighting and noise. No Federal or State endangered/ threatened species were detected on the project site during the focused biological resource surveys. However, it is likely that one or more endangered or threatened species or bird or other wildlife may be present on the SJWA property near the project site at various times of the year. With implementation of the recommended Mitigation Measures 4.4.6.1A through 4.4.6.1C, impacts to listed species will be reduced to less than significant levels for all on-site alternatives.

The project site is within the Stephen's Kangaroo Rat Habitat Conservation Plan (SKR HCP) Fee Area, but is not within a Stephen's Kangaroo Rat Core Area. Focused surveys for SKR are not required for this project as it lies within the SKR Fee Area; therefore, under the SKR HCP, only payment of a local mitigation fee is required.

The project area is located within the Reche Canyon/Badlands Area of the MSHCP. Development of the project area would not conflict with the conservation goals established by the MSHCP for Cell Group X or Cell Group E. In addition, no conflict from development would occur in relation to the Reche Canyon/Badlands Area Plan, the Area Plan Subunit 4, the Area Plan Subunit 3, Proposed Core 3, or Existing Core H. No development is proposed within the portion of the project area that lies within Cell Group D and the SJWA. This area is already owned by the State and managed by the CFDW. However, development that will be adjacent to the SJWA property may cause significant indirect impacts to species within the SJWA, which will require mitigation (i.e., designing an appropriate buffer along this "urban edge" will help minimize potential impacts on the SJWA). The project area is not adjacent to any Cores or Linkages identified in the MSHCP. However, it is adjacent to the SJWA and is subject to the project guidelines provided in MSHCP Section 6.1.4 (Guidelines Pertaining to the Urban/Wildlands Interface). Development occurring on the project site is also required to adhere to the Best Management Practices (BMPs) found in Appendix C of the MSHCP. The project site is not located within any Amphibian, Mammalian, or Special Linkage Areas identified by the MSHCP. The project site is in an area requiring burrowing owl surveys, is within the MSHCP Criteria Area Species Survey Area (CASSA), and is within the Narrow Endemic Plant Species Survey Area (NEPSSA); however, surveys performed for the site confirmed such plants do not exist on the

project site. From available information, potential indirect impacts to avian and other biological resources within Mystic Lake and the SJWA will be reduced to less than significant levels by the creation of a 250-foot on-site setback or buffer area in Mitigation Measure 4.4.6.1A, which will be in addition to the existing setback provided by the CDFW Conservation Buffer Area just south of the proposed development area.

The MSHCP and its Implementation Agreement contain a fee mitigation program pursuant to which local agencies collect development impact fees and remit such fees to the Riverside Conservation Authority (RCA). These fees are in turn used to acquire lands that are suitable for habitat preservation for species covered by the MSHCP. Payment of the local MSHCP mitigation fee will be required of the project and all on-site alternatives prior to the issuance of building permits. Participation in the MSHCP and contribution of MSHCP fees provides compensation for the loss of raptor foraging habitat due to approved projects. Typically, a project proponent would participate as outlined in the MSHCP, so that loss of raptor foraging habitat is typically considered to be less than significant and no mitigation is required.

The project is consistent with the major MSHCP requirements relative to core areas, criteria cells, threatened and endangered species. In addition, the project complies with the MSHCP guidelines for urban/wildland interface, riparian/riverine areas, or related buffers (with implementation of Mitigation Measure 4.4.6.1A). In addition, future development will be required to demonstrate that it is also consistent with all MSHCP requirements, including indirect impacts such as lighting, noise, and air pollution effects, which shall be implemented through adherence to Mitigation Measure 4.4.6.2A.

With implementation of Mitigation Measures 4.4.6.1A through 4.4.6.1C and 4.4.6.2A, potential impacts related to MSHCP consistency will be reduced to less than significant levels for all on-site alternatives.

One catch basin and portions of Drainage Feature 7 and 9 on the project site are considered riparian/ riverine areas, as defined by the MSHCP. If impacts to any of these areas cannot be avoided, a DBESP report and relevant mitigation will be required by the RCA for the project and all on-site alternatives. The project area does not contain habitat suitable for sensitive riparian species, such as least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. Additionally, no vernal pools or ephemeral ponds were observed on the project area and no suitable habitat for any fairy shrimp species was identified on site. The project area currently contains extensive raptor foraging habitat, which is considered a type of sensitive natural community. Impacts to the large amount of raptor foraging habitat is a significant impact that requires mitigation.

The project may have a potentially significant indirect impact on Mystic Lake from diesel fuel emissions and nitrogen deposition. However, it is anticipated that indirect impacts from diesel fuel emissions and nitrogen deposition would be reduced under all other alternatives as each would result in a reduction in the number of diesel trucks and resultant diesel emissions.

The 2012 Jurisdictional Delineation contained in the DEIR determined that the on-site drainages were not under the jurisdiction of the U.S. Army Corps of Engineers, but one or more may be under the jurisdiction of the California Department of Fish and Wildlife. Therefore, Mitigation Measure 4.4.6.3A will ensure there will be no significant impacts to riparian areas associated with Waters of the U.S. or Waters of the State as a result of future development within the project. With implementation of Mitigation Measures 4.4.6.1A through 4.4.6.1D, and 4.4.6.3A and 4.4.6.3B, potential impacts to riparian habitat or other sensitive natural communities, including on-site drainages, will be reduced to less than significant levels for all on-site alternatives.

No USFWS designated Critical Habitat for any species is located within the project area; therefore, no further action with regard to Critical Habitat is necessary. Extensive surveys were completed in 2005

and 2010 and concluded that Los Angeles pocket mouse was not present. However, to ensure that no impacts occur, Mitigation Measure 4.4.6.4E has been recommended.

For those species that are not covered by the take and incidental take provisions of the MSHCP (e.g., burrowing owl), the MSHCP requirements dictate that further protective action be taken. While no burrowing owls were identified within the project's proposed area of disturbance, because suitable habitat is present within the project area for the burrowing owl and because the species is highly mobile, a potential exists that, at some future date prior to project development, this species may occupy the development sites. This is a potentially significant impact requiring mitigation. Implementation of Mitigation Measures 4.4.6.4A through 4.4.6.4E would reduce impacts to burrowing owl and migratory bird species, and Los Angeles pocket mouse to less than significant levels for all on-site alternatives.

The only substantial differences among the built alternatives and the No Project/Existing General Plan (Moreno Highlands Specific Plan) is that any residential uses proximate to the San Jacinto Wildlife Area may incrementally increase adverse impacts by introducing domestic dogs and cats into the area that might prey on native wildlife.

6.3.2.3 Cultural Resources

Development of any of the identified build alternatives would result in extensive ground-disturbing activities affecting the entire project site, and similar cultural resource impacts would be anticipated when compared to the proposed project. There is no evidence to suggest that the project site has ever been utilized for human burials. In the unlikely event that human remains are discovered during grading or construction activities within the project site, compliance with State law (Health and Safety Code § 7050.5) (HSC § 7050.5) would be required. Compliance with existing State law would ensure that impacts related to the discovery of buried human remains would be less than significant and no mitigation is required. The *Cultural Resources Assessment* prepared for the proposed project concluded that it is possible that unknown cultural resources could be discovered during project-related construction. Adherence to Mitigation Measures 4.5.6.1A through 4.5.6.1E will reduce potential impacts to archaeological resources to less than significant levels for all on-site alternatives.

Mitigation Measure 4.5.6.1A requires surveying the seven occupied residential parcels for archaeological resources since these properties could not be surveyed at the time the EIR was prepared. These surveys will identify the potential for significant historical resources on these properties. In addition, Mitigation Measure 4.5.6.2A will further reduce the potential impacts of the project on historical resources for all on-site alternatives.

As described in the *Paleontological Resources Assessment*, no paleontological resources were observed during the field survey. However, the project site is considered to have a moderate paleontological sensitivity; therefore, impacts are considered potentially significant and mitigation is required. Adherence to Mitigation Measures 4.5.6.3A and 4.5.6.3B will reduce potential impacts to paleontological resources to less than significant levels for all on-site alternatives.

6.3.2.4 Geology and Soils

Development of any of the on-site build alternatives would have similar geologic and soil-related impacts. Although no active faulting was observed, some local discontinuous fracturing was observed and documented. The A-P Earthquake Fault Zone is located on the eastern border of the project site (refer to Figure 4.6.1 of the EIR). Adherence to Mitigation Measures 4.6.6.1A through 4.6.6.1C, as well as other requirements identified and required by the City, will ensure fault rupture hazards are reduced to a less than significant level for all on-site alternatives.

The level of potential ground motion is considered moderate to high in the City of Moreno Valley and, therefore, in the project area. In accordance with the City's General Plan Safety Element (Objective 6.1),[1] project development, as well as alternatives, will require geological and geotechnical investigations by State-licensed professionals. The geotechnical investigations will provide design considerations and earthwork recommendations to ensure that ground shaking impacts are appropriately mitigated. In addition, California Code of Regulations (CCR), Title 24, also known as the California Building Standards Code, contains building design and construction requirements relating to fire and life safety, and structural safety. The California Building Code (CBC) also includes standards designed to ensure that structures within California are built to withstand expected levels of seismic activity for each earthquake region throughout the State. Adherence to Mitigation Measure 4.6.6.2A, as well as other requirements identified and required by the City, will ensure ground shaking hazards are reduced to a less than significant level for all on-site alternatives.

On-site soils are identified as having a moderate to low shrink-swell potential. Implementation of Mitigation Measures 4.6.6.3A through 4.6.6.3D, and adherence to actions identified in subsequent geotechnical investigations, as well as other requirements identified and required by the City, will ensure that the potential impact from expansive soils are reduced to a less than significant level for all on-site alternatives.

A large older landslide has been mapped primarily off site on the northeasterly flanks of Mount Russell, near the southwest portion of the property. The landslide appears to have originated on the higher slopes off site and moved northeast, partially onto the subject property. The Specific Plan designates 75 acres in the southwestern portion of the property as open space. This 75 acres includes the steepest slopes on site (i.e., the Mount Russell foothills), which will reduce the potential for significant landslide or rockfall impacts on the project to less than significant levels; therefore, no mitigation is needed. Because this condition exists, it is anticipated that all other on-site alternatives would also restrict development within this area resulting in a less than significant impact, similar to the proposed project.

Development of the site would require the movement of on-site soils. Portions of the site have been and are being used for dry farming, and several rural residences are present. Prior to the issuance of grading permits, the project proponent will be required to prepare and submit detailed grading plans as each phase is developed. These plans will be prepared in conformance with applicable standards of the City's Grading Ordinance. Soils covering the project site have a slight-to-high erosion hazard potential and because the project would be required to adhere to the City's Grading Ordinance, obtain an NPDES Permit, prepare an SWPPP and a WQMP, construction and operational impacts associated with soil erosion hazards are considered to be less than significant for all on-site alternatives, and no mitigation is required.

Septic tanks would not be used under any of the on-site alternatives as existing sewer infrastructure is readily available to serve any on-site development.

None of the on-site alternatives propose any activity known to cause damage by subsidence (e.g., oil, gas, or groundwater extraction). The project site is underlain by relatively dense alluvial and dense sedimentary bedrock materials at depth and the potential for settlement is considered low. Because the project site does not exhibit characteristics of a high potential for subsidence or settlement, impacts are considered less than significant. No mitigation is required.

The potential for liquefaction generally occurs during strong ground shaking within relatively cohesionless loose sediments where the groundwater is typically less than 50 feet below the surface. Because the project site does not exhibit characteristics of a high potential for liquefaction induced

[1] Moreno Valley General Plan, Chapter 9 Goals and Objectives, pg. 9-30.

settlement (i.e., relatively dense soils with groundwater levels in excess of 100 feet), impacts are considered less than significant for all on-site alternatives. No mitigation is required.

6.3.2.5 Hazards/Hazardous Materials

Development of the any of the on-site build alternatives would result in the on-site handling of hazardous substances, both during project construction and operation. It is assumed that, like any current use, these substances would continue to be used in accordance with applicable local, State, and Federal standards. There are no existing or proposed schools within a quarter mile of the proposed project site and the site is not identified on the DTSC's hazardous materials sites. Air traffic-related hazards would not occur at the proposed project site as it is not located within the safety hazard zones of March Air Reserve Base.

A portion of the project area is mapped as a very high fire hazard area, while the Badlands directly east of the project area are considered a High Fire Hazard Area.[1] Development of the eastern portion of the project could expose persons or property to wildland fire risks given the designation of a portion of the project area as a Very High Fire Hazard Area. Regardless of these designations, all new structures in the project area must be constructed in compliance with Title 24 of the California Code of Regulations to safeguard life and property from fire hazards, including the installation of automated fire suppression systems. Compliance with these standards would be enforced during building permit review and the construction inspection period for all on-site alternatives. Given the proximity of Station #58 and with all new structures constructed in compliance with Fire and Building Code regulations, the susceptibility and exposure of the project to wildland fires would be limited. The Specific Plan addresses potential impacts related to future fire protection services for this area by including a new fire station site. Implementation of these measures will help reduce potential wildland fire risks to a less than significant level, and no additional mitigation is required.

All on-site alternatives will be designed, constructed, and maintained in accordance with applicable standards associated with vehicular access, ensuring that adequate emergency access and evacuation will be provided. Construction activities that may temporarily restrict vehicular traffic would be required to implement appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Compliance with existing regulations for emergency access and evacuation will ensure that impacts related to this issue are less than significant, and no mitigation is required.

Due to the suspected age of the rural residential structures on the site, it is possible that demolition of these structures may involve asbestos-containing materials (ACMs) and/or lead-based paint (LBP). Demolition of these structures may need to be supervised or conducted by contractors certified to remove and dispose of ACMs and/or LBP.

In addition, Alternatives 1, 2, and 3 include a liquefied natural gas/compressed natural gas (LNG/CNG) fueling station to be constructed somewhere in the Logistics Development (LD) land use area. This LNG/CNG facility is referred to as Logistics Support (LS) in the WLC Specific Plan. It would sell natural gas to fuel vehicles serving or visiting the project. This facility is not proposed under the No Project/No Build Alternative or the No Project/Existing General Plan Alternative. Since this facility would store natural gas under liquefied and/or compressed conditions, there is a potential for fire and/or explosion, creating a potentially significant hazards impact requiring mitigation.

With implementation of Mitigation Measures 4.8.6.1A and 4.8.6.1B, impacts associated with potential hazardous materials in existing rural residential structures (all on-site alternatives) or from the proposed fueling facility will be reduced to less than significant levels for Alternatives 1, 2, and 3.

[1] Letters from Fire Chief dated May 4 and June 27, 2011, and City of Moreno Valley General Plan, Final Program EIR, Section 5.5 Hazards, Figure 5.5-2.

6.3.2.6 Hydrology and Water Quality

As with the proposed project, the development of any of the on-site alternatives would require the modification of the existing on-site pattern of drainage and would require the installation of drainage improvements that may include on-site collection/routing pipes, landscaped swales, sand filters, and porous pavement features.[1] While the extent of the impermeable surfaces (rooftops, driveways, parking areas, etc.) required under each alternative is reduced from that required for the proposed project, the environmental impact of these improvements would be similar. All local, State, and Federal policies and regulations pertaining to surface water and groundwater resources would remain in effect under these alternatives. Sedimentation and erosion from any on-site development has the potential to affect water quality. Similar to the proposed project, the construction of any on-site use would be required to follow applicable NPDES requirements, including the preparation of and adherence to an SWPPP and BMPs.[2] These requirements have been incorporated as Mitigation Measures 4.9.6.1A through 4.9.6.1C (refer to Section 4.9.6.1 of the EIR) and Mitigation Measures 4.9.6.2A through 4.9.6.2C (refer to Section 4.9.6.2 of the EIR). As with the proposed project, runoff from paved surfaces, especially during "first-flush" events, may be contaminated by sediment, debris, and other contaminants. A standard condition with any such development would be preparation and implementation of a Water Quality Management Plan, which would effectively mitigate post-construction water quality impacts from the developed area. This requirement has been incorporated as Mitigation Measure 4.9.6.2A (refer to Section 4.9.6.2 of the EIR). The project site is not identified as a groundwater recharge area, so none of the on-site alternatives would interfere with groundwater recharge. Anticipated on-site flows would be routed to the onsite and off-site water quality features such as vegetated swales, clarifiers, and sand filters to protect downstream water quality.

New development is required to maintain off-site flows to below or equal to pre-development conditions, and this is incorporated as Mitigation Measure 4.9.6.1A (refer to Section 4.9.6.1). The project site is not located within a flood zone and the project site is not susceptible to mudslides, tsunamis, seiches, or flooding as a result of dam or levee failure. Similar to the proposed project, potential impacts related to hydrology and water quality would be less than significant for all on-site alternatives.

6.3.2.7 Land Use and Planning

Like the proposed project, these alternatives would comply with applicable provisions of local and regional plans (e.g., Water Quality Control Plan and Air Quality Management Plan). However, the proposed project was not included as part of the 2007 AQMP and is considered to not be consistent with the AQMP. This is a significant and unavoidable impact. Compliance with applicable City policies related to development within the project site would ensure that on-site alternative uses would be compatible with existing development in the project area. Land use impacts associated with less intense alternatives may have less impacts on existing onsite land uses compared to the proposed project, depending on the types of uses proposed.

6.3.2.8 Mineral Resources

There are no lands within the City of Moreno Valley designated by the California Department of Conservation as known significant resource areas, defined by the state as Mineral Resources Zone 2 areas. As identified in the City's General Plan, lands within the City of Moreno Valley and its Sphere of Influence are designated MRZ-3 and MRZ-4 zones, which are not defined as significant mineral resource areas. Development of the project site with any build alternatives would not result in the loss of or reduce the availability of mineral resources or the resource base from which they would be

[1] *Draft Master Plan of Drainage Report for World Logistics Center Specific Plan and Environmental Impact Import,* CH2MHILL, November 2012.
[2] *Preliminary Water Quality Management Plan for World Logistics Center Specific Plan,* CH2MHILL, November 2012.

derived. Compared with the proposed project, no greater impact would occur for any of the on-site project build alternatives.

6.3.2.9 Public Services/Recreation

As with the proposed project, none of the build alternatives would include a residential component (with the exception of the No Project/Existing General Plan Alternative) and potential jobs generated by the build alternatives would be filled to some degree by people already residing in the City, similar to the proposed project. Therefore, there would be no increase in existing population and no increase in demand for park and recreation facilities resulting from development of Alternatives 1 or 2. Alternative 3 would have increased population from new housing under the MHSP land use plan; it would also have parks to serve those new residents. Because no increase in demand for City recreational facilities would occur, impacts associated with recreation for any of the build alternatives would be similar in magnitude as the proposed project. Compared with the proposed project, no greater impact would occur for any of the project build alternatives.

6.3.3 Description and Impact Analysis of Alternatives

The following discussion compares the impacts of each alternative with the impacts of the proposed project, as detailed in Section 4.0 of this EIR. A conclusion is provided as to whether each alternative would result in one of the following:

- Reduction or elimination of the impact;
- A greater impact than the project;
- The same impact as the project; or
- A new impact in addition to the impacts of the proposed project impacts.

6.3.4 No Project/No Build Alternative

Under the No Build Alternative, no development would take place within the project limits. No ground-disturbing activities would take place, nor would any form of structure or facility be erected. Impacts associated with this alternative, when compared to the proposed project, would not occur. In the absence of development, no impacts would occur and this alternative would be the environmentally superior alternative. However, prohibiting development of the site, as suggested by this alternative, would not fulfill any of the primary objectives of the proposed project. Retention of the project site in its current condition would not create a high cube logistics facility consisting of approximately 2,710 acres of high-cube warehouse uses and it would not expand employment opportunities within the City and surrounding area. This alternative provides a baseline comparison to the proposed project.

Impact Analysis. The No Project/No Build Alternative would not result in any new physical environmental effects. However, this alternative would not meet any of the project objectives as identified in Table 6.D.

Table 6.D: Comparison of No Project/No Build Alternative to the Project Objectives

Project Objectives	Does the Alternative Meet the Project Objectives?
Maximize employment opportunities within the City of Moreno Valley and surrounding communities by seeking to entitle one of the fastest-growing economic sectors in California.	No

Table 6.D: Comparison of No Project/No Build Alternative to the Project Objectives

Project Objectives	Does the Alternative Meet the Project Objectives?
Create a high-quality regional logistics center to meet current market demands and to provide jobs for residents at a variety of income levels.	No
Provide the land use designations and infrastructure plans necessary to support the City's Economic Development Action Plan.	No
Create a major logistics center in Rancho Belago that takes advantage of the area's close proximity to various freeways and transportation corridors.	No
Cluster logistics uses near efficient access points to the state highway system to reduce traffic congestion on surface streets and to reduce related air pollutant emissions from vehicle sources.	No
Establish design standards and development guidelines to ensure a consistent and attractive appearance throughout the entire project.	No
Establish a master plan for the entire project area to ensure that the project is efficient and business-friendly, accommodating the next-generation of logistics buildings.	No
Create a project that will provide a balanced approach to the City's fiscal viability, economic expansion, and environmental integrity.	No
Provide the infrastructure improvements required to meet project needs in an efficient and cost-effective manner.	No
Encourage new development consistent with regional and municipal service capabilities.	No
Maximize employment opportunities within the City to improve the jobs/housing balance and help reduce systemic unemployment within the City.	No
Provide thousands of construction job opportunities during the project's buildout phase to improve the jobs/housing balance and help reduce systemic unemployment.	No
Provide appropriate transitions or setbacks between on-site and off-site uses.	No

6.3.5 No Project/Existing General Plan Alternative

Pursuant to CEQA (§15126.6[e][2]), the No Project Alternative should discuss what would reasonably be expected to occur, based on current plans and consistent with available infrastructure and community services, in the foreseeable future. It is reasonable in the event the proposed project were not approved, the site would be developed in accordance with the existing General Plan land uses in the future.

The No Project/Existing General Plan Alternative would result in development of the project with the land uses currently shown in the City's General Plan. The City's General Plan currently designates the project area as a mix of residential, commercial, business park, and open space land uses in accordance with the MHSP. The approved 3,038-acre MHSP is a master planned, mixed-use community, consisting of up to 7,763 residential dwelling units on approximately 2,435 acres and approximately 603 acres of business, retail, institutional, and other uses. The 1,085 acres owned by the CDFW are currently designated as Residential, Public Facilities, and Open Space in the City's General Plan and the property would remain with these designations as part of this alternative, but it is unlikely that this area would be developed as it is owned by the CDFW.

The following impact analysis for this alternative evaluates the same seventeen environmental topics addressed for the proposed project as contained in Section 4.0 of this EIR.

Impact Analysis. Eight environmental issues would have impacts similar to those identified for the proposed project. These include the following:

- Agricultural and Forestry Resources
- Cultural Resources
- Biological Resources
- Geology and Soils
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Recreation

Impacts associated with these topics would be similar to the proposed project because development of the site under the No Project/Existing General Plan Alternative would result in a similar footprint of development. For this reason, impacts to these land-oriented impact topics would be similar resulting in the same level of impact. The remaining environmental issues would, in some cases, result in similar impacts, but would be different enough to be discussed separately.

Aesthetics: The No Project/Existing General Plan Alternative would introduce a variety of residential and non-residential buildings on the site that would be much lower in height than the proposed WLC project in conformance with City Development Code standards. As a result, views of surrounding uplands from adjacent roadways (e.g., Redlands Boulevard, SR-60, and Gilman Springs Road) would not be blocked and aesthetic impacts would likely be less than significant, subject to architectural and design review of actual proposed buildings in the future. Development under this alternative would reduce potential aesthetic impacts to less than significant levels.

Air Quality: The No Project/Existing General Plan Alternative would require site grading and construction similar to that required of the proposed project. As identified in Section 4.3 of this EIR, short-term construction emission impacts associated with construction activities on the project site were significant and unavoidable for all criteria pollutants with the exception of SO_X. Since the No Project/Existing General Plan Alternative would require that the same amount of land be graded, it would require similar grading and construction activities on site. Therefore, it is reasonable to anticipate that short-term construction emission impacts would also be significant and unavoidable for all criteria pollutants, with the exception of SO_X, under this alternative. Air quality impacts associated with the remaining criteria pollutants would significant and unavoidable with this alternative, similar to what was identified for the proposed project.

Under the No Project/Existing General Plan Alternative, the site would be developed with approximately 361 acres of business park uses, 106.5 acres of professional/medical office uses, and up to 7,283 residential units on 1,359 acres. Approximately 1,212 acres of open space uses as would be established under the existing zoning and land use designations. Based on these land uses, the No Project/Existing General Plan Alternative would generate approximately 178,608 daily vehicle trips. The total trip generation associated with this alternative is approximately 2.5 times higher than that identified for the proposed project.

The volume of each operational pollutant emitted during operation of this alternative would be correspondingly decreased due the absence of a logistics warehouse component. However, similar to the proposed project, the traffic increase under this alternative contributes to significant and unavoidable emissions of CO, VOC, NO_x, PM_{10}, and $PM_{2.5}$ based on SCAQMD daily standards. Therefore, this alternative would also have significant and unavoidable impacts on local air quality. The long-term air quality impacts resulting from this alternative would still contribute criteria pollutants to an air basin that is in nonattainment for these criteria pollutants, similar to the proposed project. As identified in Table 6.E, long-term operational air pollutant emissions associated with the No Project/Existing General Plan Alternative would exceed SCAQMD emissions thresholds for all criteria pollutants, with the exception of SO_X.

When compared with the proposed project, air quality impacts associated with the No Project/Existing General Plan Alternative would be correspondingly decreased in magnitude. Similar to the proposed project, the generation of these emissions would still result in a cumulative contribution of air pollutants in a nonattainment basin; therefore, impacts remain significant and unavoidable.

Table 6.E: No Project/Existing General Plan Alternative Operational Emissions

Source	Pollutant Emissions, lbs/day					
	CO	VOC	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Proposed Project[1]	3,466	729	3,059	21	1,685	153
No Project/Existing General Plan[2]	4,853	1,114	1072	14	1,231	86
Net Change	+1,387	+385	-1,987	-7	-454	-67
SCAQMD thresholds	**550**	**55**	**55**	**150**	**150**	**55**
Alternative exceeds thresholds?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

Source: MBA 2013
1 MBA 2013 Air Quality Assessment for the proposed project
2 From Moreno Highlands Specific Plan updated by MBA using CalEEMod software

Global Climate Change: GHG emissions associated with the No Project/Existing General Plan Alternative are correspondingly decreased as this alternative does not include a logistics warehouse component. In addition, the No Project/Existing General Plan Alternative would decrease the amount of water utilized and wastewater generated. As identified in Table 6.F, the No Project/Existing General Plan Alternative would generate 228,719 metric tons of total CO_2 equivalent[1] (mt CO_2e), which is approximately 60 percent less than what was identified for the proposed project.

Table 6.F: Comparison of Greenhouse Gas Emissions

Type of Development	Annual $MTCO_2e$ Emissions	Change
Proposed Project	665,321	100%
No Project/No Build[1]	—	0%
No Project/Existing General Plan[2]	228,719	35%
Alternative 1: Reduced Density	465,725	70%
Alternative 2: Mixed Use A	794,828	120%
Alternative 3: Mixed Use B	318,808	48%
Alternative Sites	665,321	100%

$MTCO_2e$ is metric tons of carbon dioxide equivalents, which is a standard unit of measure for greenhouse gases.
1 Estimated based on existing on-site rural residential uses.
2 Based on approved Moreno Highland Specific Plan.
Source: MBA 2013 project air quality study, alternatives analysis (see Appendix D).

Hazards and Hazardous Materials: Development of the No Project/Existing General Plan Alternative would still result in the on-site handling of hazardous substances, both during project construction and operation. It is reasonable to assume that, like any current use, these substances would continue to be used in accordance with applicable local, State, and Federal standards. Impacts associated with the transport or use of hazardous materials or potential upsets or accidents would not be increased in magnitude because the intensity of development is still below what is envisioned under the proposed project. Therefore, it is not expected that increased quantities of hazardous materials would be present on site. With the adherence to existing hazardous materials regulations,

1 Carbon dioxide equivalent (CO_2e) is an internationally accepted measure that expresses the amount of other greenhouse gases (e.g., methane and nitrous oxide) in terms of the amount of carbon dioxide (CO_2). The CO_2e measure is used as a way to measure the warming potential of a greenhouse gas as compared to CO_2, which has the highest global warming potential.

impacts associated with hazards and hazardous materials under the No Project/Existing General Plan Alternative would remain less than significant.

Under this alternative, a liquefied natural gas/compressed natural gas (LNG/CNG) fueling station would not be constructed on the site, so there would be no potential for fire and/or explosion involving natural gas. Therefore, this impact is reduced from that identified under the proposed project.

Noise: The No Project/Existing General Plan Alternative would result in the construction of a mix of residential, commercial, business park, and open space land uses in accordance with the MHSP. As identified in Section 4.12 of this EIR, short-term construction noise impacts associated with the development of the project site were significant and unavoidable for both on-site and off-site uses. Since the No Project/Existing General Plan Alternative would require similar site development during construction, short-term construction noise impacts would also be significant and unavoidable and similar in magnitude compared to the proposed project. The decrease in project-related traffic under the No Project/Existing General Plan Alternative would result in an incremental decrease in traffic noise. When compared to the proposed project, noise impacts associated with the No Project/Existing General Plan Alternative would be reduced in magnitude as there would be a reduction in vehicles. However, impacts would remain significant and unavoidable as some noise would still be generated under this alternative and there is no feasible mitigation to reduce noise impacts.

Population and Housing: The No Project/Existing General Plan Alternative would result in the development of up to 7,763 residential dwelling units on approximately 2,435 acres and approximately 603 acres of business, retail, institutional, and other uses. Based on the California Department of Finance Population and Housing Estimates,[1] the City of Moreno Valley is estimated to have approximately 3.783 persons per household. Based on this figure, the construction of up to 7,763 residential dwelling units is projected to increase the City's population by approximately 29,367 persons resulting in a direct population increase in the City. This level of population growth is not accounted for with the proposed project and potential impacts related to population growth are greater than that identified for the proposed project. Construction of the development envisioned under this alternative would create temporary construction jobs, and some portion of these jobs would be likely filled by people already residing within the City. Utilizing an employment factor of one employee for every 629 square feet of commercial retail/service space,[2] the No Project/Existing General Plan Alternative is anticipated to generate approximately 1,749 commercial service jobs.[3] Utilizing an employment factor of one employee for every 1,548 square feet of business park (light industrial) space,[4] the No Project/Existing General Plan Alternative is anticipated to generate approximately 5,103 business park jobs.[5] Under this alternative, additional jobs would be generated by the introduction of commercial retail/service uses (addition of 1,749 jobs) and business park uses (addition of 5,103). When this alternative is compared to the proposed project, the number of new jobs in the City would be a 73 percent decrease from the proposed project (6,852 jobs opposed to 24,960 jobs).

The No Project/Existing General Plan Alternative would result in a decreased number of jobs created from the development of commercial retail/service and business park uses. However, a large influx of new residents to the City is anticipated due to the construction of up to 7,763 residential dwelling units envisioned by this alternative. The project would not directly affect population growth as compared with new residential development, because it is not creating homes. While the proposed project would generate employment opportunities, the jobs created are not expected to induce substantial growth in

1 State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011 and 2012, with 2010 Benchmark.* Sacramento, California, May 2012.

2 *Table IIB Average Number Employee per Square Foot, Employment Density Report*, Southern California Association of Governments, Natelson Company, Inc, October 2001.

3 Utilizing 1 employee/629 square feet of service use × 1,100,000 square feet of commercial retail/service use = 1,749 jobs.

4 *Table IIB Average Number Employee per Square Foot, Employment Density Report*, Southern California Association of Governments, Natelson Company, Inc, October 2001.

5 1 employee/1,548 square feet of business park (light industrial) use × 7,900,000 square feet of service use = 5,103 jobs.

the City or region over and above the growth anticipated by the City's General Plan and the SCAG's regional growth forecasts. Population and housing impacts under this alternative would be greater in magnitude when compared to the proposed project. Therefore, impacts associated with this issue would be greater.

Public Services: Unlike the proposed project, demands on schools, parks, other public facilities, law enforcement, and fire protection services would be greater in magnitude as residential uses (impacts to schools and parks) are proposed under this alternative. Like the proposed project, development under this alternative would require payment of development impact fees for schools, police services, and fire services. The payment of development impact fees would offset any impacts to these public services that may result from the development of this alternative. Therefore, when compared to the proposed project, impacts associated with public services would remain less than significant with the payment of development impact fees.

Unlike the proposed project, the No Project/Existing General Plan Alternative proposes the construction of residential uses. Therefore, implementation of this alternative would result in an increase in existing population and a corresponding increase in demand for park and recreation facilities resulting from development. Because a potential increase in demand for recreational facilities would occur, impacts associated with recreation for this alternative would be greater in magnitude as compared to the proposed project.

Traffic: As indicated in Table 6.G, the No Project/Existing General Plan Alternative would generate approximately 178,608 daily vehicle trips. Compared to the proposed project, the No Project/Existing General Plan Alternative, which assumes development of existing General Plan uses, would result in an increase of 51 percent of daily traffic trips. It is reasonable to assume that an increase of 25 percent in traffic trips would increase traffic on local roadways and intersections. The increase in traffic may cause an existing intersection or roadway segment to operate at a deficient LOS. While significant traffic impacts may occur under this alternative, these impacts would be mitigated in a manner similar to those of the proposed project. However, despite the identification of mitigation measures, certain freeway segments and interchange improvements would not be under the jurisdiction of the City and cannot be guaranteed to be in place when development under this alternative would become operational. Therefore, when compared to the proposed project, traffic impacts would be greater due to the additional trip generation. However, the resulting impact significance would be similar and would remain significant and unavoidable until the improvements are in place.

Table 6.G: Comparison of Average Daily Trips

Type of Development	Average Daily Trips	Change
Proposed Project[1]	71,085	—
No Project/No Build	314	0.4%
No Project/Existing General Plan[2]	178,608	151%
Alternative 1: Reduced Density	50,047	70%
Alternative 2: Mixed Use A	208,988	194%
Alternative 3: Mixed Use B	80,187	113%
Alternative Sites	71,085	100%

[1] Based on WLC project traffic study by Parsons Brinckerhoff dated November 2012.
[2] Based on approved Moreno Highland Specific Plan.
Source: Parsons Brinckerhoff estimates based on project traffic study, January 2013 (see Appendix D).

Utilities and Service Systems: Existing utility infrastructure for storm water and wastewater is present in adjacent roadways or parcels. Like the proposed project, the applicant would connect to existing utility infrastructure subject to the terms and conditions of the City, EMWD, and RCFCWCD.

As indicated in Table 6.H, the No Project/Existing General Plan Alternative would generate approximately 2,820,940 gallons of wastewater per day, which is almost ten times the amount of wastewater that would be generated by the proposed project. Similar to the proposed project, development under this alternative would be required to pay infrastructure fees and obtain approval from the wastewater treatment provider that would ensure there is excess capacity for the wastewater that would be generated by the proposed development. Therefore, impacts related to wastewater and wastewater treatment would remain less than significant when compared to the proposed project.

Table 6.H: Comparison of Average Wastewater Generation

Type of Development	Gallons per day
Proposed Project	293,515
No Project/No Build	0
No Project/Existing General Plan (MHSP)	2,820,940
Alternative 1: Reduced Density	205,461
Alternative 2: Mixed Use A	1,830,000
Alternative 3: Mixed Use B	1,875,000
Alternative Sites	293,515

Source: EIR Section 16 and Sewage Generation Rates, Draft CEQA Thresholds Guide, 2006.

The development of the existing General Plan land uses associated with this alternative would also require the installation of water supply infrastructure to serve the project site. As indicated in Table 6.I, the No Project/Existing General Plan Alternative would require approximately 8,788,603 gallons of water per day, which is almost five times what would be required by the proposed project. When compared to the proposed project, water usage demands would be substantially increased in magnitude.

Table 6.I: Comparison of Average Water Use

Type of Development	Gallons per day
Proposed Project	1,778,486
No Project/No Build[1]	0
No Project/Existing General Plan (MHSP)	8,788,603
Alternative 1: Reduced Density	1,244,940
Alternative 2: Mixed Use A	3,420,000
Alternative 3: Mixed Use B	5,794,290
Alternative Sites	1,778,486

[1] Assumption of no potable water usage at present on the site.
Source: DEIR Section 16 and *Water System Planning and Design Principle Guidelines Criteria,* Eastern Municipal Water District, February 2006.

Like the proposed project, the No Project/Existing General Plan Alternative would also generate solid waste. As identified in Table 6.J, this alternative would generate 26,110 tons of solid waste per year, which is 43 percent less than what the proposed project would generate. Therefore, demands on solid waste services and landfill capacity would be decreased in magnitude. Similar to the proposed project, development under the No Project/Existing General Plan Alternative would be required to adhere to the provisions of the solid waste provider that would service the project site. When compared to the proposed project, solid waste impacts under this alternative would remain less than significant.

Table 6.J: Comparison of Average Solid Waste Generation

Type of Development	Tons per year
Proposed Project	45,552
No Project/No Build	0
No Project/Existing General Plan	26,110

Table 6.J: Comparison of Average Solid Waste Generation

Type of Development	Tons per year
Alternative 1: Reduced Density	31,886
Alternative 2: Mixed Use A	481,344
Alternative 3: Mixed Use B	130,318
Alternative Sites	45,552

Source: DEIR Section 16 and *Estimated Solid Waste Generation Rates,* California Integrated Waste Management Board, http://www.ciwmb.ca.gov/WASTECHAR/WasteGenRates/Commercial.htm, website accessed December 3, 2012.

Cumulative Impacts: Similar to the proposed project, this alternative would contribute toward the permanent conversion of farmland, air quality operational emissions, short-term and long-term noise impacts, and increased traffic operations on local roadways and at local intersections. Although this alternative would have a greater amount of traffic, the amount of operational emissions would be reduced in magnitude from that identified for the proposed project as this alternative does not include a logistics warehouse component. Because there are no feasible mitigation measures to reduce the cumulative impacts associated with long-term operational air pollutant emissions, noise, and increased traffic, long-term air quality and traffic impacts would remain significant and unavoidable. Since there is no feasible mitigation that would reduce the cumulative impacts associated with the conversion of farmland, cumulative impacts associated with farmland conversion would remain significant and unavoidable.

Impact Conclusions. Under the No Project/Existing General Plan Alternative, impacts related to short-term construction-related air quality would be similar to the proposed project as the same amount of land would be disturbed and the same mix of equipment would be utilized. Long-term operational-related air quality impacts would be reduced from that identified for the proposed project but would remain significant and unavoidable. Under this alternative, population and housing impacts would be greater in magnitude as residential uses are proposed. Similar to the proposed project, the associated increases in employment are accounted for in the City General Plan and other applicable local and regional plans.

The development of the No Project/Existing General Plan Alternative would have increased demands on public services and recreation facilities due to the residential component and population growth. The payment of fees and adherence to development requirements would reduce these impacts to a less than significant level. Water supply availability is expected to be available although water demand is increased. Water demand was determined to be available for the proposed project. Because of the increase in vehicle trips achieved under this alternative, impacts to the operation of local roadways and intersections would be proportionally greater that what was identified for the proposed project; therefore, long-term traffic impacts would remain significant and unavoidable. Traffic-related noise would be greater in magnitude and noise impacts would be significant and unavoidable like the proposed project.

Meets Project Objectives. Under this alternative, only some of the proposed project objectives would be met as a variety of uses would be built, as shown in Table 6.K. Development of this alternative would provide new employment opportunities for residents of Moreno Valley but not nearly to the degree as the proposed project.

Table 6.K: Comparison of No Project/Existing General Plan Alternative to the Project Objectives

Project Objectives	Does the Alternative Meet the Project Objectives?
Maximize employment opportunities within the City of Moreno Valley and surrounding communities by seeking to entitle one of the fastest-growing economic sectors in California.	No
Create a high-quality regional logistics center to meet current market demands and to provide jobs for residents at a variety of income levels.	No
Provide the land use designations and infrastructure plans necessary to support the City's Economic Development Action Plan.	No
Create a major logistics center in Rancho Belago that takes advantage of the area's close proximity to various freeways and transportation corridors.	No
Cluster logistics uses near efficient access points to the state highway system to reduce traffic congestion on surface streets and to reduce related air pollutant emissions from vehicle sources.	No
Establish design standards and development guidelines to ensure a consistent and attractive appearance throughout the entire project.	Yes
Establish a master plan for the entire project area to ensure that the project is efficient and business-friendly, accommodating the next-generation of logistics buildings.	No
Create a project that will provide a balanced approach to the City's fiscal viability, economic expansion, and environmental integrity.	No
Provide the infrastructure improvements required to meet project needs in an efficient and cost-effective manner.	No
Encourage new development consistent with regional and municipal service capabilities.	Yes
Maximize employment opportunities within the City to improve the jobs/housing balance and help reduce systemic unemployment within the City.	Yes
Provide thousands of construction job opportunities during the project's buildout phase to improve the jobs/housing balance and help reduce systemic unemployment.	No
Provide appropriate transitions or setbacks between on-site and off-site uses.	Yes

6.3.6 Alternative 1: Reduced Density

With the intent of avoiding or substantially reducing significant impacts, and in particular the significant impacts that cannot be reduced to a less than significant level through implementation of mitigation measures created by the project's traffic, air quality, and noise impacts, the City has considered a Reduced Density Alternative. This alternative includes development of the project site with approximately 29 million square feet of logistics warehousing, including 75 acres for open space. The 1,085 acres owned by the CDFW would be designated as Open Space in the City's General Plan, similar to the proposed project. Under this alternative, the proposed logistics uses would represent a net decrease of approximately 28 percent (30 million square feet) as compared with the proposed project.

Because of the large area, approximately 3,000 acres, of the proposed project that is proposed for development, public facilities, or off-site improvements, a variety of reduced density alternatives could be considered that might substantially reduce or eliminate one or more of the significant and unavoidable impacts of the proposed project. For example, warehousing development on the site would have to be reduced to approximately one percent of the project site, or 400,000 square feet, of the WLC project's proposed high-cube logistics warehouse building area in order to eliminate significant and unavoidable impacts associated with air quality in order to reduce air pollution

emissions to less than applicable SCAQMD thresholds. The only way this could logically occur would be to develop a small portion of the site (i.e., one percent) and leave the rest of the site vacant. In addition, a substantial reduction in the proposed high-cube logistics warehouse building area and/or developable area would be required to eliminate the proposed project's other significant and unavoidable impacts associated with aesthetics, agricultural resources, biological resources, cultural resources, noise, and transportation listed above in 6.1.3. Any of the viable alternatives that are examined in this EIR would entail some type of development on all or most of the project site, rather than development of an illogically small portion of the site (i.e., one percent).

Impact Analysis. The following nine environmental issues would have impacts similar to those identified for the proposed project:

- Aesthetics
- Agricultural and Forestry Resources
- Cultural Resources
- Biological Resources
- Geology and Soils
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Recreation

Impacts associated with these topics would be similar to the proposed project because development of the site under Alternative 1 would result in a similar footprint of development but with less square footage for logistics warehouse buildings. For this reason, impacts to these land-oriented impact topics would be similar resulting in the same level of impact.

As identified in Section 4.1 of this EIR, the proposed project would result in significant and unavoidable impacts associated with scenic vistas, local scenic roads, character of the site and surroundings, and cumulatively considerable aesthetic impacts. Implementation of this alternative would result in development of the same high-cube logistics land uses, building heights and mass, but at a level equivalent to 70 percent of the proposed project. For this reason, and in the same exact manner as the proposed project, this alternative would result in significant and unavoidable impacts associated with scenic vistas, local scenic roads, character of the site and surroundings, and on a cumulatively considerable basis.

As identified in Section 4.2 of this EIR, the proposed project would result in significant and unavoidable impacts associated with the loss of unique farmland, the elimination of existing agricultural operations, and cumulatively considerable agricultural resources impacts. Implementation of this alternative would result in development on the same existing agricultural lands, but each development site would be developed at a level equivalent to 70 percent of the proposed project. For this reason, and in the same exact manner as the proposed project, this alternative would result in significant and unavoidable impacts associated with the loss of unique farmland, the elimination of existing agricultural operations, and on a cumulatively considerable basis.

The remaining environmental issues would, in some cases, result in similar impacts, but would be different enough to be discussed separately as follows.

Air Quality: Because the amount of land to be graded with Alternative 1 would be the same to that of the proposed project, the same quantity of construction equipment would be used and a similar quantity of building materials would be used during earthmoving activities. Therefore, construction emissions from the development of Alternative 1 would be the same as the proposed project. As identified in Section 4.3 of this EIR, the proposed project would result in significant and unavoidable air quality impacts from CO, VOC, NO_X, PM_{10}, and $PM_{2.5}$ air pollution emissions. Implementation of this alternative would result in development on the same land areas, but each development site would

be developed at a level equivalent to 70 percent of the proposed project. For this reason, and in approximately the same manner as the proposed project, the Reduced Density Alternative would result in significant and unavoidable air quality impacts from CO, VOC, NO_X, PM_{10}, and $PM_{2.5}$ emissions during project construction.

Under this alternative, average daily traffic volumes would be reduced by 28 percent in comparison with the proposed project. As indicated in Table 6.L, the volume of each operational pollutant emitted during operation of this alternative would be correspondingly reduced. However, operational emissions for CO, VOC, NO_X, PM_{10}, and $PM_{2.5}$ would exceed daily SCAQMD thresholds for air pollution emissions as shown in Table 6.L, in the same manner as the proposed project. Although the application of green building design principles may reduce emissions from building operations (such as heating and cooling), such standards and principles would not reduce CO, VOC, NO_X, PM_{10}, and $PM_{2.5}$ emissions to below SCAQMD thresholds.

Table 6.L: Alternative 1 Operational Emissions

Source	Pollutant Emissions, lbs/day					
	CO	**VOC**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Proposed Project	3,466	729	3,059	21	1,685	153
Alternative 1	2,426	510	2,141	15	1,180	107
Net Change	-1,040	-219	-645	-6	-505	-46
SCAQMD thresholds	550	55	55	150	150	55
Alternative 1 exceeds thresholds?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

Source: LSA Associates, Inc., December 2012 from CalEEMod program.

As shown in Table 6.L, the volume of operational air pollutant emissions would be reduced when compared to the proposed project. As identified in Section 4.3 of this EIR and as stated above, the proposed project would result in air quality impacts from CO, VOC, NO_X, PM_{10}, and $PM_{2.5}$ operational emissions that cannot be mitigated to below SCAQMD thresholds, resulting in significant and unavoidable impacts. Similarly, the Reduced Density Alternative would result in air quality impacts from CO, VOC, NO_X, PM_{10}, and $PM_{2.5}$ operational emissions that cannot be mitigated to below SCAQMD thresholds, resulting in significant and unavoidable impacts in approximately the same manner as the proposed project.

Global Climate Change: As identified in Section 4.7 of this EIR, the proposed project would generate 665,321 mt CO_2e per year, resulting in a significant and unavoidable impact. As identified in Table 6.F, the Reduced Density Alternative would generate 465,725 mt CO_2e per year. GHG emissions resulting from operation of the uses envisioned under the Reduced Density Alternative would be correspondingly reduced in comparison to the proposed project, as this alternative would reduce the number of daily traffic trips and energy consumed by approximately 30 percent. Although the Reduced Density Alternative would generate approximately 30 percent less GHG than the proposed project, impacts associated with cumulative global climate change would remain significant and unavoidable in approximately the same manner as the proposed project, since no mitigation measures are available to reduce cumulative greenhouse gas emissions to less than significant levels.

Noise: As identified in Section 4.12 of this EIR, construction-related noise impacts of the proposed project were reduced through mitigation measures. However, construction-related noise impacts within the Specific Plan area and off-site construction area would remain significant and unavoidable, even with implementation of the mitigation measures. Under the Reduced Density Alternative, the same amount of land would be disturbed, the same quantity of construction equipment would be used, and a similar quantity of building materials would be used. Therefore, noise impacts associated with the construction of this alternative would be the same as those identified under the proposed

project. As identified in Section 4.12 of this EIR and as stated above, the proposed project would result in construction-related noise impacts within the Specific Plan area and off-site construction area that cannot be mitigated to below a level of significance. Consequently, impacts would remain significant and unavoidable. With the implementation of mitigation identified for the proposed project, the short-term construction-related noise impacts associated with the Reduced Density Alternative would also remain significant and unavoidable in the same exact manner as the proposed project, as construction noise is not able to be reduced to noise levels less than 60 dBA (L_{eq}). As with the proposed project, the noise generated under the Reduced Density Alternative would also be generated during loading/unloading, truck movements on roadways, and parking lot activities.

As identified in Section 4.12 of this EIR under the proposed project, the increase in future traffic noise along certain local roadway segments would increase beyond the threshold of perception resulting in an impact and the need for mitigation. However, as stated in the EIR, there are no feasible mitigation measures to reduce noise levels to below significant levels. The reduction in project-related traffic under the Reduced Density Alternative (i.e., minus 30%) would result in a similar decrease in long-term traffic noise due to the reduction of traffic trips to the project site. However, under this alternative, the future increases in traffic-related noise would have a similar effect on local roadway segments, resulting in significant impacts in approximately the same manner as the proposed project. Although this alternative's contribution to future traffic noise would be reduced, thereby reducing overall mobile source noise impacts within the area, even with a reduction in overall mobile source noise, roadway noise along certain roadway segments would remain significant and unavoidable in approximately the same manner as the proposed project.

Population and Housing: This alternative would result in the development of approximately 29 million square feet of logistics space. Utilizing an employment factor of one employee for every 1,667 square feet of logistics space,[1] the Reduced Density Alternative is anticipated to generate approximately 17,396 jobs.[2] It is anticipated that most of these jobs would be filled by persons already residing in the area; therefore, no significant population increase would occur with the development of these logistics jobs. When this alternative is compared to the proposed project, the number of new jobs would be 30 percent less than the proposed project. Similar to the proposed project, impacts related to population and housing would remain less than significant as this alternative would continue the existing development trend envisioned by the City. This alternative would not improve the City's jobs/housing ratio to nearly the same degree as the proposed project.

Public Services: Demands on schools, parks, other public facilities, law enforcement, and fire protection services would be similar in magnitude as that associated with the proposed project as no residential uses (and corresponding impacts to schools and parks) are proposed under this alternative. Like the proposed project, development under this alternative would require payment of development impact fees for schools, police services, and fire services. The payment of development impact fees would offset impacts to public services that may result from the development of the uses envisioned under this alternative. Similar to the proposed project, impacts associated with public services would remain less than significant.

Traffic: As identified in Section 4.15 of this EIR, the proposed project would result in significant impacts to freeways and interchanges in the baseline condition (2012) and future year (2017, 2023, and 2035) time horizons. Because improvements to freeways and interchanges are under the authority of Caltrans, it is uncertain if improvements to these roadways would be constructed prior to when project impacts would occur, resulting in a significant and unavoidable significant to freeways and interchanges. As identified in previously referenced Table 6.G, the Reduced Density Alternative would generate approximately 50,047 total vehicle trips, which is approximately 30 percent less than the total trip generation for the proposed project (71,085 total vehicle trips). The reduction in traffic

[1] Fiscal and Economic Impact Study World Logistics Center Moreno Valley, California, David Taussig & Associates, Inc., 2012.

[2] 1 employee/1,667 square feet of logistics uses × 29,000,000 square feet of logistics use = 17,396 logistics jobs.

under the Reduced Density Alternative (i.e., minus 30%) would result in a similar decrease in traffic volumes on local roadways. However, under this alternative, the future increases in traffic volumes would have a similar effect on freeways and interchanges, resulting in significant impacts similar to those identified for the proposed project. Since the City does not have control over when freeway improvements would occur, traffic impacts to freeways and interchanges would remain significant and unavoidable in approximately the same manner as the proposed project, until such improvements can be installed or constructed by Caltrans.

Utilities and Service Systems: Limited storm water and wastewater infrastructure is currently located in adjacent roadways or parcels within the project area. Like the proposed project, development under this alternative would be required to provide necessary infrastructure to support the future development of the site. The resulting development under this alternative would be subject to the terms and conditions of the City and EMWD. Similar to the proposed project, development under the Reduced Density Alternative would also include implementation of master plans for potable water, sewer, recycled water, and drainage for the project study area. Since the development under this alternative would be similar in use and size to the proposed project, it is anticipated that the same type and quantity of utility infrastructure would be required for the area. Therefore, implementation of these master plans under this alternative would have similar impacts to those identified for the proposed project.

The development of the Reduced Density Alternative would require the installation of water supply infrastructure of a size and extent needed to serve the proposed project. As indicated in previously referenced Table 6.I, the amount of water demand associated with the Reduced Density Alternative (1,244,940 gallons per day) would be 30 percent less than that required for the proposed project. Similar to the proposed project, development under this alternative would be required to obtain verification from the water purveyor that water is available to serve the development. Since this alternative would utilize less water than the proposed project and because EMWD has stated that water supply required for the proposed project is available, it is reasonable to conclude that if this alternative was built, adequate water would be available. Therefore, impacts related to water usage and water treatment/conveyance facilities would remain less than significant with mitigation implemented, similar to the proposed project.

As identified in previously referenced Table 6.H, the Reduced Density Alternative would generate approximately 205,461 gallons of wastewater per day, which is 30 percent less than that generated by the proposed project. This alternative's demands on wastewater treatment and capacity at existing wastewater treatment facilities would be reduced in magnitude. Similar to the proposed project, development under this alternative would be required to pay infrastructure fees and obtain approval from the wastewater treatment provider that would ensure there is excess capacity for the wastewater that would be generated by the proposed development. Therefore, like the proposed project, adherence to existing requirements identified by the City and EMWD would result in impacts remaining at a less than significant level.

Like the proposed project, the Reduced Density Alternative would also generate solid waste. As identified in previously referenced Table 6.J, the Reduced Density Alternative would generate 31,886 pounds of solid waste per day, which is approximately 30 percent less than what the proposed project would generate. The reduction in solid waste generated by the uses under this alternative would have a reduced demand of solid waste services and landfill capacity. Therefore, demands on solid waste services and landfill capacity would be reduced in magnitude. However, similar to the proposed project, development under the Reduced Density Alternative would be required to adhere to the provisions of the solid waste provider that would service the project site. When compared to the proposed project, solid waste impacts would remain less than significant.

Cumulative Impacts: The Reduced Density Alternative would contribute to the permanent conversion of farmland. Since there is no feasible mitigation that would reduce the cumulative

impacts associated with the conversion of farmland, cumulative impacts associated with farmland conversion would remain significant and unavoidable in the same manner as the proposed project. Although the amount of operational air pollutant emissions would be reduced in magnitude, because there are no feasible mitigation measures to reduce long-term air pollutant operational emissions, cumulative impacts would remain significant and unavoidable in approximately the same manner as the proposed project. Although the greenhouse gas emissions associated with this alternative are less than that identified for the proposed project, such emissions would still contribute to global climate change and would remain significant and unavoidable in approximately the same manner as the proposed project. The Reduced Density Alternative would reduce traffic volumes that would occur in the project vicinity. However, the additional traffic associated with this alternative would contribute to deficient levels of service on freeway segments during the lifetime of the project. Since the City is not in control of when freeway improvements are made, impacts associated with deficient LOS on freeway segments would remain significant and unavoidable in approximately the same manner as the proposed project, until such time that the freeway improvements are installed or constructed by Caltrans. Similarly, noise generated from traffic on roadway segments within the project area may result in certain roadway segments experiencing noise levels beyond the City's noise standard. Implementation of the identified mitigation measures would reduce noise but it would not reduce noise levels to a less than significant level. Therefore, cumulative impacts associated with traffic noise levels would remain significant and unavoidable in approximately the same manner as the proposed project.

As identified in Section 4.1 of this EIR, the proposed project would result in significant and unavoidable impacts associated with scenic vistas, local scenic roads, character of the site and surroundings, and cumulatively considerable aesthetic impacts. Implementation of this alternative would result in development of the same high-cube logistics land uses, building heights and mass, but at a level equivalent to 72 percent of the proposed project. For this reason, and in the same manner as the proposed project, this alternative would result in significant and unavoidable impacts associated with scenic vistas, local scenic roads, character of the site and surroundings, and on a cumulatively considerable basis.

Impact Conclusions. Under the Reduced Density Alternative, development of the same high-cube logistics land uses, building heights and mass, but at a level equivalent to 72 percent of the proposed project, would be constructed resulting in significant and unavoidable impacts associated with scenic vistas, local scenic roads, character of the site and surroundings, and on a cumulatively considerable basis in the same exact manner as the proposed project. Impacts related to short-term construction-related air quality would be the same as the proposed project, because the same amount of land would be disturbed and the same mix of equipment would be utilized. The Reduced Density Alternative would result in significant and unavoidable air quality impacts from CO, VOC, NO_X, PM_{10}, and $PM_{2.5}$ emissions during project construction, in the same exact manner as the proposed project. Long-term operational-related air quality impacts would be incrementally reduced when compared to the project, but the emissions cannot be mitigated to below SCAQMD thresholds and would remain significant and unavoidable in approximately the same manner as the proposed project. Similarly, impacts related to short-term construction-related noise cannot be mitigated to a less than significant level and would be significant and unavoidable in the exact same manner as the proposed project. Although traffic-related noise would be reduced when compared to the project, impacts would have a similar effect on local roadway segments and would remain significant and unavoidable as there are no feasible mitigation measures that would be able to reduce impacts to a less than significant level, in approximately the same manner as the proposed project. Under this alternative, the volume of water required and the amount of wastewater and solid waste generated would be reduced in comparison to the proposed project and the decrease in the amount of logistics uses would result in a reduction of permanent jobs that would be created. Consequently, this alternative would have reduced demand on public services, recreation, and water use. Similar to the proposed project, the

payment of fees, dedication of parkland, and adherence to utility requirements would reduce these impacts to a less than significant level.

Because of the decrease in vehicle trips achieved under this alternative, impacts to the operation of local roadways and intersections would be proportionally reduced from those identified for the proposed project. However, under this alternative, the future increases in traffic volumes would have a similar effect on freeways and interchanges, resulting in significant impacts similar to those identified for the proposed project. Since the City does not have control over when freeway improvements would occur, traffic impacts to freeways and interchanges would remain significant and unavoidable for impacts associated with freeway segments in approximately the same manner as the proposed project, as the City does not have control of when such freeway improvements can be installed or constructed by Caltrans.

In summary, the Reduced Density Alternative would incrementally reduce some of the project impacts by reducing the total square footage of development. However, all of the impacts identified as significant and unavoidable under the proposed project, including aesthetics, agricultural resources, air quality, greenhouse gas emissions, noise, and traffic would still be significant and unavoidable under this alternative in approximately the same and/or in the same exact manner as the proposed project.

Meets Project Objectives. As shown in Table 6.M, under this alternative, some of the project objectives are met, but not nearly to the same degree as the proposed project.

Table 6.M: Comparison of Reduced Density Alternative to the Project Objectives

Project Objectives	Does the Alternative Meet the Project Objectives?
Maximize employment opportunities within the City of Moreno Valley and surrounding communities by seeking to entitle one of the fastest-growing economic sectors in California.	Not to the same degree as the proposed project
Create a high-quality regional logistics center to meet current market demands and to provide jobs for residents at a variety of income levels.	Not to the same degree as the proposed project
Provide the land use designations and infrastructure plans necessary to support the City's Economic Development Action Plan.	Not to the same degree as the proposed project
Create a major logistics center in Rancho Belago that takes advantage of the area's close proximity to various freeways and transportation corridors.	Not to the same degree as the proposed project
Cluster logistics uses near efficient access points to the state highway system to reduce traffic congestion on surface streets and to reduce related air pollutant emissions from vehicle sources.	Yes
Establish design standards and development guidelines to ensure a consistent and attractive appearance throughout the entire project.	Yes
Establish a master plan for the entire project area to ensure that the project is efficient and business-friendly, accommodating the next-generation of logistics buildings.	Yes
Create a project that will provide a balanced approach to the City's fiscal viability, economic expansion, and environmental integrity.	Not to the same degree as the proposed project
Provide the infrastructure improvements required to meet project needs in an efficient and cost-effective manner.	Not to the same degree as the proposed project
Encourage new development consistent with regional and municipal service capabilities.	Not to the same degree as the proposed project
Maximize employment opportunities within the City to improve the jobs/housing balance and help reduce systemic unemployment within the City.	Not to the same degree as the proposed project

Table 6.M: Comparison of Reduced Density Alternative to the Project Objectives

Project Objectives	Does the Alternative Meet the Project Objectives?
Provide thousands of construction job opportunities during the project's buildout phase to improve the jobs/housing balance and help reduce systemic unemployment.	Not to the same degree as the proposed project
Provide appropriate transitions or setbacks between on-site and off-site uses.	Yes

6.3.7 Alternative 2: Mixed Use A

With the intent of avoiding or substantially reducing significant impacts created by the project's traffic, air quality, and noise impacts, the City has considered Mixed Use A Alternative. This alternative includes development of the project site with approximately 1,410 acres of logistics warehousing (22 million square feet), 1,000 acres of light industrial uses (21 million square feet), 50 acres of retail commercial uses (500,000 square feet), 100 acres of professional or medical office uses (1.0 million square feet), and 150 acres of open space. The 1,085 acres owned by the CDFW would be designated as Open Space in the City's General Plan, similar to the proposed project.

Impact Analysis. The following nine environmental issues would have impacts similar to those identified for the proposed project:

- Aesthetics
- Agricultural and Forestry Resources
- Cultural Resources
- Biological Resources
- Geology and Soils
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Recreation

The remaining environmental issues would, in some cases, result in similar impacts, but would be different enough to be discussed separately.

Air Quality: Because the amount of land to be graded with Alternative 2 would be similar to that of the proposed project, a similar mix of equipment as the proposed project would operate during earthmoving activities. Therefore, construction emissions from the development of Alternative 2 would be similar to the proposed project, which is significant and unavoidable for CO, VOC, NO_X, PM_{10}, and $PM_{2.5}$. As indicated in Table 6.N, the volume of each operational pollutant emitted during operation of this alternative would be correspondingly increased due to the substantial increase in traffic from this alternative relative to the proposed project. Like the proposed project, operational emissions for CO, VOC, NO_X, PM_{10}, and $PM_{2.5}$ would still exceed daily SCAQMD thresholds. Application of green building design principles could reduce emissions from building operations such as heating and cooling; however, such standards and principles would not reduce CO, VOC, NO_X, PM_{10}, and $PM_{2.5}$ emissions to below SCAQMD thresholds.

Table 6.N: Alternative 2 Operational Emissions

Source	Pollutant Emissions, lbs/day					
	CO	VOC	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Proposed Project	3,466	729	3,059	21	1,685	153
Alternative 2	10,208	1,735	3,566	35	3,428	234
Net Change	+6,742	+1,006	+507	+14	+1,743	+81

Table 6.N: Alternative 2 Operational Emissions

Source	Pollutant Emissions, lbs/day					
	CO	VOC	NO_X	SO_X	PM_{10}	$PM_{2.5}$
SCAQMD thresholds	550	55	55	150	150	55
Alternative 2 exceeds thresholds?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

Source: LSA Associates, Inc., December 2012.

The volume of operational air pollutant emissions would be increased when compared to the proposed project during operations only and impacts would remain significant and unavoidable.

Global Climate Change: This alternative would generate 794,828 metric tons of carbon dioxide equivalents, and GHG emissions resulting from operation of the uses envisioned under the Mixed Use A Alternative would be approximately 20 percent higher than those of the proposed project (see Table 6.F). The Mixed Use A Alternative would generate more greenhouse gas than the proposed project; impacts associated with cumulative global climate change would remain significant and unavoidable since no mitigation measures are available to fully reduce cumulative greenhouse gas emissions.

Noise: Under the proposed project, construction-related noise impacts were mitigated through adherence to the identified mitigation measures. However, even with the mitigation measures, construction-related noise impact within the Specific Plan area and off-site construction area would remain significant and unavoidable. Under the Mixed Use A Alternative, a similar amount of land would be disturbed; therefore, noise impacts associated with the construction of this alternative would be similar to those identified under the proposed project. With the implementation of mitigation identified for the proposed project, the short-term construction-related noise impacts associated with this alternative would still remain significant and unavoidable as construction noise is not able to be reduced to below noise levels less than 60 dBA (L_{eq}). As with the proposed project, the noise generated under the Mixed Use A Alternative would be generated during loading/unloading, trash compacting, truck movements on roadways, and parking lot activities. The operation-related noise impacts associated with this alternative would remain less than significant with implementation of the mitigation measures, as identified for the proposed project.

The increase in project-related traffic under this alternative would result in an incremental increase in long-term traffic noise due to an increase of traffic trips to the project site. Under the proposed project, the increase in future traffic noise along certain local roadway segments would increase beyond the threshold of perception resulting in the need for mitigation. However, as stated in the EIR, there are no feasible mitigation measures to reduce noise levels to below appropriate levels. Under this alternative, future increases in traffic-related noise would have a similar effect on local roadway segments. When compared to the proposed project, this alternative's contribution to future traffic noise would be increased, thereby increasing overall mobile source noise impacts within the area. It is anticipated that roadway noise along certain roadway segments would remain significant and unavoidable.

Population and Housing: The Mixed Use A Alternative would result in the development of 22 million square feet of logistics warehousing, 20 million square feet of light industrial uses, half a million square feet of retail commercial uses, one million square feet of professional/medical office uses, and 150 acres of open space. Utilizing an employment factor of one employee for every 1,667 square feet of logistics space,[1] the logistics warehousing component of the Mixed Use A Alternative is anticipated to generate approximately 13,197 jobs.[2] Utilizing the same employment factor of one employee for

[1] Fiscal and Economic Impact Study World Logistics Center Moreno Valley, California, David Taussig & Associates, Inc., 2012.

[2] 1 employee/1,667 square feet of logistics uses × 3,500,000 square feet of logistics use = 2,100 logistics jobs.

every 1,667 square feet of light industrial uses, the light industrial component of the Mixed Use A Alternative is anticipated to generate approximately 11,998 jobs.[1] Utilizing employment factors of one employee for every 628 square feet of commercial use and one employee for every 481 square feet of office use,[2] this alternative would additionally create up to 2,875 jobs (796 retail jobs[3] and 2,079 office jobs[4]). Many of the logistics warehousing, light industrial, and retail jobs are likely to be filled by persons already residing in the area.

However, unlike logistics, light industrial, and retail jobs, which can often be filled by most working adults, professional/medical office jobs under this alternative may require the employment of persons in specialized fields, which may not include persons already living in the area. Persons from outside of the area may be required to relocate to Moreno Valley to fill positions in the office space, resulting in a population increase in the City. To analyze a worst-case scenario, it is assumed that all professional/medical office jobs would be filled by people who are not living in the area. Therefore, under this alternative, it is assumed that a direct population increase would occur within the City. When this alternative is compared to the proposed project, the number of new residents would be higher than that identified for the proposed project. Under this alternative, up to approximately 28,070 jobs could be created. The number of new jobs in the City would be 13.9 percent greater than the proposed project (24,642 potential jobs). However, similar to the proposed project, impacts related to population and housing would remain less than significant as this alternative would continue the existing development trend envisioned by the City.

Public Services: As discussed above, the Mixed Use A Alternative could result in population increase within the City. Because of the increased amount of office development that would occur within the project limits, demands on schools, parks, other public facilities, law enforcement, and fire protection services would be greater in magnitude than what was identified for the proposed project. However, similar to the proposed project, development under this alternative would require payment of development impact fees for schools, police services, and fire services. The payment of development impact fees would offset any impacts to these public services that may result from the development of this alternative. Therefore, when compared to the proposed project, impacts associated with public services would remain less than significant with the payment of development impact fees.

The increase in potential residents through the creation of commercial and office jobs under Mixed Use A Alternative could directly contribute to an increase in existing population in the City, which would increase the demand for park and recreation facilities. Because the Mixed Use A Alternative would directly contribute to the existing population, impacts associated with recreation and park demands are greater in magnitude than the proposed project. However, it is anticipated that the dedication of land or the payment of parkland fees would reduce these recreation impacts to a less than significant level, similar to the proposed project.

Traffic: As identified in previously referenced Table 6.G, this alternative would generate approximately 208,988 total traffic trips. In comparison to the proposed project, this alternative would almost triple total traffic trips. With such an increase in traffic, an increase in volumes on nearby roads and intersections would be greater in magnitude when compared to the proposed project. Impacts to LOS at nearby intersections and roadway segments would occur under the Mixed Use A Alternative to an even greater degree than under the proposed project, and would require even more extensive mitigation. The addition of traffic volumes associated with this alternative could result in deficient LOS at many more intersections in the project vicinity during the lifetime of the development. While

[1] 1 employee/1,667 square feet of light industrial uses × 26,100,000 square feet of light industrial use = 15,657 light industrial jobs.
[2] *Table II-B Average Employees Per Acre*, Southern California Association of Governments Employment Density Study, The Natelson Company, October 31, 2001.
[3] 1 employee/628 square feet of commercial uses × 2,300,000 square feet of commercial uses = 3,662 retail jobs.
[4] 1 employee/481 square feet of office uses × 5,500,000 square feet of office uses = 11,435 office jobs.

significant traffic impacts may occur under this alternative, these impacts would be mitigated in a manner similar to those of the proposed project. Even if mitigation measures were identified for all these intersections, certain roadway improvements would not be under the jurisdiction of the City and cannot be guaranteed to be in place when development under this alternative would become operational. Therefore, as identified for the proposed project, traffic-related impacts would remain significant and unavoidable under the Mixed Use A Alternative.

Utilities and Service Systems: Like the proposed project, development under the Mixed Use A Alternative would connect to existing utility infrastructure subject to the terms and conditions of the City and EMWD. As indicated in previously identified Table 6.H, this alternative would generate approximately 1,830,000 gallons of wastewater per day, which is over six times what the proposed project would generate (293,515 gallons of wastewater per day). When compared to the proposed project, wastewater treatment demand would be increased in magnitude as more wastewater would be generated under this alternative. However, like the proposed project, adherence to existing requirements identified by the City and EMWD may result in impacts remaining at a less than significant level.

The development of the warehousing, light industrial, commercial, and office uses associated with this alternative would also require the installation of water supply infrastructure to serve the project site. As previously indicated in Table 6.I, the Mixed Use A Alternative would require approximately 3,420,000 gallons of water per day, which is almost twice as much as would be required by the proposed project (1,778,486 gallons of water per day). When compared to the proposed project, water usage demands would be increased. However, similar to the proposed project, development under this alternative would be required to obtain verification from the water purveyor that water is available to serve the development. Therefore, impacts related to water usage and water treatment/ conveyance facilities would remain less than significant when compared to the proposed project.

Like the proposed project, the Mixed Use A Alternative would also generate solid waste. As previously identified in Table 6.J, this alternative would generate 481,344 pounds of solid waste per day, which is over ten times as much as the proposed project would generate (45,552 pounds of solid waste per day). Therefore, demands on solid waste services and landfill capacity would be increased in magnitude. Similar to the proposed project, development under the Mixed Use A Alternative would be required to adhere to the provisions of the solid waste provider that would service the project site. When compared to the proposed project, solid waste impacts under this alternative would remain less than significant.

Cumulative Impacts: Similar to the proposed project, this alternative would contribute toward the permanent conversion of farmland, long-term operational air pollutant emissions, and increased traffic operations on local roadways and at local intersections. The amount of operational air pollutant emissions and traffic would be increased in magnitude and there are no mitigation measures that would reduce long-term air quality operational impacts to below SCAQMD threshold standard. Likewise, there are no mitigation measures that would reduce impacts associated with increased traffic in the area. Therefore, cumulative impacts associated with long-term air quality and long-term traffic would remain significant and unavoidable. Similarly, noise generated from traffic on roadway segments within the project area may result in certain roadway segments experience noise levels beyond the City's noise standard. Implementation of the identified mitigation measures would reduce noise but it would not reduce noise levels to a less than significant level. Therefore, cumulative impacts associated with traffic noise levels would remain significant and unavoidable. This alternative would also require the development of the project site. Since there is no feasible mitigation that would reduce the cumulative impacts associated with the conversion of Prime Farmland, cumulative impacts associated with farmland conversion would remain significant and unavoidable like the proposed project.

Impact Conclusions. Under this alternative, impacts related to short-term construction-related air quality and noise impacts would remain significant and unavoidable, similar to the proposed project.

Long-term air quality operational impacts under this alternative would be increased in magnitude, remain significant and unavoidable, and would result in similar conditions as identified for the proposed project. The Mixed Use A Alternative would decrease the amount of logistics warehousing and would add light industrial, commercial, and office uses that would generate more permanent and more varied jobs than the proposed project, but some uses may require workers who are not current residents of the City. The office uses proposed under this alternative may increase the total number of people that would be added to the City's population and could have greater demands on public services and recreation. However, the payment of fees and dedication of parkland would reduce these impacts to a less than significant level. This alternative would increase the amount of wastewater generated, increase the amount of potable water required, and increase the amount of solid waste produced on site. Similar to the proposed project, adherence to utility requirements would reduce these impacts to a less than significant level. Because of the increase in vehicle trips resulting from this alternative, impacts to the operation of local roadways and intersections would be proportionally increased from the proposed project and remain significant and unavoidable.

Because of the increase in vehicle trips under this alternative, impacts to the operation of local roadways and intersections would be proportionally increased from what was identified for the proposed project. Long-term traffic impacts would remain significant and unavoidable for impacts associated with freeway segments as the City does not have control of when such freeway improvements would occur. Similarly, traffic-related noise would be increased in magnitude and cannot be mitigated to a less than significant level in a manner similar to the proposed project.

In summary, the Mixed Use A Alternative would increase employment opportunities but would substantially increase traffic, noise, and air quality impacts. All the impacts identified as significant under the proposed project, including air quality health risks, would still be significant under this alternative.

Meets Project Objectives. Under this alternative, four of the proposed project objectives are not met as shown in Table 6.O.

Table 6.O: Comparison of the Mixed Use A Alternative to the Project Objectives

Project Objectives	Does the Alternative Meet the Project Objectives?
Maximize employment opportunities within the City of Moreno Valley and surrounding communities by seeking to entitle one of the fastest-growing economic sectors in California.	Yes
Create a high-quality regional logistics center to meet current market demands and to provide jobs for residents at a variety of income levels.	No
Provide the land use designations and infrastructure plans necessary to support the City's Economic Development Action Plan.	Yes
Create a major logistics center in Rancho Belago that takes advantage of the area's close proximity to various freeways and transportation corridors.	No
Cluster logistics uses near efficient access points to the state highway system to reduce traffic congestion on surface streets and to reduce related air pollutant emissions from vehicle sources.	Yes
Establish design standards and development guidelines to ensure a consistent and attractive appearance throughout the entire project.	Yes
Establish a master plan for the entire project area to ensure that the project is efficient and business-friendly, accommodating the next-generation of logistics buildings.	Yes
Create a project that will provide a balanced approach to the City's fiscal viability, economic expansion, and environmental integrity.	No
Provide the infrastructure improvements required to meet project needs in an efficient and cost-effective manner.	No

Table 6.O: Comparison of the Mixed Use A Alternative to the Project Objectives

Project Objectives	Does the Alternative Meet the Project Objectives?
Encourage new development consistent with regional and municipal service capabilities.	Yes
Maximize employment opportunities within the City to improve the jobs/housing balance and help reduce systemic unemployment within the City.	Yes
Provide thousands of construction job opportunities during the project's buildout phase to improve the jobs/housing balance and help reduce systemic unemployment.	Yes
Provide appropriate transitions or setbacks between on-site and off-site uses.	Yes

6.3.8 Alternative 3: Mixed Use B

This alternative would develop the project site similar to the land use plan of the Moreno Highlands Specific Plan (MHSP) but with logistics warehousing on the 603 acres proposed for business, retail, institutional, and other uses under the MHSP. The 1,085 acres owned by the CDFW would be designated as Open Space in the City's General Plan, similar to the proposed project.

Impact Analysis. Many of the environmental impacts of this alternative would be equivalent to those identified for the No Project/Existing General Plan Alternative, the main differences being traffic, health risks, and greenhouse gas emissions.

Air Quality: Alternative 3 would require site grading and construction similar to that required of the proposed project. As identified in Section 4.3 of this EIR, short-term construction emission impacts associated with construction activities on the project site were significant and unavoidable for all criteria pollutants with the exception of SO_X. Since Alternative 3 would require that the same amount of land be graded, it would require similar grading and construction activities on site. Therefore, it is reasonable to anticipate that short-term construction emission impacts would also be significant and unavoidable for all criteria pollutants, with the exception of SO_X, under this alternative. Air quality impacts associated with the remaining criteria pollutants would significant and unavoidable with this alternative, similar to what was identified for the proposed project.

Under Alternative 3, the site would be developed at the same residential density and intensity as the MHSP but would have 10 million square feet of logistics warehousing on 603 acres instead of the mixed non-residential uses proposed under the MHSP. Based on these land uses, Alternative 3 would generate approximately 80,187 daily vehicle trips (see Table 6.P) compared to 71,085 trips from the proposed project (a 13% increase).

Table 6.P: Alternative 3 Operational Emissions

Source	Pollutant Emissions, lbs/day					
	CO	VOC	NOx	SOx	PM_{10}	$PM_{2.5}$
Proposed Project	3,466	729	3,059	21	1,685	153
Alternative 3	4,963	781	1,531	15	1,512	115
Net Change	+1,497	+52	-1,528	-6	-173	-38
SCAQMD thresholds	550	55	55	150	150	55
Alternative 3 exceeds thresholds?	**Yes**	**Yes**	**Yes**	No	**Yes**	**Yes**

Source: MBA 2012 based on CalEEMod program.

The volume of each operational pollutant emitted during operation of this alternative would be incrementally increased due the proposed mix of land uses. Therefore, this alternative would also have significant and unavoidable impacts on local air quality. The long-term air quality impacts resulting from this alternative would still contribute criteria pollutants to an air basin that is in nonattainment for these criteria pollutants, similar to the proposed project. As identified in previously referenced Table 6.I, long-term operational air pollutant emissions associated with Alternative 3 would exceed SCAQMD emissions thresholds for all criteria pollutants, with the exception of SO_X. Also similar to the proposed project, this alternative would likely create significant health risk impacts as there would be logistics warehousing and related truck activities proximate to new proposed residential uses, although these new warehouses would be removed from the existing residences along Redlands Boulevard, so the health risks would shift from existing to future residents.

When compared with the proposed project, air quality impacts associated with Alternative 3 would be mixed in that criteria pollutants would be higher but diesel particulate matter and truck-related emissions would be substantially less, and potential health risks would be shifted from existing to future residents. Similar to the proposed project, the generation of these emissions would still result in a cumulative contribution of air pollutants in a nonattainment basin; therefore, impacts remain significant and unavoidable.

Global Climate Change: GHG emissions associated with Alternative 3 are substantially decreased. As identified in previously referenced Table 6.F, Alternative 3 would generate 318,808 metric tons of carbon dioxide equivalents, which is approximately half (48%) of that identified for the proposed project.

Noise: Under the proposed project, construction-related noise impacts were mitigated through adherence to the identified mitigation measures. However, even with the mitigation measures, construction-related noise impact within the Specific Plan area and off-site construction area would remain significant and unavoidable. Under the Mixed Use B Alternative, a similar amount of land would be disturbed; therefore, noise impacts associated with the construction of this alternative would be similar to those identified under the proposed project. With the implementation of mitigation identified for the proposed project, the short-term construction-related noise impacts associated with this alternative would still remain significant and unavoidable as construction noise cannot be reduced to noise levels less than 60 dBA (L_{eq}). As with the proposed project, the noise generated under the Mixed Use B Alternative would be generated during resident trips to and from the project, as well as non-residential loading/unloading, trash compacting, truck movements on roadways, and parking lot activities. The operational-related noise impacts associated with this alternative would be significant and adverse, even with implementation of the mitigation measures, similar to the proposed project.

Population and Housing: The Mixed Use B Alternative would result in the development of 7,283 residential units on 1,359 acres, plus 10 million square feet of logistics warehousing and 150 acres of open space. Utilizing an employment factor of one employee for every 1,667 square feet of logistics space,[1] the logistics warehousing component of the Mixed Use B Alternative is anticipated to generate approximately 6,000 jobs.[2] Utilizing a household size of 3.8 persons per unit, it is estimated this alternative would generate 27,675 new residents in the City as well. Many of the logistics warehousing jobs are likely to be filled by persons already residing in the area. The number of new jobs in the City would be 76 percent less than the proposed project (24,642 potential jobs). This alternative would eventually have a jobs/housing ratio of 0.22, which is much lower than the existing job/housing ratio of the City. Therefore, this alternative would have substantially greater impacts related to population and housing compared to the proposed project.

[1] Fiscal and Economic Impact Study World Logistics Center Moreno Valley, California (David Taussig & Associates, Inc., 2012.

[2] 1 employee/1,667 square feet of logistics uses × 3,500,000 square feet of logistics use = 2,100 logistics jobs.

Public Services: As discussed above, the Mixed Use B Alternative could result in a substantial population increase within the City. Because of the increased population, demands on schools, parks, other public facilities, law enforcement, and fire protection services would be greater in magnitude than what was identified for the proposed project. Similar to the proposed project, development under this alternative would require payment of development impact fees for schools, police, fire, and recreation services. The payment of development impact fees would offset any impacts to these public services that may result from the development of this alternative. Therefore, when compared to the proposed project, impacts associated with public services would remain less than significant with the payment of development impact fees.

Traffic: As identified in previously referenced Table 6.G, this alternative would generate approximately 80,187 total traffic trips, which is approximately 13 percent more than the proposed project. This would incrementally increase traffic and impacts to LOS at nearby intersections and roadway. The addition of traffic associated with this alternative could result in deficient LOS at more intersections in the project vicinity during the lifetime of the development. While significant traffic impacts may occur under this alternative, these impacts would be mitigated in a manner similar to those of the proposed project. Even if mitigation measures were identified for all these intersections, certain roadway improvements would not be under the jurisdiction of the City and cannot be guaranteed to be in place when development under this alternative would become operational. Therefore, as identified for the proposed project, traffic-related impacts would remain significant and unavoidable under the Mixed Use B Alternative.

Utilities and Service Systems: Like the proposed project, development under the Mixed Use B Alternative would connect to existing utility infrastructure subject to the terms and conditions of the City and EMWD. As indicated in previously identified Table 6.H, this alternative would generate approximately 1,875,090 gallons of wastewater per day, which is more than a six-fold increase to what the proposed project would generate (293,515 gallons of wastewater per day). When compared to the proposed project, wastewater treatment demand would be substantially increased under this alternative, but adherence to existing requirements identified by the City and EMWD would likely result in less than significant impacts with planned expansion of wastewater treatment capacity.

The development of logistics rather than commercial and other non-residential uses under the MHSP would require the installation of water supply infrastructure to serve the project site. As previously indicated in Table 6.I, the Mixed Use B Alternative would require approximately 5,794,290 gallons of water per day, which is over three times what would be required by the proposed project (1,778,486 gallons of water per day). When compared to the proposed project, water usage demands would be substantially increased. Similar to the proposed project, development under this alternative would be required to obtain verification from the water purveyor that water is available to serve the development. Therefore, impacts related to water usage and water treatment/conveyance facilities are assumed to remain at less than significant levels similar to the proposed project.

Like the proposed project, the Mixed Use B Alternative would also generate solid waste. As previously identified in Table 6.J, this alternative would generate 130,318 pounds of solid waste per day, which is almost three times more than what the proposed project would generate (45,552 pounds of solid waste per day). Therefore, demands on solid waste services and landfill capacity would be substantially increased. Similar to the proposed project, development under the Mixed Use B Alternative would be required to adhere to the provisions of the solid waste provider that would service the project site. When compared to the proposed project, solid waste impacts under this alternative would remain less than significant.

Cumulative Impacts: Similar to the proposed project, this alternative would contribute toward the permanent conversion of farmland, air quality operational emissions, short-term and long-term noise impacts, and increased traffic operations on local roadways and at local intersections. This alternative would have slightly more traffic and operational emissions, although health risks would likely be less

than under the proposed project. Because there are no feasible mitigation measures to reduce the cumulative impacts associated with long-term operational air pollutant emissions, short-term and long-term noise, and increased traffic, these impacts would remain significant and unavoidable. Alternative 3 would also require the development of the project site. Since there is no feasible mitigation that would reduce the cumulative impacts associated with the conversion of farmland, cumulative impacts associated with farmland conversion would remain significant and unavoidable.

Impact Conclusions. Under Alternative 3, impacts related to short-term construction-related air quality would be similar to the proposed project as the same amount of land would be disturbed and the same mix of equipment would be utilized. Long-term operational-related air pollutant emissions would be higher than the proposed project and would remain significant and unavoidable, with the exception of SO_X. Like the proposed project, long-term air quality relative to criteria pollutants would still be significant, with the exception of SO_X. Health risks to existing residences would be reduced, possibly to less than significant levels, but it is possible health risks to future residents in new housing on the project site would be significant, depending on their location relative to the warehousing, and if adequate buffers were established. Based on available information, it is unclear if impacts from diesel-related air pollutant emissions would be reduced to less than significant levels for all existing and future sensitive receptors under this alternative.

The development of Alternative 3 would have substantially increased demands on public services and recreation facilities to serve future residential uses. The payment of fees and adherence to development requirements would reduce these impacts to a less than significant level. Water supply availability is expected to be available as water demand is expected to be the same. Water demand was determined to be available for the proposed project. There would be an increase in vehicle trips under this alternative, and impacts to the operation of local roadways and intersections would be similarly increased compared to that identified for the proposed project; therefore, long-term traffic impacts would remain significant and unavoidable. Development of this alternative would provide new employment opportunities and homes for residents of Moreno Valley, but new employment opportunities would be significantly reduced compared to the proposed project.

In summary, the Mixed Use B Alternative would incrementally increase traffic and not improve the City's jobs/housing balance over the long-term. However, this is the only alternative that would reduce a significant impact of the project (aesthetics – views) by substantially reducing the amount of warehousing on the site and replacing it with residential uses. Views of the area would still transition from vacant agricultural land to suburban development, but it would have a residential appearance compared to the proposed project. All the other impacts identified as significant under the proposed project, including air quality health risks, would still be significant under this alternative.

Meets Project Objectives. This alternative would not meet most of the objectives of the project related to employment and land use, as shown in Table 6.Q, and would not establish a major regional logistics center in this portion of the City.

Table 6.Q: Comparison of Alternative 3 to the Project Objectives

Project Objectives	Does the Alternative Meet the Project Objectives?
Maximize employment opportunities within the City of Moreno Valley and surrounding communities by seeking to entitle one of the fastest-growing economic sectors in California.	No
Create a high-quality regional logistics center to meet current market demands and to provide jobs for residents at a variety of income levels.	No

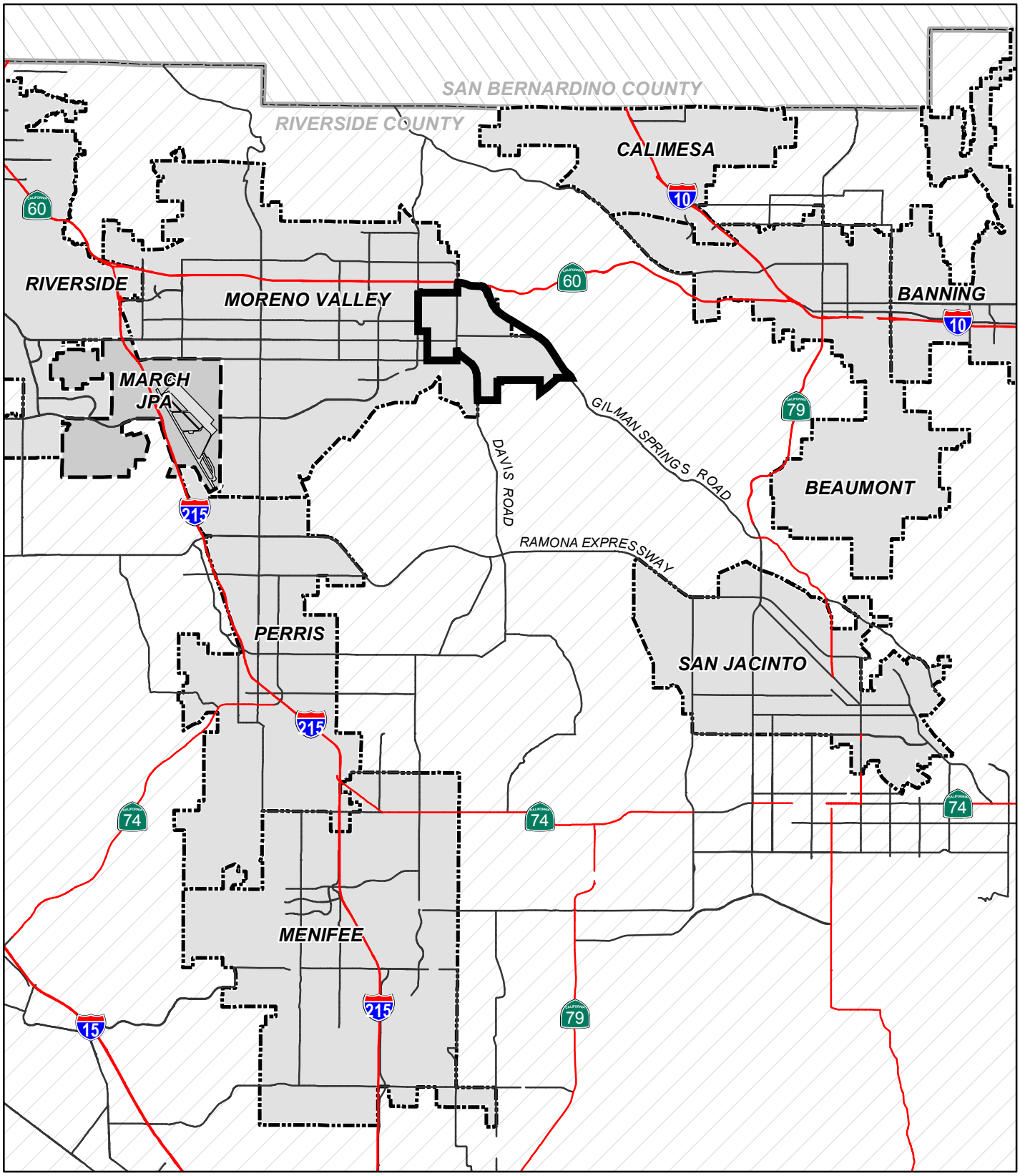
Table 6.Q: Comparison of Alternative 3 to the Project Objectives

Project Objectives	Does the Alternative Meet the Project Objectives?
Provide the land use designations and infrastructure plans necessary to support the City's Economic Development Action Plan.	No
Create a major logistics center in Rancho Belago that takes advantage of the area's close proximity to various freeways and transportation corridors.	No
Cluster logistics uses near efficient access points to the state highway system to reduce traffic congestion on surface streets and to reduce related air pollutant emissions from vehicle sources.	Not based on current MHSP land use plan
Establish design standards and development guidelines to ensure a consistent and attractive appearance throughout the entire project.	Yes
Establish a master plan for the entire project area to ensure that the project is efficient and business-friendly, accommodating the next-generation of logistics buildings.	No
Create a project that will provide a balanced approach to the City's fiscal viability, economic expansion, and environmental integrity.	No
Provide the infrastructure improvements required to meet project needs in an efficient and cost-effective manner.	No
Encourage new development consistent with regional and municipal service capabilities.	No
Maximize employment opportunities within the City to improve the jobs/housing balance and help reduce systemic unemployment within the City.	Yes
Provide thousands of construction job opportunities during the project's buildout phase to improve the jobs/housing balance and help reduce systemic unemployment.	No
Provide appropriate transitions or setbacks between on-site and off-site uses.	Yes

6.3.9 Alternative Sites Analysis

This alternative examines different sites in the surrounding region to determine if an alternative location would reduce or eliminate one or more significant impacts of the project. This analysis must be based on feasible sites that could realistically support the proposed project (i.e., a contiguous 2,635-acre site for 41 million square feet of high-cube logistics warehouse uses as envisioned by the WLC Specific Plan). The surrounding jurisdictions were contacted to identify potential alternative sites for the proposed project. Figure 6.1 shows the locations of the various jurisdictions that were contacted and/or analyzed in this evaluation and Table 6.R presents the results of that analysis.

Table 6.R indicates that there are no feasible alternative sites in the surrounding or nearby jurisdictions that could support the proposed project (i.e., that have enough vacant land zoned or available for logistics warehousing with good freeway and/or rail access). Therefore, none of these sites will be evaluated further.



LSA

N

0 1.75 3.5

MILES

Project Boundary

Cities

Riverside County

San Bernardino County

FIGURE 6.1

World Logistics Center Project
Environmental Impact Report

Alternative Sites Analysis

SOURCE: Riverside County, 2011.

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Table 6.R: Evaluation of Potential Alternative Sites

Jurisdiction/Map Reference*	Contact/Results
City of Moreno Valley	John Terell, Community Development Director, indicated there are no sites available within the City that have nearly that amount of vacant land planned or designated for industrial-related uses, which is why the WLC project is being proposed on the current site as this is the largest available vacant land left in the City (personal communication, December 2012).
City of Banning	Zai Abu Bakar, Community Development Director, indicated that the City does not have any vacant industrial property that large (personal communication, November 21, 2012). The City of Banning has a number of much smaller parcels (50–100 acres) zoned for industrial use along the I-10 Freeway corridor, but these are not contiguous and are under multiple ownerships. Therefore, there is no alternative site for the proposed project within the City of Banning.
City of Beaumont	Rebecca Deming, Director of Planning, indicated "the City does have some vacant industrial zoning and Specific Plan Zoning for industrial areas along the 60 freeway" (personal communication, November 26, 2012). A review of the City's online mapping indicates the following three potential sites of contiguous vacant land with freeway access that could support industrial uses: A. South of SR-60/East of SR-79: Site consists of 319 acres planned for general/community commercial and industrial uses, but with scattered rural residential uses adjacent to many of the vacant parcels. B. North of SR-60/West of I-10/South of Oak Valley Parkway: Site consists of approximately 463 acres planned for a variety of residential uses under the Oak Valley Specific Plan. C. South of SR-60/West of I-10/North of West 4th Street: Site includes 193 acres just west of new commercial center and planned for "urban village overlay" with industrial along the freeway. Even the largest site (B) is less than 20 percent of the size of the WLC project site in Moreno Valley, and even all together the three sites total 974 acres which is 36 percent of the WLC project site. None of the sites is owned by the developer; Site B is under single ownership, while the other two are under multiple ownership. Based on this information, there are no feasible alternatives sites in the City of Beaumont for the proposed project.
City of Calimesa	Gus Romo, Community Development Director, was contacted and indicated there are not 2,700 acres designated or that have the potential to be zoned for warehouses in Calimesa (personal communication, November 21, 2012). Therefore, there is no alternative site for the proposed project within the City of Calimesa.
City of Menifee	Patti Nahill, contract City Planner, indicated that there was no place in the City with 2,700 vacant acres available for industrial uses (personal communication, November 27, 2012). The City was incorporated on October 1, 2008, and is still working on its General Plan, so the applicable zoning would be Industrial Park (IP). There are three areas in the City with vacant land that could support industrial uses: A. East of I-215 North of Scott Road: Approximately 280 acres with suburban and rural residential uses adjacent to the north and south, and an approved Specific Plan (140 acres) to the east. These areas have multiple owners. B. West of I-215 North of Scott Road: Approximately 600 acres with rural residential to the north, west, and south. This area has multiple owners. C. North Menifee Specific Plan: This area is only 120 acres and the current land use designation is Specific Plan, but the underlying zoning was industrial. This area is under single ownership. Even the largest area (A) is only 22 percent of the size of the WLC project site in Moreno Valley, and even all together the three areas only total 1,000 acres which is 37 percent of the WLC project site. None of the sites is owned by the developer; Area C is under single

Table 6.R: Evaluation of Potential Alternative Sites

Jurisdiction/Map Reference*	Contact/Results
	ownership, while the other two areas are under multiple ownership. Based on this information, there are no feasible alternative sites available in the City of Menifee for the proposed project.
City of Perris	According to the City's website (www.cityofperris.org), the Perris Valley Commerce Center Specific Plan (adopted January 2012) east of I-215 has 1,866 total acres designated for light industrial uses, but some of this area is already developed or planned/approved for development. If this entire area were dedicated to high cube logistics warehousing, it would represent about two-thirds of the land within the proposed WLC Specific Plan. This land is also under ownership of hundreds of individual owners, and the vacant land is not in large contiguous blocks. Therefore, there is no feasible alternative site for the proposed project within the City of Perris.
City of Riverside	Steve Hayes, City Planner, indicated there were no sites close to the required size within the City limits. The only large sites he was aware of were less than 50 acres each and not contiguous with each other (personal communication, November 26, 2012). Therefore, there is no feasible alternative site for the proposed project within the City of Riverside.
City of San Jacinto	Ascher Hartel, Planning Director, said the City of San Jacinto did not have the required amount of vacant land available zoned for industrial use in the City, and there are no freeways or rail service immediately available to the City. He did say the City's "Gateway" area in the northwestern portion of the City, along Ramona Expressway, had approximately 1,700 acres and is mostly vacant, but the property is designated for a mix of residential, commercial, and business park uses in the General Plan, and any non-residential uses would have to be high employment generators (personal communication, November 27, 2012). Therefore, there is no feasible alternative site for the proposed project within the City of San Jacinto.
County of Riverside	Frank Coyle, Deputy Director, Advanced Planning Division Riverside County Planning Department, suggested the County's GIS Department could identify all vacant unincorporated land zoned Light Industrial or Business Park along the I-215 corridor south of Moreno Valley to the City of Perris (personal communication, November 21, 2012). Larry Ross with the County's GIS Department said its research shows a total of 1,280 acres of vacant land designated for light industrial or business park uses where warehousing would be appropriate (see Figure 6.1)(personal communication, November 26, 2012 and data/mapping info sent November 29, 2012). This land constitutes hundreds of parcels under separate ownerships distributed along the west side of I-215 from Nandina Avenue south to Nuevo Road. This "corridor" land is spread out up to a half mile away from the freeway and is not in large contiguous blocks, and it is adjacent to many rural residential parcels and uses. In addition, it is less than half the size needed for a similar amount of logistics warehousing development as under the proposed project. For these reasons, it would be infeasible to consolidate and propose development of industrial-zoned unincorporated land along this portion of I-215. In addition to the I-215 corridor, the "Villages of Lakeview" property located south of Mystic Lake off of Ramona Expressway is at least one additional potential site in the general project area that has sufficient acreage to accommodate the WLC project. This property has already been proposed for a variety of residential uses (11,350 units on 2,800 acres) but the EIR for that project was successfully challenged in court this year (Riverside County EIR 471). While the property is large enough, it is already proposed for residential development so it would be infeasible to use this property to support development equivalent to the proposed project. Although it is relatively far from the project area (approximately 22 miles to the west-northwest along the east side of I-15 south of SR-60), the Mira Loma area of the County supports a variety of large warehouses and has rail service available, so it is a potential location for additional logistics warehouses. The Jurupa Area Plan indicates that warehouse uses are allowed only in the area bounded by San Sevaine Channel from Philadelphia Street southerly to Galena Street on the east, Galena Street from the San Sevaine Channel to Riverside Drive, then Riverside Drive westerly to Milliken Avenue,

Table 6.R: Evaluation of Potential Alternative Sites

Jurisdiction/Map Reference*	Contact/Results
	then Milliken Avenue north to Philadelphia Street on the west, and Philadelphia Street easterly to the San Sevaine Channel on the north. A visual inspection of aerial photographs of the Mira Loma area indicates the largest individual vacant parcel or group of adjacent vacant parcels in this area occupies approximately 800 acres, most of which is currently being used for agriculture (i.e., vineyards)(east of I-15 on both sides of Bellegrave Avenue). Otherwise, there are no vacant parcels of more than 100 acres in size in this area (not shown in Figure 6.1).
City of Jurupa Valley (not shown in Figure 6.1)	The newly incorporated City of Jurupa Valley, located south of SR-60 just west of the City of Riverside, also has vacant industrial-zoned land available for warehousing, but all currently vacant parcels are 50 acres or less in size and not contiguous as to be able to form a parcel nearly large enough to support the proposed project (Ernest Perea, former City contract planner, personal communication, January 4, 2013).
March Joint Powers Authority	The March JPA website (www.marchjpa.com) indicates there is a total of approximately 750 acres of developable land west of I-215, north of Van Buren Boulevard and south of Alessandro Boulevard within the MJPA. At present, this land is planned for a mixture of business park, commercial, industrial, public facilities, and open space uses. Even if all this land was committed to logistics warehousing, it would only represent 28% of the WLC project site. Therefore, an alternative site for the proposed project on March JPA property is infeasible.

* See Figure 6.1

6.4 COMPARISON OF PROJECT ALTERNATIVES

The following discussion compares the impacts of each alternative with the impacts of the proposed project, as detailed in Section 4.0 of this EIR. Table 6.S compares the impacts of the alternatives with those of the proposed project. This table identifies whether the alternative results in (1) a reduction of the impact; (2) a greater impact than the project; or (3) the same impact as the project.

Table 6.S: Comparison of Alternatives to the Proposed Project

Environmental Issue	Proposed Project	No Project No Build	No Project Existing General Plan	Alt. 1 Reduced Density	Alt. 2 Mixed Use A	Alt. 3 Mixed Use B
Aesthetics	SIG	NI	←LTS	=	=	←LTS
Agricultural and Forest Resources	SIG	NI	=	=	=	=
Air Quality	SIG	NI	SIG	←SIG	→SIG/+	←SIG
Biological Resources	LTS/mit	NI	=	=	=	=
Cultural Resources	LTS/mit	NI	=	=	=	=
Geology and Soils	LTS/mit	NI	=	=	=	=
Global Climate Change	SIG	NI	←SIG	←SIG	→SIG	←SIG
Hazards and Hazardous Materials	LTS/mit	NI	=	=	=	=
Hydrology and Water Quality	LTS/mit	NI	=	=	=	=
Land Use and Planning	SIG	NI	LTS	=	=	=
Mineral Resources	NI	=	=	=	=	=
Noise	SIG	NI	←SIG	←SIG	←SIG	←SIG

Table 6.S: Comparison of Alternatives to the Proposed Project

Environmental Issue	Proposed Project	No Project No Build	No Project Existing General Plan	Alt. 1 Reduced Density	Alt. 2 Mixed Use A	Alt. 3 Mixed Use B
Population, Housing, and Employment	LTS	NI	+	=	=	+
Public Services (police, fire, schools, parks)	LTS/mit	NI	=	=	=	=
Transportation and Traffic	SIG	NI	➔SIG	←SIG	➔SIG+	➔SIG
Utilities and Service Systems (water, wastewater, etc.)	LTS/mit	NI	=	=	=	=

Proposed Project
NI: No Impact
LTS: Less than Significant Impact
LTS/mit: Less than Significant Impact with Mitigation
SIG: Significant Impact with or without Mitigation

Project Alternatives
= Compared with the proposed project, no change in the significance of impact will occur.
➔ Compared with the proposed project, the significance of the impact is increased.
← Compared with the proposed project, the significance of the impact is reduced.
+ Compared with the proposed project, a new impact has been identified.
←SIG Compared with the proposed project, the volume or extent of the impact is reduced, yet still significant.

6.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As detailed above in Table 6.S, the No Project/Existing General Plan Alternative has mixed impacts relative to the propose project; it reduces aesthetic impacts to less than significant levels but worsens the jobs/housing ratio by introducing more housing than employment-generating uses. The Reduced Density Alternative incrementally reduces a number of impacts of the proposed project (e.g., traffic, air quality, and noise) but cannot reduce them to less than significant levels even with mitigation. The Mixed Use A Alternative substantially increases traffic and related impacts compared to the project impacts, but it does not create any additional significant impacts. The Mixed Use B Alternative would incrementally increase traffic and would not improve the jobs/housing balance. It would incrementally reduce health risks to existing residents along Redlands Boulevard (i.e., 30 percent less warehousing), but could create health risks for new residents depending on the ultimate location of warehouses and new residences. In addition, this alternative would also worsen the jobs/housing ratio of the City by allowing the construction of many more homes than job-creating land uses. Regarding air quality impacts (criteria pollutants and greenhouse gases), development of any land uses would likely exceed SCAQMD thresholds mainly due to the size of the proposed project site.

The *CEQA Guidelines* (Section 15126.6 (e[2]) requires that an environmentally superior alternative be identified in the EIR. Based on the analysis in this section and the summary contained in Table 6.S, Alternative 1 – Reduced Density – is the only alternative that reduces traffic, air quality, and related impacts by reducing the total square footage of warehousing by 30 percent. Alternative 3—Mixed Use B—is the only alternative that would reduce a significant impact of the proposed project (i.e., aesthetics – views). However, it could create health risks for future residents of the project, and would worsen the jobs/housing balance of the City over the long term. For these reasons, Alternative 1 – Reduced Density —has been deemed to be environmentally superior to the proposed project. However, none of the alternatives achieves the objectives of the project to nearly the same degree as the proposed project.

Table 6.T compares Alternative 1 to the project objectives and indicates that Alternative 1 does not meet most of the major goals of the proposed project mainly because of the reduced total square

footage by 30 percent, which also reduces the amount of new employment and property tax revenues generated to the City.

Table 6.T: Comparison of the Environmentally Superior Alternative to the Project Objectives

Project Objectives	Degree to Which Alternative 1 Satisfies the Project Objectives
Maximize employment opportunities within the City of Moreno Valley and surrounding communities by seeking to entitle one of the fastest-growing economic sectors in California.	**Not to the Same Degree as the Proposed Project.** This alternative would provide only 17,396 new employees compared to 24,642 from the proposed project (30% less).
Create a high-quality regional logistics center to meet current market demands and to provide jobs for residents at a variety of income levels.	**Not to the Same Degree as the Proposed Project.** This alternative would only introduce 29 MSF of logistics warehousing and 17,396 new jobs, compared to 41.6 MSF and 24,642 jobs under the proposed project.
Provide the land use designations and infrastructure plans necessary to support the City's Economic Development Action Plan.	**Not to the Same Degree as the Proposed Project.** The alternative introduces substantially less employment-generating uses on the site which is not consistent with the City's Economic Strategic Plan.
Create a major logistics center in Rancho Belago that takes advantage of the area's close proximity to various freeways and transportation corridors.	**Not to the Same Degree as the Proposed Project.** The alternative would allow 29 MSF of logistics warehousing near the SR-60 Freeway but it would less attractive as a major regional logistics center compared to the proposed project.
Cluster logistics uses near efficient access points to the state highway system to reduce traffic congestion on surface streets and to reduce related air pollutant emissions from vehicle sources.	**Meets Objective.** This alternative would locate logistics uses adjacent to SR-60.
Establish design standards and development guidelines to ensure a consistent and attractive appearance throughout the entire project.	**Meets Objective.** Development of the project area under this alternative would most likely proceed under some form of specific plan, which would help ensure future development was consistent with a comprehensive plan for the area.
Establish a master plan for the entire project area to ensure that the project is efficient and business-friendly, accommodating the next-generation of logistics buildings.	**Meets Objective.** The alternative would develop a smaller amount of logistics warehousing compared to the proposed project, but it would still be master planned, most likely under a specific plan.
Create a project that will provide a balanced approach to the City's fiscal viability, economic expansion, and environmental integrity.	**Not to the Same Degree as the Proposed Project.** The alternative would not provide nearly as much new warehouse capacity to form a regional port-oriented logistics center compared to the proposed project.
Provide the infrastructure improvements required to meet project needs in an efficient and cost-effective manner.	**Not to the Same Degree as the Proposed Project.** The alternative would produce 30% less employment than under the proposed project, and would also provide less property tax revenue and be able to pay for less public improvements and infrastructure compared to the proposed project.
Encourage new development consistent with regional and municipal service capabilities.	**Not to the Same Degree as the Proposed Project.** It is unclear if a substantially reduced logistics warehousing project could afford to provide the necessary infrastructure to support the planned development compared to the proposed project.
Maximize employment opportunities within the City to improve the jobs/housing balance and help reduce systemic unemployment within the City.	**Not to the Same Degree as the Proposed Project.**. This alternative would provide only 17,396 new employees compared to 24,642 from the proposed project (30% less).

Table 6.T: Comparison of the Environmentally Superior Alternative to the Project Objectives

Project Objectives	Degree to Which Alternative 1 Satisfies the Project Objectives
Provide thousands of construction job opportunities during the project's buildout phase to improve the jobs/housing balance and help reduce systemic unemployment.	**Not to the Same Degree as the Proposed Project.** The alternative would not provide as much work for as many construction workers compared to the proposed project
Provide appropriate transitions or setbacks between on-site and off-site uses.	**Meets Objective.** A smaller logistics warehouse project may be able to provide equal or greater transitions and buffers from existing off-site residential uses compared to the proposed project.

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7.2 ACRONYMS AND ABBREVIATIONS

§ — Section

§§ — Subsection

°C — degrees Celsius

°F — degrees Fahrenheit

µg/m^3 — Micrograms per cubic meter

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACC	Andrew Chang and Company
ACM	Asbestos-Containing Material
AF	acre-feet
AFRES	Air Force Reserve
AFV	Alternative Fuel Vehicle
AFY	acre feet per year
AICUZ	Air Installation Compatible Use Zone
ALUC	Airport Land Use Commission
ALUP	Airport Land Use Plan
amsl	above mean sea level
A-P Act	*Alquist-Priolo Earthquake Fault Zoning Act*
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
AST	Aboveground Storage Tank
Basin	South Coast Air Basin
BAU	Business As Usual
BDCP	Bay Delta Conservation Plan
BMP	Best Management Practice
BP	Business Park
BV&A	Bear Valley and Alessandro Development Company
BVIC	Bear Valley Irrigation Company
BVLWC	Bear Valley Land and Water Company
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CalFire	California Department of Forestry and Fire Protection

CALGreen Code	California Green Building Standards Code
California Register	California Register of Historic Resources
Caltrans	California Department of Transportation
CAPSSA	Criteria Area Plant Species Survey Area
CARB	California Air Resources Board
CASQA	California Stormwater Quality Association
CASSA	Criteria Area Species Survey Area
CAT	California Climate Action Team
CBC	California Building Code
CBOC	California Burrowing Owl Consortium
CBSC	California Building Standards Commission
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFG	California Department of Fish and Game, former name of the California Department of Fish and Wildlife
CDFW	California Department of Fish and Wildlife, formerly known as the California Department of Fish and Game
CDGB	Community Development Block Grant
CDMG	California Department of Mines and Geology
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response Compensation Liability Act
CESA	California Endangered Species Act
CFCs	chlorofluorocarbons
CFR	Code of Federal Regulations
CFS	calls for service
cfs	cubic feet per second
CGP	Construction General Permit
CGS	California Geological Survey
CH_4	Methane

CHP	California Highway Patrol
CIP	Capital Improvement Plan
CIWMB	California Integrated Waste Management Board
CLUP	Comprehensive Land Use Plan
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNG	Compressed Natural Gas
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
COA	Coordinated Operations Agreement
CPD	(HUD Office of) Community and Planning Development
CPUC	California Public Utilities Commission
CRA	California Resource Agency
CRA	Cultural Resource Assessment
CSC	California Species of Concern
CUPA	Certified Unified Program Agency
CUWCC	California Urban Water Conservation Council
CVC	California Vehicle Code
CVP	Central Valley Project
CWA	(Federal) Clean Water Act
CWC	California Water Code
DAMP	Drainage Area Management Plan
dB	decibel
dBA	decibel on the A-weighted scale
DBESP	Determination of a Biologically Equivalent or Superior Preservation
DCIA	Directly Connected Impervious Area
DE	Diesel Emissions

DEH	Department of Environmental Health
DHS	(California) Department of Health Services
DIF	Development Impact Fee
DMM	Demand Management Measure
DMP	Drainage Master Plan
DOC	(California) Department of Conservation
DOF	(California) Department of Finance
DTA	David Taussig & Associates, Inc.
DTSC	(California) Department of Toxic Substance Control
DWR	(California) Department of Water Resources
e.g.	*exemplī grātiā*, for example
ECSD	Edgemont Community Services District
EDR	Environmental Data Resources
EIC	Eastern Information Center
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMWD	Eastern Municipal Water District
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act
ESA	Environmental Site Assessment
ESG	Emergency Solutions Grant
FAA	Federal Aviation Administration
FAR	Floor to Area Ratio
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
ft	foot/feet
FTA	Federal Transit Administration

FTE	full-time equivalent
GCC	Global Climate Change
GHG	Greenhouse gas
GIS	Geographic Information Systems
GPA	General Plan Amendment
gpd	gallons per day
gpf	gallons per flush
GWP	Global Warming Potential
HANS	Habitat Evaluation and Acquisition Negotiation Strategy
HCD	(California) Department of Housing and Community Development
HCM	*Highway Capacity Manual*
HCP	Habitat Conservation Plan
HFCP	Highland Fairview Corporate Park
HHWE	Household Hazardous Waste Element
HI	Hazard Indices
HMB	Hazardous Materials Branch
HMBEP	Hazardous Materials Business Emergency Plan
HMMA	Hazardous Materials Management Act
HMMP	Habitat Mitigation and Monitoring Plan
HNL	Hourly Noise Level
HOME	HOME Investment Partnership
HOPWA	Housing Opportunities for Persons with AIDS
hp	horsepower
HRA	Health Risk Assessment
HSA	Hydrologic Subarea
HSC	Health and Safety Code
HUD	Housing and Urban Development
HVAC	Heating, Ventilating, and Air Conditioning
HWCL	Hazardous Waste Control Law
Hz	hertz

i.e.	*id est*, that is
IMPLAN	Impact Analysis for Planning
IPCC	United Nations Intergovernmental Panel on Climate Change
IRP	Integrated Resources Plan
IS	Initial Study
ITE	Institute of Transportation Engineers
kV	kilovolt
LAFCO	Local Agency Formation Commission
LAPM	Los Angeles pocket mouse
LBP	Lead-Based Paint
LBRMP	Logistic Building Runoff Management Plan
lbs	pounds
LCC	Land Capability Classification
LD	Logistics Development
L_{dn}	day-night average noise
LE	Land Evaluation
LEED	Leadership in Energy and Environmental Design
L_{eq}	Equivalent continuous sound level (L_{eq})
LESA	(California) Land Evaluation and Site Assessments
LHMP	Local Hazard Mitigation Plan
LI	Light Industrial
LID	Low Impact Development
LL	Light Logistics
L_{max}	maximum noise level
LNG	Liquefied Natural Gas
LNG/CNG	liquefied natural gas/compressed natural gas
LOS	Level of Service
LS	Logistics Support
LSA	LSA Associates, Inc.
LST	Local Significance Threshold

MARB	March Air Reserve Base
MATES	Multiple Air Toxics Exposure Study
MBA	Michael Brandman Associates
MBTA	Migratory Bird Treaty Act
MC	Municipal Code
Metropolitan	Metropolitan Water District of Southern California
mgd	million gallons per day
MHSP	Moreno Highlands Specific Plan
MICR	maximum individual cancer risk
MIP	March Inland Port
MJPA	March Joint Powers Authority
mm/yr	millimeters per year
MMDP	Moreno Master Drainage Plan
MMRP	Mitigation Monitoring and Reporting Program
mmt	million metric tons
MOU	Memorandum of Understanding
mpg	miles per gallon
mph	miles per hour
MPO	Metropolitan Planning Organization
MPOA	Master Property Owners Association
MPT	Master Plan of Trails
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer Systems
MSHCP	(Western Riverside County) Multiple Species Habitat Conservation Plan
mt	metric tons
mty	metric tons per year
MVEU	Moreno Valley Electric Utility
MVFD	Moreno Valley Fire Department
MVHS	Moreno Valley Historical Society

MVPD	Moreno Valley Police Department
MVRWRF	Moreno Valley Regional Water Reclamation Facility
MVUSD	Moreno Valley Unified School District
MW	megawatt
MWh	megawatt-hours
N_2O	nitrous oxide
NA	Native American
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAIOP	National Association of Industrial and Office Properties
National Register	National Register of Historic Places
NCCP	Natural Communities Conservation Plan
NDDB	Natural Diversity Data Base
NDFE	Nondisposal Facility Element
NEPA	National Environmental Policy Act
NEPSSA	Narrow Endemic Plant Species Survey Area
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NHTSA	Highway Traffic and Safety Administration
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NOI	Notice of Intent
NOP	Notice of Preparation
NO_X	Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCP	Noise Reduction Compliance Plan
NRCS	Natural Resource Conservation Service
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment

OHP	Office of Historic Preservation
OHWM	Ordinary High Water Mark
OMB	(White House) Office of Management and Budget
OPR	Office of Planning and Research
OS	Open Space
PAH	Polycyclic Aromatic Hydrocarbon
Pb	Lead
PCBs	polychlorinated biphenyls
PEA	Preliminary Environmental Assessment
PM_{10}	Particulate Matter with a Diameter of 10 Microns or Less
$PM_{2.5}$	Particulate Matter with a Diameter of 2.5 Microns or Less
POTWs	Publicly Owned Treatment Works
POU	Publically Owned Utility
ppb	parts per billion
ppm	parts per million
PSB	Public Safety Building
PUC	Public Utilities Code
PVC	Polyvinyl Chloride
PVCCSP	Perris Valley Commerce Center Specific Plan
PVSC	Perris Valley Storm Channel
PWC	Public Works Committee
PWQMP	Preliminary Water Quality Management Plan
PZ	Pressure Zone
q.v.	*quod vidē*, which see (presented elsewhere in the document)
RCA	Resource Conservation Agency
RCB	reinforced concrete box
RCC	Riverside Community College
RCFCWCD	Riverside County Flood Control and Water Conservation District
RCFD	Riverside County Fire Department
RCIP	Riverside County Integrated Project

RCIWMP	Riverside Countywide Integrated Waste Management Plan
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act
RCSD	Riverside County Sheriff's Department
RCTC	Riverside County Transportation Commission
RHNA	Regional Housing Needs Assessment
RivTAM	Riverside County Traffic Analysis Model
ROG	Reactive Organic Gas
RPR	(California) Rare Plant Ranking
RPS	Renewables Portfolio Standard
RPW	Relatively Permanent Water
RSHA	Regional System of Highways and Arterials
RTA	Riverside Transit Agency
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SA	Site Assessment
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCGC	Southern California Gas Company
SCS	Sustainable Communities Strategy
SDG&E	San Diego Gas and Electric
SEDAB	Southeast Desert Air Basin
sf	square foot/feet
SF_6	Sulfur Hexafluoride
SHMA	Seismic Hazards Mapping Act

SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SJUSD	San Jacinto Unified School District
SJWA	San Jacinto Wildlife Area
SKR	Stephen's kangaroo rat
SKR HCP	Stephen's kangaroo rat Habitat Conservation Plan
SMARA	Surface Mining and Reclamation Act
SO_2	Sulfur Dioxide
SO_X	Sulfur Oxides
SP	Service Population
SR-60	State Route 60
SRRE	Source Reduction and Recycling Element
SSURGO	Soil Survey Geographic
STC	Sound Transmission Class
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWQCB	State Water Quality Control Board
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TAF	thousand acre-feet
TASAS	Traffic Accident Surveillance and Analysis System
TCM	Transportation Control Measures
TCP	Traditional Cultural Place
TDM	Transportation Demand Management
TDS	Total Dissolved Solids
TIA	Traffic Impact Analysis
TIS	Traffic Impact Study
TMDL	Total Maximum Daily Load
TNW	Traditional Navigable Water
tpy	tons per year

TRI	Toxics Release Inventory
TUMF	Transportation Uniform Mitigation Fee
UBC	Uniform Building Code
UC	University of California
UNFCCC	United Nations Framework Convention on Climate Change
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
UWMP	Urban Water Management Plan
VAV	Variable Air Volume
VIA	Visual Impact Assessment
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
VRP	Visibility-Reducing Particles
WDR	Wastewater Discharge Requirement
WLC	World Logistics Center
WLCSP	World Logistics Center Specific Plan
WQMP	Water Quality Management Plan
WRCOG	Western Riverside Council of Governments
WSA	Water Supply Assessment
WSP	Water Shortage Plan
ZOI	Zone of Influence

7.3 GLOSSARY OF GENERAL TERMS

Acre-Foot. An acre-foot is the quantity of volume of water that covers one acre to a depth of one foot; equal to 43,560 cubic feet or 325,851 gallons.

Aesthetics. The perception of artistic elements, or elements in the natural or human-made environment that are pleasing to the eye.

Air Quality Criteria. Air quality criteria are the levels of pollution and length of exposure at which adverse effects on health and welfare occur.

Air Quality Standards. Air quality standards are the prescribed level of pollutants in the outside air that cannot be exceeded legally during a specified time in a specified geographical area.

Ambient Noise. Ambient noise is the composite of noise from all sources near and far. The ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Applicant. An applicant is a person who proposes to carry out a project that needs a lease, permit, license, certificate, or other entitlement, for use or financial assistance from one or more public agencies.

Arterial. An arterial is a major street carrying the traffic of local and collector streets to and from freeways and other major streets, with controlled intersections and generally providing direct access to non-residential properties.

Attainment. Attainment means that there is compliance with State and Federal ambient air quality standards within an air basin.

A-Weighted Decibel (dBA). The dB on the A-weighted scale is the sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.

California Environmental Quality Act (CEQA). Enacted in 1970, CEQA requires State and local agencies to estimate and evaluate the environmental implications of their actions. It aims to prevent environmental effects of the agency actions by requiring agencies, when feasible, to avoid or reduce the significant environmental impacts of their decisions. If a proposed activity has the potential for a significant adverse environmental impact, an environmental impact report (EIR) must be prepared and certified as to its adequacy before taking action on the proposed project (*California Public Resources Code* §§21000 et seq.)

Capacity. The maximum rate of flow at which vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions.

Collector. Relatively low-speed, low-volume street that provides circulation within and between neighborhoods. Collectors usually serve short trips and are intended for collecting trips from local streets and distributing them to the arterial network.

Community Noise Equivalent Level (CNEL). A 24-hour energy equivalent level derived from a variety of single-noise events, with weighting factors of 5 and 10 dBA applied to the evening (7 p.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) periods, respectively, to allow for greater sensitivity to noise during these hours.

Congestion Management Plan (CMP). A mechanism employing growth management techniques, including traffic level of service requirements, standards for public transit, trip reduction programs involving transportation systems management and jobs/housing balance strategies, and capital improvement programming, for the purpose of controlling and/or reducing the cumulative regional traffic impacts of development.

Cumulative Impact. As used in CEQA, the total impact resulting from the accumulated impacts of individual projects or programs over time.

Day-Night Average Level (L_{dn}). The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of 10 decibels to sound levels in the night after 10 p.m. and before 7 a.m. (Note: CNEL and L_{dn} represent daily levels of noise exposure averaged on an annual or daily basis, while L_{eq} represents the equivalent energy noise exposure for a shorter time period, typically one hour.)

Decibel (dB). The decibel (dB) is the unit of level that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.

Emission Standard. The maximum amount of pollutant legally permitted to be discharged from a single source, either mobile or stationary.

Environment. In CEQA, the environment are "the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, mineral, flora, fauna, noise, and objects of historic or aesthetic significance."

Environmental Impact Report (EIR). A report required pursuant to the California Environmental Quality Act that assesses all the environmental characteristics of an area, determines what effects or impacts will result if the area is altered or disturbed by a proposed action, and identifies alternatives or other measures to avoid or reduce those impacts.

Equivalent Energy Level (L_{eq}). L_{eq} is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. L_{eq} is typically computed over 1-hour, 8-hour, and 24-hour sample periods.

Feasible. To be feasible, according to CEQA, means to be capable of being accomplished in a successful manner within a reasonable time taking into account economic, environmental, social, and technological factors.

Findings. Findings required by CEQA are the conclusions made regarding the significance of a project in light of its environmental impacts. A Statement of Overriding Considerations does not obviate the need to make other required CEQA findings.

Floor Area Ratio (FAR). The FAR is the gross floor area permitted on a site divided by the total net area of the site, expressed in decimals to one or two places. For example, on a site with 10,000 net square feet of land area, a floor area ratio of 1.0 will allow a maximum of 10,000 gross square feet of building floor area to be built. On the same site, an FAR of 1.5 would allow 15,000 square feet of floor area; an FAR of 2.0 would allow 20,000 square feet; and an FAR of 0.5 would allow 5,000 square feet. Also commonly used in zoning, FARs typically are applied on a parcel-by-parcel basis as opposed to an average FAR for an entire land use or zoning district.

Floor Area, Gross. The sum of the horizontal areas of the several floors of a building measured from the exterior face of exterior walls, or from the centerline of a wall separating two buildings, but not including any space where the floor-to-ceiling height is less than six feet. Some cities exclude specific kinds of space (e.g., elevator shafts and parking decks) from the calculation of gross floor area.

Freeway. A freeway is a high-speed, high-capacity, limited-access road serving regional and countywide travel. Such roads are free of tolls, as contrasted with turnpikes or other toll roads. Freeways generally are used for long trips between major land use generators. Major streets cross at a different grade level.

Incorporation by Reference. "Incorporation by reference" is a CEQA term meaning reliance on a previous environmental document for some portion of the environmental analysis of a project. See *CEQA Guidelines* §15150.

Initial Study. An Initial Study is a preliminary CEQA analysis that can be prepared by a Lead Agency to determine whether an EIR or Negative Declaration must be prepared, and identifying the significant environmental effects to be analyzed in an EIR.

Land Use. Any land use is the determination by a governing authority of the use to which land within its jurisdiction may be put so as to promote the most advantageous development of the community.

Lead Agency. The lead agency is the public agency that has the principal responsibility for carrying out or approving a project. The Lead Agency decides whether an EIR or Negative Declaration is required for a project, and causes the appropriate document to be prepared.

Level of Service (LOS). LOS is a qualitative measure describing operational conditions within a traffic stream and how motorists and/or passengers perceive them.

Maximum Noise Level (L_{max}). The maximum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.

Mitigation Measure. A mitigation measure is a change in a project designed to avoid, minimize, rectify, reduce, or compensate for a significant environmental impact.

Mitigation Monitoring and Reporting Program (MMRP). When a lead agency adopts a mitigated negative declaration or an EIR, it must adopt a program of monitoring or reporting which will ensure that mitigation measures are implemented. (See CEQA Statute §21081.6(a) and *CEQA Guidelines* §§15091(d) and 15097.)

Noise. Noise is any sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying (unwanted sound).

Noise Contours. Noise contours are lines drawn about a noise source indicating equal levels of noise exposure.

Notice of Determination (NOD). An NOD is a brief notice filed with the State Clearinghouse to document project approval. The filing of the NOD starts the statute of limitations period. (See *CEQA Guidelines* §15373.)

Notice of Preparation (NOP). An NOP is a brief notice to notify the public, Responsible and Trustee Agencies that an EIR is being prepared for a project. The notice serves to solicit guidance from those agencies and the public about the scope and content of the environmental information to be included in the EIR. (See *CEQA Guidelines* §15375.)

Peak Hour. The hour of highest traffic volume on a given section of roadway between 7:00 a.m. and 9:00 a.m. or between 4:00 p.m. and 6:00 p.m.

Programmatic EIR. A programmatic EIR is an EIR that examines the impacts that would result from a conceptual plan or policy action envisioned by the lead agency, which is carried out at a more general level of analysis based upon the development information available. (See C*EQA Guidelines* §15161.)

Project. According to CEQA, a project is the whole of an action that has the potential to result in significant environmental change in the environment, directly or ultimately. (See *CEQA Guidelines* §15378.)

Project Description. A project description describes the basic characteristics of the project including location, need for the project, project objectives, technical and environmental characteristics, project size and design, project phasing and required permits. The level of detail provided in the project description varies according to the type of environmental document prepared.

Project EIR. A project EIR is an EIR that examines the impacts that would result from development of a specific project. (See C*EQA Guidelines* §15161.)

Public Hearing. A public hearing is a mechanism for providing the public an opportunity to comment on and present evidence relating to a proposed project and its Draft EIR.

Responsible Agencies. According to CEQA, responsible agencies are all public agencies other than the Lead Agency that have discretionary approval power over the project. (See *CEQA Guidelines* §15381.)

Reviewing Agencies. Reviewing agencies are local, State, and Federal agencies with jurisdiction over the project area or resources potentially affected by the project. Cities and counties are also considered reviewing agencies.

Scoping Meeting. A scoping meeting is an optional meeting pursuant to CEQA in which the lead agency meets with members of the public or agency representatives after the Notice of Preparation

has been issued to discuss environmental issues related to a project. Scoping sessions provide the opportunity to discuss environmental issues, project alternatives and potential mitigation measures that may warrant in-depth analysis in the environmental review process.

Sensitive Receptors. Sensitive receptors are people or institutions with people that are particularly susceptible to illness from environmental pollution, such as the elderly, very young children, people already weakened by illness (e.g., asthmatics), and persons engaged in strenuous exercise.

Significant Effect on the Environment. A significant effect on the environment means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance (*CEQA Guidelines* §15382).

Thresholds of Significance. Thresholds of significance are criteria for each environmental issue area to assist with determinations of significance of project impacts. They are based on *CEQA Guidelines* Appendix G.

Trustee Agency. According to CEQA, a Trustee agency is a State agency that has jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California. (See *CEQA Guidelines* §15386.)

Volume (Transportation). The volume of traffic is the total number of vehicles that pass over a given point or section of a roadway during a given time interval. Volumes may be expressed in terms of annual, daily, hourly, or sub-hourly periods.

Wastewater. Wastewater is water carrying dissolved or suspended solids from homes, farms, businesses, and industries. The wastewater treatment process includes any process that modifies characteristics of the wastewater, usually for the purpose of meeting effluent standards.

Zoning. Regulation by zone districts of the height, use, and area of structures, the use of land, and the density of population and intensity of allowable uses.

7.4 GLOSSARY OF PROJECT-SPECIFIC DEFINITIONS

The following definitions are excerpts from Section 3.4, *Project Description*.

Annexation Area: This term refers to an 85-acre parcel located adjacent to Gilman Springs Road that is to be annexed into the City of Moreno Valley. The parcel is already within the City's adopted Sphere of Influence adopted on November 21, 1985.

CDFW Conservation Buffer Area: This term refers to a 910-acre parcel owned by the State of California as part of the San Jacinto Wildlife Area (SJWA). This land is within the City of Moreno Valley and is included in the approved Moreno Highlands Specific Plan. That plan designates this property for a broad mix of urban uses including suburban residential, schools, parks, and roads. This land was purchased by the State in 1991 to act as a buffer between the sensitive biological resources of the SJWA and the future urban development under the Moreno Highlands Specific Plan. This land has been actively farmed for many decades and most of it remains in active production. The southwestern portion contains areas of non-native grasslands, although aerial photographs show that this area has been intermittently tilled over the last 80 years. This property is included in the General Plan Amendment and the Zone Change to replace the current urban land uses that are permitted and replace them with Open Space and Public Facility designations. This property is not within the proposed World Logistics Center Specific Plan. This Buffer Area is a large part of the "Other Project Areas" described herein.

General Plan Amendment: One of the proposed entitlements is a General Plan Amendment (GPA) that will permit the establishment of logistics land uses on the 3,814-acre property located east of Redlands and south of SR-60. The following General Plan Elements will be amended: Community Development; Circulation; Parks, Recreation, and Open Space; Safety; Conservation; and General

Plan Goals and Objectives. The GPA will replace the current Moreno Highland Specific Plan/General Plan Designations with the following land use designations: (a) 2,606 acres for high cube logistics development; (b) 1,084 acres of Open Space; and (c) 20 acres for Public Facilities.

Moreno Highlands Specific Plan: This term refers to the currently approved Specific Plan that covers 3,038 acres of the project area. This Specific Plan permits the development of a master planned, mixed-use community consisting of up to 7,763 residential dwelling units and approximately 603 acres of business, retail, institutional, and other uses. This development will be replaced with the World Logistics Center Specific Plan and 1,104 acres of Open Space and Public Facilities uses.

Off-site Analysis Zone: This term refers to an approximately 1,000-foot wide zone adjacent to the south and east boundaries of the Specific Plan area that was studied by Michael Brandman Associates (MBA) as part of the assessment of potential impacts on biological resources. It covers approximately 1,637.5 acres.

Off-site Improvement Areas: Development under the Specific Plan will require construction of a number of offsite infrastructure improvements covering approximately 104 acres of land adjacent to the Specific Plan Site including, but not limited to the following facilities (see Figure 3.7):

- Debris Basins easterly of Gilman Springs Road;
- Water reservoirs and access roads located northeast, north, and west of the project site;
- SR-60 interchange improvements; and
- Roadway, water, sewer, drainage, and utility improvements extending north and west from the project.

Other Project Areas: The San Diego Gas & Electric Company (SDG&E) and the Southern California Gas Company (SCGC) own a total of 194 acres of land immediately south of the Specific Plan site. These properties are included in the proposed General Plan Amendment and the Zone Change to designate them for Open Space and Public Facilities uses. These designations are consistent with present uses. These properties are not within the proposed World Logistics Specific Plan. Approximately 174 acres of the land owned by SDG&E will be designated as Open Space. Nineteen acres of SDG&E land and one acre of SCGC land will be designated as Public Facilities.

Project Site or Project Area: This term refers to the entire 3,918-acre area covered by the EIR encompassed by: (a) the Specific Plan Area (2,710 acres); (b) the CDFW Conservation Buffer Area (910 acres); c) the Public Facilities Lands area (194 aces); and (d) the Off-site Improvement Area on 104 acres.

Proposed Project or World Logistics Center Project: General term applied to all of the entitlements outlined above that are addressed in this EIR, including:

WLC Specific Plan .....2,710 acres
General Plan Amendment.....3,814 acres
Zone Change .....3,814 acres
Tentative Parcel Map .....1,539 acres
Annexation .....85 acres
Off-site improvements.....104 acres

Specific Plan Site: Approximately 2,710 acres of the project area are included in the proposed World Logistics Center (WLC) Specific Plan, located generally south of the SR-60 Freeway, east of Redlands Boulevard, west of Gilman Springs Road, and north of the San Jacinto Wildlife Area.

State Lands: Refers to lands owned by the State of California and includes the San Jacinto Wildlife Area (SJWA) located south of the Specific Plan Site, and the Lake Perris State Recreation Area (LPSRA) located southwesterly of the Specific Plan Site.

Tentative Parcel Map Area: A Tentative Parcel Map is being processed to subdivide 1,539 acres of the project for financing purposes only. This property is owned by the project applicant. Approval of the map will confer no development rights to the property.

WLC Specific Plan: The WLC Specific Plan proposes a master-planned logistics campus to include up to 41.4 million square feet of high-cube logistics warehousing, up to 200,000 square feet of light logistics uses, a site for logistics support uses (LS designation) and 75 acres of Open Space in the southwest corner of the site. The Specific Plan includes extensive development standards, design guidelines and review procedures for all development within the project.

World Logistics Center Project: The term refers to all related development and planning activities currently proposed by Highland Fairview in the Rancho Belago area of the eastern end of the City of Moreno Valley. The WLC property is generally located south of the State Route 60 freeway, east of Redlands Boulevard, west of Gilman Springs Road, and north of Mystic Lake and the San Jacinto Wildlife Area.

Zone Change: The project includes a Zone Change covering 3,814 acres which will designate 1,084 acres of land for Open Space (CDFW and SDG&E properties), 20 acres for Public Facilities (SDG&E, SCGC properties) and 2,710 acres for the World Logistics Center Specific Plan.

8.0 LIST OF PREPARERS

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