City of Eastvale

LBA Realty Eastvale Industrial Development Project

Draft
Environmental Impact Report

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rincon

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Environmental Scientists Planners Engineers

DRAFT
ENVIRONMENTAL IMPACT REPORT

LBA REALTY EASTVALE INDUSTRIAL DEVELOPMENT PROJECT

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LBA REALTY EASTVALE INDUSTRIAL DEVELOPMENT PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT

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EXECUTIVE SUMMARY

This section summarizes the characteristics of the proposed project and the environmental impacts, mitigation measures, and residual impacts associated with the proposed project.

PROJECT SYNOPSIS

Project Applicant

LBA Realty
3347 Michaelson Drive. Suite 200
Irvine, CA 92612

Project Description

This Environmental Impact Report (EIR) examines the potential environmental effects of the proposed LBA Realty Eastvale Industrial Development Project. The following is a summary of the full project description, which may be found in Section 2.0 *Project Description.*

Project-related improvements would occur on all or a portion of two separate and contiguous parcels generally totaling 23 acres and located northwest of the Interstate 15/Cantu-Galleano Ranch Road interchange in the City of Eastvale. The project site is bordered by Cantu-Galleano Ranch Roach to the south; Interstate 15 to the east, an existing W.W. Grainger warehouse facility to the west, a Riverside County Flood Control and Water Conservation District detention basin, warehousing and truck parking to the north. Micro Drive is located on the north side of site and is proposed to be a primary access for passenger cars and secondary truck access for the proposed project.

The project involves a warehouse facility that would encompass approximately 446,173 square feet with a truck court, parking, landscaping, fencing and stormwater collection, conveyance and treatment features. The warehouse is a "spec" development – no tenants have been identified. The types of goods stored in the warehouse are unknown; however, it is assumed to be dry goods. No cold storage or storage of perishable items is assumed for this analysis.

The warehouse building would be approximately 560 feet by 797 feet and oriented north/south on the project site. It would be a tilt up concrete structure approximately 40 feet high with 2-foot high parapets. Architectural relief would be provided along the building exterior for aesthetic purposes. Office areas would be located on the northwest and southwest corners of the building. A total of 39 dock doors would be located on the west side the building; 47 dock doors would be located on the east side of the building. Employee and visitor parking would be provided on the north and south sides of the warehouse; truck parking would be provided generally in the northeast portion of the site.

ALTERNATIVES

Three alternatives to the proposed project were selected for consideration as follows:

- Alternative 1: No Project (no new development project on the site)
- Alternative 2: Reduced (2/3) Size
- Alternative 3: Alternate Site

The No Project alternative would eliminate all site-specific impacts associated with the proposed project, but would not meet any of the basic project objectives. Alternative 2, the Reduced Intensity Alternative, would reduce project-related impacts as the facility would be approximately 2/3 the size of the proposed project. Consequently, the Reduced Intensity Alternative is considered environmentally superior. This alternative would meet most of the objectives of the project, but to a lesser degree than the project because it would not maximize development potential. The Alternate Site (Alternative 3) is the "Dyt" property located near/west of the intersection of Limonite and Archibald. This property is part of a former dairy farm and is zoned Manufacturing Service Commercial. Development of the project at this site would not avoid or lessen any of the project's environmental effects.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table ES-1 summarizes the identified environmental impacts of the project, proposed mitigation measures, and residual impacts (the impact after application of mitigation, if any).

Table ES-1
Summary of Environmental Impacts,
Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
AESTHETICS		
Impact AES-1 The proposed project would involve conversion of the site from its current, mostly undeveloped, state into a warehouse development. However, because it would not block views of the higher elevations of the San Gabriel Mountains to the north from publically accessible vantage points and residential areas to the south, which are the only potential scenic vista in the project vicinity, the project's impact on scenic vistas would be less than significant.	None required	Less than significant
Impact AES-2 The project site does not contain any scenic resources identified in the City of Eastvale General Plan. The proposed project's impact on scenic resources would therefore be less than significant.	None required	Less than significant

Table ES-1
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
Impact AES-3 While the proposed project would add a new source of light and glare, outdoor lighting would be limited to security/parking lot lights and the use of glass or other reflective material would be minimal. The project would therefore have a less than significant impact related to light and glare.	None required	Less than significant
AIR QUALITY		
Impact AQ-1 The proposed project would not generate an increase in population that would conflict with or obstruct implementation of the SCAQMD AQMP. Therefore, impacts would be less than significant.	None required	Less than significant
Impact AQ-2 Project construction would generate temporary increases in localized air pollutant emissions. Emissions of ROG would exceed the applicable SCAQMD threshold. All other emissions would be below threshold. Therefore, air quality impacts associated with construction activities would be significant but mitigable.	**AQ-2 Low-VOC Paint.** The project applicant shall require the use of coatings and solvents with a VOC content lower than required under SCAQMD Rule 1113 (i.e., Super Compliant Paints) on all interior and exterior surfaces. All architectural coatings shall be applied either by (1) using a high-volume, low-pressure spray method operated at an air pressure between 0.1 and 10 pounds per square inch gauge to achieve a 65 percent application efficiency; or (2) manual application using a paintbrush, hand-roller, trowel, spatula, dauber, rag, or sponge, to achieve a 100 percent applicant efficiency. Paint should not exceed 50 g/L for all interior surfaces and exterior surfaces. The construction contractor shall also use pre-coated/natural colored building, where feasible. Use of low-VOC paints and spray method shall be included as a note on architectural building plans.	Less than significant
Impact AQ-3 Operation of the proposed project would generate air pollutant emissions, but emissions would not exceed SCAQMD operational significance thresholds. Therefore, long-term regional air quality impacts would be less than significant.	None required	Less than significant
Impact AQ-4 Project-generated traffic could incrementally increase localized carbon monoxide (CO) levels. However, because the increase in CO levels at study area intersections as a result of the proposed project would not cause an exceedance of state or federal CO standards, this impact would be less than significant.	None required	Less than significant

Table ES-1
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
Impact AQ-5 The proposed project would generate pollutants that could potentially impact sensitive receptors. However, project-related cancer, acute, and chronic risk would not exceed SCAQMD thresholds for toxic air contaminants. Therefore, impacts would be less than significant.	None required	Less than significant
BIOLOGICAL RESOURCES		
Impact BIO-1 Implementation of the proposed project may result in impacts to special status plant and animal species, including western burrowing owl and migratory birds. Impacts are less than significant with mitigation.	**BIO-1(a) Worker Environmental Training.** A condition will be placed on grading permits requiring a qualified biologist to conduct a training session for project personnel prior to grading. The training will include a description of the species of concern and its habitats, the general provisions of the ESA and the MSHCP, the need to adhere to the provisions of the ESA and the MSHCP, the penalties associated with violating the provisions of the ESA, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project sit boundaries within which the project activities must be accomplished. This measure is require under the MSHCP (Volume I, Appendix C) and is intended to avoid direct and indirect impacts to riparian/riverine resources, sensitive habitats, and species outside of the development footprint during construction activities. **BIO-1(b) Preconstruction Burrowing Owl Survey.** Per Objective 6 of the MSHCP BUOW Species Account, to avoid direct mortality of any owls that may be using habitat within the impact area, a 30-day pre-construction survey shall be conducted prior to ground disturbing activities. The pre-construction surveys shall be conducted by a qualified biologist within the development footprint and a 150-meter (500-foot) buffer within 30 days of grading or other significant site disturbance. If owls are not occupying habitat within the disturbance area during the pre-construction surveys, the proposed disturbance activities may proceed. A burrow is considered occupied when there is confirmed use by burrowing owl. In the event that owls are discovered and may be affected by the proposed project, avoidance measures will be developed in compliance with the MSHCP and in coordination with the CDFW and/or Western Riverside County Regional Conservation Authority (RCA). Avoidance measures may include construction buffers and/or working outside the breeding season. **BIO-1(c) Nesting Bird Avoidance.** To avoid impacts to nesting and special-status birds,	Less than significant

Table ES-1
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
	including raptorial species, protected by the MBTA and CFGC, project-related activities shall occur outside of the bird breeding season (typically February through August in the project region). If construction must begin within the breeding season, then a qualified biologist shall conduct a pre-construction nesting bird survey no more than three (3) days prior to all initiations of demolition, ground disturbance, and/or vegetation removal activities. The nesting bird pre-construction survey shall be conducted within the project boundary, including a 300-foot buffer (500-foot for raptors), on foot, and within inaccessible areas (i.e., private lands) using binoculars to the extent practical. If nests are found, an avoidance buffer (which is dependent upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site) shall be determined and demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground disturbing activities shall occur within this buffer until the qualified biologist has confirmed that breeding/nesting is completed and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist.	
Impact BIO-2 Implementation of the proposed project has the potential to affect riparian habitat or other sensitive natural communities identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Impacts would be less than significant with mitigation.	**BIO-2(a) Revegetation Plan.** If impacts to the streambed and riparian habitat cannot be avoided, the applicant shall prepare a Revegetation Plan to address impacts. This should be prepared by a qualified restoration biologist for review and approval by the City, prior to issuance of a grading permit or building permit, whichever comes first. The plan shall include, but not be limited to, the following components: • Location of the mitigation/re-vegetation and map; • Performance criteria • Plant species, container sizes, and seeding rates; • Planting schedule; • Monitoring effort • Contingency planning • Irrigation method/schedule • Means to control exotic vegetation; and • Identification of the party responsible for meeting the success criteria. Such that no net loss of functions and values occurs, temporary impacts would be mitigated	Less than significant

Table ES-1
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
	by returning the site to its approximate original conditions. Typically, areas of temporary disturbance are enhanced (weeds removed) and re-seeded or planted with a palette of native species at a 1:1 ratio. Permanent impacts would be compensated with the creation of new wetlands/waterways at a 2:1 ratio, or as required by the regulatory agencies having permitting jurisdiction over the resources. The City is obligated to ensure that the 2:1 mitigation is completed. Re-vegetation should occur as close to the impact area as possible, and in the same creek/stream to be disturbed, as feasible. If infeasible, another similar location may be acceptable, and shall be as close to the area disturbed as possible, and at least within the local watershed. An in-lieu fee to a conservation organization approved by the City (and acceptable to the resource agencies, as appropriate) to conduct the mitigation may be accepted if no other locations are feasible. **BIO-2(b) Agency Consultation.** Because of the presence of riparian vegetation, it is anticipated that the CDFW and the RWQCB will assert jurisdiction through Fish and Game Code Section 1600, et. seq., and the Porter-Cologne Act, respectively. The applicant shall submit a Notification of Lake or Streambed Alteration to the CDFW and an application for a Section 401 water quality certification or Waste Discharge Requirements to the RWQCB. Evidence that the applicant has secured any required authorization from these agencies shall be submitted to the City prior to issuance of any grading or building permits for the project.	
Impact BIO-3 Implementation of the proposed project has the potential to affect wetlands, as defined by Section 404 of the Clean Water Act. Impacts would be less than significant with mitigation.	**BIO-3 Corps Consultation.** The applicant shall submit a jurisdictional analysis regarding waters of the United States to be verified by the Corps through the CWA Section 404 process. The Corps determination regarding federal jurisdictional waters shall be submitted to the City prior to issuance of any grading or building permits for the project. If it is determined that fill of waters of the United States would result from project implementation, authorization for such fill shall be secured from the Corps through the Section 404 permitting process. Such authorization shall be submitted to the City prior to issuance of any grading or building permits for the project.	Less than significant

Table ES-1
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
Impact BIO-4 Implementation of the proposed project would result in development within Criteria Cells 118 and 168 of the Western Riverside MSHCP. Impacts would be less than significant with mitigation.	**BIO-4 Local Development Mitigation Fees.** The applicant shall pay all development fees required under the MSHCP to the RCA prior to issuance of a grading permit.	Less than significant
CULTURAL RESOURCES		
Impact CR-1 Construction of the proposed project would involve ground-disturbing activities such as grading, surface excavation, and placement of imported fill, which have the potential to unearth or adversely impact previously unidentified archaeological resources. Impacts would be significant but mitigable.	**CR-1(a) Unanticipated Discovery of Cultural Remains.** If cultural resource remains are encountered during construction or land modification activities, work shall stop and the City shall be notified at once to assess the nature, extent, and potential significance of any cultural remains. The applicant shall implement a subsurface testing program (known as a Phase II site evaluation according to Cultural Resource Management best use practices) to determine the resource boundaries, assess the integrity of the resource, and evaluate the site's significance through a study of its features and artifacts. If the Phase II site evaluation concludes the site is significant, a Phase III data recovery excavation program may be implemented to exhaust the data potential of the site, if the site cannot be avoided. If the site is determined significant, the applicant may choose to cap the resource area using culturally sterile and chemically neutral fill material and shall include open space accommodations and interpretive displays for the site to ensure its protection from development. A qualified archaeologist shall be retained to monitor the placement of fill upon the site and to make open space and interpretive recommendations. If a significant site will not be capped, the results and recommendations of the Phase II study shall determine the need for a Phase III data recovery program designed to record and remove significant cultural materials that could otherwise be tampered with. If the site is determined insignificant, no capping and or further archaeological investigation shall be required. The results and recommendations of the Phase II study shall determine the need for construction monitoring.	Less than significant
Impact CR-2 Construction of the proposed project would involve ground-disturbing activities such as grading, surface excavation, and placement of imported fill. Although unlikely, these activities have the potential to unearth and/or impact significant paleontological resources at depth. Impacts would be significant but	**CR-2(a) Paleontological Resource Construction Monitoring.** Ground-disturbing activity in areas of low paleontological sensitivity (Holocene eolian sands) that does not exceed three feet in depth shall not require paleontological monitoring. Monitoring of excavations exceeding three feet in depth shall be monitored by a qualified paleontologist to determine if potentially fossil bearing units are present at ground disturbing depths. If no fossils	Less than significant

Table ES-1
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
mitigable.	are observed during the first 50 percent of excavations exceeding three feet in depth, or if the qualified paleontologist can determine that excavations are not disturbing Pleistocene (or older) aged sediments, then paleontological monitoring shall be reduced to weekly spot-checking under the discretion of the qualified paleontologist. **CR-2(b) Fossil Salvage.** If fossils are discovered, the qualified paleontologist (or paleontological monitor) shall recover all fossils. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity, especially if they are isolated finds. In some cases larger fossils (such as complete skeletons or large mammal elements) require more extensive excavation and longer salvage periods. In this case the paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. Once salvaged, fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection, along with all pertinent field notes, photos, data, and maps.	
GEOLOGY AND SOILS		
Impact GEO-1 Seismically-induced ground failure or ground shaking could damage structures on the project site, resulting in loss of property and risk to human health. However, the level of risk is not unusual compared to that of the region as a whole, and compliance with applicable standards would reduce risks to acceptable levels. Impacts would be less than significant.	None required	Less than significant
Impact GEO-2 The project site is located in an area with low risk potential for liquefaction or settlement. The level of risk is reduced by complying with approved geotechnical reports and applicable building code requirements specified herein. Soil-related hazards associated with liquefaction or settlement would be less than significant.	None required	Less than significant

Table ES-1
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
Impact GEO-3 The project could result in substantial soil erosion or the loss of topsoil during initial grading and construction. However, compliance with applicable standards and guidelines could reduce the amount of erosion or topsoil loss to acceptable levels. Impacts would be less than significant.	None required	Less than significant
GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE		
Impact GHG-1 The proposed project would generate short-term as well as long-term GHG emissions. These emissions would incrementally contribute to climate change. Project emissions would exceed the 3,000 MT of CO2e/year threshold. Impacts would therefore be significant but mitigable.	**GHG-1 Energy Efficiency in Excess of Title 24.** Future development on the project site shall exceed adopted Title 24 energy requirements by a minimum of 15 percent through implementation of energy reduction measures, which may include (but would not be limited to): • Use locally made building materials for construction of the project and associated infrastructure when such materials are locally available; • Use of materials which are resource efficient, recyclable, with long life cycles; • Install energy-reducing shading mechanisms for windows, porches, patios, walkways, etc.; • Install energy reducing day lighting systems (e.g. skylights, light shelves, transom windows); • Use tankless water heaters or solar water heaters; • Use low-energy parking lot lights (i.e. sodium); and • Use of light colored water-based paint and roofing materials. The project applicant shall submit calculations and analysis from qualified Title 24 consultant that documents the 15 percent reduction below current Title 24 standards for Planning Department review and approval. Prior to issuance of building permits, the applicant shall provide site/design plans for the Planning Department staff's review and approval, which shall incorporate the above-referenced energy efficiency measures into design plans. **GHG-2 Water-Saving Measures.** On-site development shall include low flow fixtures for all faucets, toilets, and showers. All landscaping on the project site shall utilize water-efficient irrigation systems (such as soil moisture-based irrigation controls), to achieve a minimum 6.1 percent reduction in landscaping water demand as compared to baseline water demand (without the use of water-efficient irrigation systems). In addition, all outdoor applications shall utilize	Less than significant

Table ES-1
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
	reclaimed water. Prior to issuance of building permits, the applicant shall provide site/design/landscape plans for the Planning Department staff's review and approval, which shall incorporate the above-referenced water-saving measures into design and landscape plans, and demonstrate the required 6.1 reduction in landscaping water demand. **GHG-2 Water-Saving Measures.** On-site development shall include low flow fixtures for all faucets, toilets, and showers. All landscaping on the project site shall utilize water-efficient irrigation systems (such as soil moisture-based irrigation controls), to achieve a minimum 6.1 percent reduction in landscaping water demand as compared to baseline water demand (without the use of water-efficient irrigation systems). In addition, all outdoor applications shall utilize reclaimed water. Prior to issuance of building permits, the applicant shall provide site/design/landscape plans for the Planning Department staff's review and approval, which shall incorporate the above-referenced water-saving measures into design and landscape plans, and demonstrate the required 6.1 reduction in landscaping water demand.	
Impact GHG-2 The proposed project is consistent with applicable plans and policies adopted for the purpose of reducing GHG emissions, including SB 375, the WRCOG Subregional Climate Action Plan, and the Eastvale General Plan. Impacts would be less than significant.	None required	Less than significant
HAZARDS AND HAZARDOUS MATERIALS		
Impact HAZ-1 Operation of the proposed warehouse may involve the routine storage, transport, use or disposal of hazardous materials. Compliance with existing regulations would reduce potential impacts to less than significant.	None required	Less than significant
Impact HAZ-2 Operation of the project may involve the routine transport of hazardous materials that could cause a hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. However, compliance with existing regulations would reduce potential impacts to less than significant.	None required	Less than significant

Table ES-1
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
HYDROLOGY AND WATER QUALITY		
Impact HWQ 1 During project grading and construction and long-term operation of the project, the soil surface would be subject to erosion and the downstream watershed could be subject to temporary sedimentation and discharges of various pollutants. However, features have been incorporated into the project to minimize these effects and the project would be required to comply with the NPDES General Construction Permit, which would result in a less than significant impact.	None required	Less than significant
Impact HWQ 2 The proposed project would modify the existing drainage pattern on the project site. Runoff would be captured and retained on-site rather than conveyed off-site. Stormwater runoff would not exceed the capacity of the off-site storm drain system. Therefore, impacts would be less than significant.	None required	Less than significant
Impact HWQ 3 The proposed project would increase impervious surfaces on the site; however, all stormwater would captured and conveyed into on-site infiltration basins. Impacts would be less than significant.	None required	Less than significant
LAND USE AND PLANNING		
Impact LU-1 The proposed project would be consistent with the City's adopted General Plan. This is a less than significant impact.	None required	Less than significant
Impact LU-2 The proposed project would require a diminishment of the Mira Loma Agricultural Preserve No. 1. This is a less than significant, impact.	None required	Less than significant
NOISE		
Impact N-1 Construction-related activities associated with the proposed project would intermittently generate high noise levels and groundborne vibration on and adjacent to the site. The site located over one-quarter mile from existing residences; thus, construction noise is exempt from regulation per City code. This is a less than significant impact.	None required	Less than significant

Table ES-1
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
Impact N-2 Onsite noise sources would include truck movement, roof mounted HVAC equipment and related activities associated with warehouse operation. Given the site is in proximity to I-15, other transportation corridors and surrounded by existing warehouse buildings, operational noise is not expected to exceed City noise standards or thresholds. This is a less than significant impact.	None required	Less than significant
Impact N-3 Truck operation and employee vehicles generated by the proposed project would not audibly increase noise levels in proximity to the project site. Traffic-related noise would not exceed the City's threshold for existing land use located along roadway segments. This is a less than significant impact.	None required	Less than significant
POPULATION AND HOUSING		
Impact PH-1 Development associated with the proposed project would add jobs, but would not directly increase the City's population. Population growth would remain consistent with City of Eastvale General Plan and SCAG population forecasts. The proposed project would not in itself induce population growth beyond that already planned and impacts related to inducement of substantial population growth would be less than significant.	None required	Less than significant
PUBLIC SERVICES		
Impact PS-1 Buildout of the proposed project would place increased demands on fire protection services. However, the project would be in compliance with the Uniform Fire Code and would not create the need for new or expanded fire protection facilities. Impacts would therefore be less than significant.	None required	Less than significant
Impact PS-2 Buildout of the proposed project would place increased demands on police services. However, the proposed project would not create the need for new or expanded police facilities. Impacts would be less than significant.	None required	Less than significant

Table ES-1
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
TRANSPORTATION AND TRAFFIC		
Impact T-1 Implementation of the proposed project would increase traffic on the surrounding street network and would impact intersections in the area. Impacts associated with the project would be significant but mitigatable.	**T-1(a) Riverside Drive Widening.** Prior to project operation, Riverside Drive shall be widened and/or restriped to provide an exclusive eastbound right-turn lane at Hamner Avenue. **T-1(b) Hamner Avenue/Riverside Drive Modifications.** Prior to project operation, the existing traffic signal at Hamner Avenue and Riverside Drive shall be modified and an eastbound right-turn overlap shall be installed.	Less than significant
Impact T-2 The proposed Project would alter design of the road system through the development of a truck access signalized driveway along Cantu-Galleano Ranch Road. Impacts from the truck access driveway would be less than significant.	None required	Less than significant
UTILITIES AND SERVICE SYSTEMS		
Impact U-1 The proposed project would generate demand for approximately 93 acre-feet of water per year. Based on the 2010 Urban Water Management Plan, the JCSD has adequate water supplies to meet projected demand through the year 2035, including demand associated with the project. Therefore, impacts to water supply would be less than significant.	None required	Less than significant
Impact U-2 The proposed project would generate a net increase of approximately 20,480 gallons of wastewater per day. Projected future wastewater generation would remain within the capacity of local wastewater facilities. This impact would be less than significant.	None required	Less than significant
Impact U-3 The proposed project would generate 988 tons of construction waste (2.5 tons per day) and 0.73 tons of solid waste per day during operation. Projected future solid waste generation would remain within the capacity of local landfills. Impacts would therefore be less than significant.	None required	Less than significant
Impact U-4 The proposed project would not result in increased peak period off-site conveyance of stormwater. Impacts to stormwater conveyance facilities would be less than significant.	None required	Less than significant

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1.0 INTRODUCTION

This document is a Draft Environmental Impact Report (EIR) for the proposed LBA Realty Eastvale Industrial Development Project located in the City of Eastvale, County of Riverside. The project would be constructed on a 23.5-acre site located at the northwest quadrant of the Interstate 15/Cantu-Galleano Ranch Road interchange (Assessor Parcel Number [APN] 160-020-033). Overflow truck parking and secondary access would be constructed on a 5.3-acre portion of APN 156-050-025 located adjacent to and north of the main project site. An existing stormwater detention basin would be relocated to a portion of APN 160-020-023 generally located at the southwest corner of the development area. For the purposes of this analysis, the LBA Realty Eastvale Industrial Development Project refers to the development scenario proposed by LBA Realty for the entire site, as detailed in Section 2.0, *Project Description*.

This section describes: (1) the purpose and legal authority of the EIR; (2) the general background of the project; (3) the scope and content of the EIR; (4) lead, responsible, and trustee agencies; (5) the environmental review process required under the California Environmental Quality Act (CEQA); and (6) areas of known public controversy.

1.1 ENVIRONMENTAL IMPACT REPORT BACKGROUND

The City of Eastvale prepared a Notice of Preparation (NOP) of an EIR and distributed it for agency and public review for the required 30-day review period on March 26, 2015. The intent of the NOP is to provide interested individuals, groups, public agencies and others a forum to provide input to the City regarding scope and focus of the EIR. The City received six written response letters to the NOP during the public review period. The NOP and responses are presented in Appendix A. The City of Eastvale also held an EIR scoping meeting on April 15, 2015, to solicit further public comment on the scope and content of the EIR. No comments were made during the scoping meeting. Table 1-1 lists the issues relevant to the EIR that were raised in the NOP written comments and at the public scoping meetings as well as the EIR sections where the issues are addressed.

1.2 LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES

This Draft EIR has been prepared by the City of Eastvale (City) as "lead agency" in accordance with the Guidelines for the implementation of the State *CEQA Guidelines*, (Sections 15000–15387 of the California Code of Regulations). The proposed LBA Realty Eastvale Industrial Development is a "Project," as defined by Section 15378 of the State *CEQA Guidelines,* which states that an EIR must be prepared for any project that may have a significant impact on the environment. After reviewing the scope of the proposed project and completion of the NOP and scoping process (included in Appendix A of this DEIR), the City determined that the Project may have a significant adverse impact on the environment and directed that an EIR be prepared.

Table 1-1
NOP Response Issues

Issue	Where Addressed
California Department of Transportation	
On- and off-site hydrology and drainage impacts to state highway system	Section 4.8, Hydrology/Water Quality
Drainage system capacity	
Traffic Operations	Section 4.13, Transportation/Traffic
Analyze impacts to I-15 and SR-79 intersections	
Evaluate impacts w/ and w/out roadway improvements	
Riverside County Waste Management Department	
Construction, demolition and landscape waste quantities and potential impacts to landfill capacity.	Section 4.12, Public Services
South Coast Air Quality Management District	
Construction emissions	Section 4.2, Air Quality
Operation emissions	
Local significance thresholds	
Health risk assessment	
Riverside County Flood Control and Water Conservation District	
Modifications to drainage infrastructure	Section 4.8, Hydrology and Water Quality
National Pollutant Discharge Elimination System (NPDES) Permit requirements	
Eastvale Master Drainage Plan	
Encroachment permit	
City of Eastvale	
NOP Letter	Copy of NOP Letter – no issues were identified.

The City's address is:

City of Eastvale – Planning Department
12363 Limonite Avenue, Suite 910
Eastvale, California 91752
Contact: Mark Teague, AICP

A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the project. The following are responsible agencies identified for the proposed project:

- Regional Water Quality Control Board – issuance of a National Pollution Discharge Elimination System Construction Permit;
- Riverside County Flood Control and Water Conservation District – approval of the proposed relocation and construction of stormwater conveyance structures and detention basins and approval of the Water Quality Management Plan (WQMP);
- Riverside County Multiple Species Habitat Conservation Plan Joint Project Review – MSHCP Consistency Evaluation Review/Approval;
- California Department of Transportation – approval of an encroachment permit for grading within Interstate 15 right of way near the southeast portion of the site;
- Southern California Edison – approval of plans and lease to construct an access road and overflow truck parking within an existing transmission line easement;
- Jurupa Community Facilities District – approve connection to the existing water and wastewater lines and related infrastructure improvements;

A trustee agency refers to a state agency having jurisdiction by law over natural resources affected by a project. There are no natural resources on the project under the jurisdiction of a trustee agency. The California Department of Fish and Wildlife would receive notification from the Regional Water Quality Control Board regarding potential impacts to Waters of the State and receive a copy of the Draft EIR for review and comment.

1.3 PURPOSE AND LEGAL AUTHORITY

The proposed project requires discretionary approvals from the City of Eastvale. Therefore, it is subject to the environmental review requirements of CEQA. In accordance with Section 15121 of the *CEQA Guidelines,* the purpose of this EIR is to serve as an informational document that:

> *...will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.*

This EIR has been prepared as a Project EIR pursuant to Section 15161 of the *CEQA Guidelines.* A Project EIR is appropriate for a specific development project. As stated in the *CEQA Guidelines:*

> *This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project, including planning, construction, and operation.*

This EIR serves as an informational document for the public and City of Eastvale decision-makers. The process will culminate with a Planning Commission hearing to consider recommending certification of the Final EIR and a decision regarding certification of the Final EIR by the City Council.

1.4 EFFECTS DETERMINED NOT TO BE SIGNIFICANT

Based on a review of the project scope, site characteristics and comments received during the NOP and scoping process, the following issue areas were determined not to be significantly affected by implementation of the proposed project:

- *Agriculture/Forestry Resources;*
- *Mineral Resources; and*
- *Recreation*

1.5 SCOPE AND CONTENT/ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

This EIR addresses the issues determined to be potentially significant based on potential impacts to these issue areas given the project scope and NOP responses. The issues addressed in this EIR include:

- *Aesthetics*
- *Air Quality*
- *Biological Resources*
- *Cultural Resources*
- *Geology/Soils*
- *Greenhouse Gas Emissions/Energy*
- *Hazards & Hazardous Materials*
- *Hydrology/Water Quality*
- *Land Use/Planning*
- *Noise*
- *Population/Housing*
- *Public Services*
- *Transportation/Traffic*
- *Utilities/Service Systems*

This EIR addresses the issues referenced above and identifies the potentially significant environmental impacts, including site-specific and cumulative effects of the project, in accordance with the provisions set forth in the *CEQA Guidelines.* In addition, the EIR recommends feasible mitigation measures, where possible, that would reduce or eliminate adverse environmental effects.

In preparing the EIR, use was made of pertinent City policies and guidelines, certified EIRs and adopted CEQA documents, and background documents prepared by the City. A full reference list is contained in Section 7.0, *References and Report Preparers*.

The Alternatives section of the EIR (Section 6.0) was prepared in accordance with Section 15126.6 of the *CEQA Guidelines.* The alternatives discussion evaluates the CEQA-required "no project" alternative and three alternative development scenarios for the site. It also identifies the environmentally superior alternative among the alternatives assessed.

The level of detail contained throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. The *CEQA Guidelines* provide the standard of adequacy on which this document is based. *CEQA Guidelines* Section 15151 states:

> *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 the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in 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 the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure.*

1.6 ENVIRONMENTAL REVIEW PROCESS

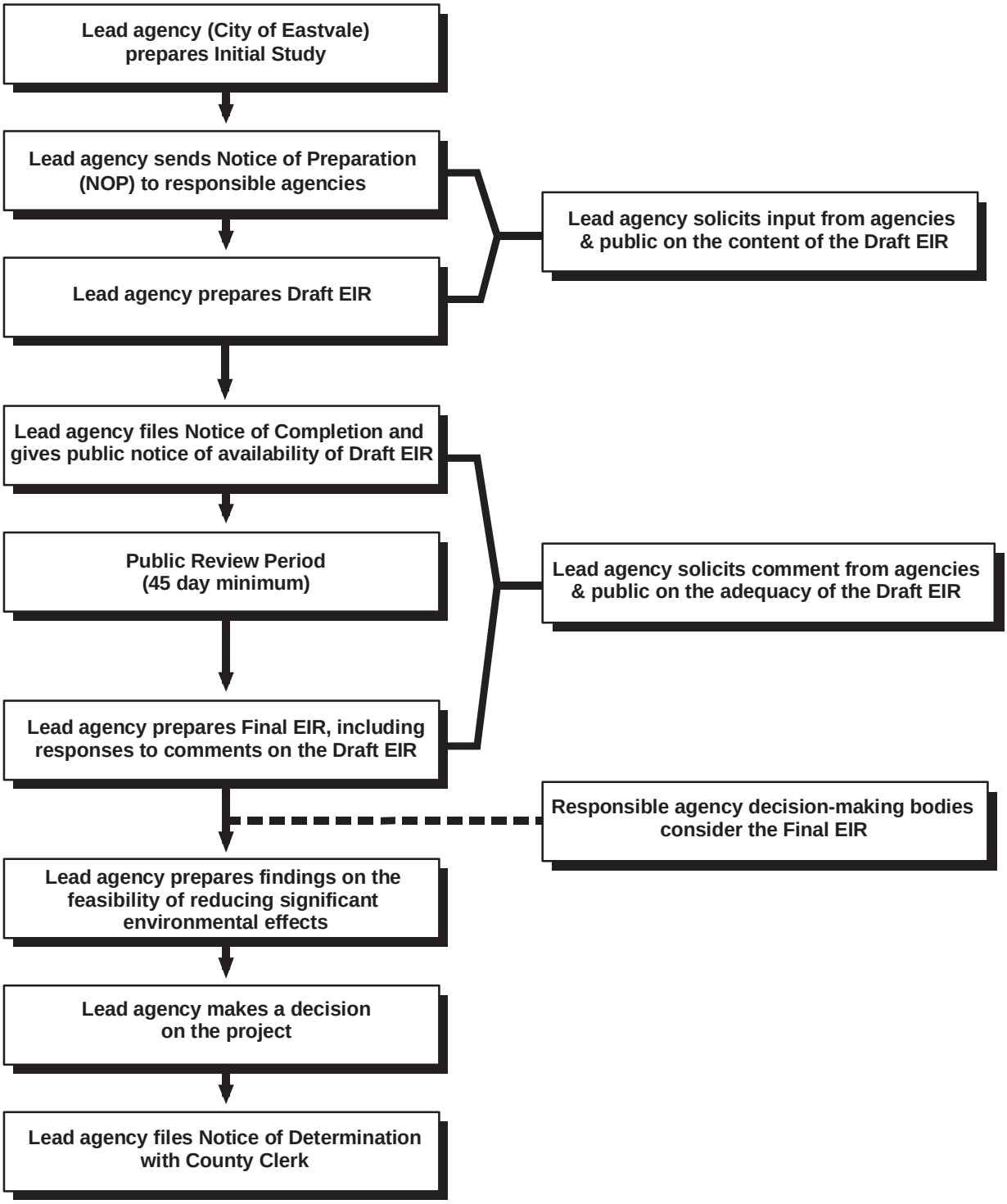
The major steps in the environmental review process, as required under CEQA, are outlined below and illustrated on Figure 1-1. The steps are presented in sequential order.

1. **Notice of Preparation (NOP).** After deciding that an EIR is required, the lead agency must file an NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing *(CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days.
2. **Draft Environmental Impact Report (DEIR) Prepared.** The DEIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and, h) discussion of irreversible changes.
3. **Notice of Completion and Notice of Availability.** A lead agency must file a Notice of Completion with the State Clearinghouse when it completes a Draft EIR (CEQA Guidelines Section 15085) and prepare a Public Notice of Availability of a Draft EIR. The lead agency must file the Notice of Availability with the County Clerk's office for a 30 day posting period and send a copy of the Notice of Availability to anyone requesting it *(CEQA Guidelines* Section 15087). Additionally, public notice of DEIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public, and respond in writing to all comments received (PRC Sections 21104 and 21153). The minimum public review period for a DEIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the Clearinghouse (Public Resources Code Section 21091) approves a shorter period.
4. **Final EIR.** A Final EIR (FEIR) must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and, d) responses to comments.
5. **Certification of FEIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the FEIR has been completed in compliance with CEQA; b) the FEIR was presented to the decision-making body of the lead agency; and, c) the decision-making body

reviewed and considered the information in the FElR prior to approving a project *(CEQA Guidelines* Section 15090).

6. **Lead Agency Project Decision.** A lead agency may: a) disapprove a project because of its significant environmental effects; b) require changes to a project to reduce or avoid significant environmental effects; or, c) approve a project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted *(CEQA Guidelines* Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR, the lead or responsible agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible *(CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
8. **Mitigation Monitoring Reporting Program.** When an agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
9. **Notice of Determination.** An agency must file a Notice of Determination within five working days after deciding to approve a project for which an EIR is prepared *(CEQA Guidelines* Section 15094). A local agency must file the Notice with the County Clerk. The Notice must be posted for 30 days and sent to anyone previously requesting notice. Posting of the Notice starts a 30-day statute of limitations on CEQA legal challenges [Public Resources Code Section 21167(c)].

THE EIR PROCESS



CEQA Environmental Review Process Figure 1-1

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2.0 PROJECT DESCRIPTION

The proposed project involves the construction and operation of a new 446,173 square foot industrial warehouse building, parking, utility and stormwater infrastructure and landscaping on APN 160-020-033 (23.5 acres) and construction of overflow truck parking and a secondary truck access roadway on a 5.3 acre portion of APN 156-050-025 located adjacent to and north of the subject property. A portion of APN 156-050-025 is currently developed with an industrial warehouse building, parking and infrastructure improvements. In addition, the project will require removal and replacement of an existing Riverside County Flood Control and Water Conservation District (RCFCWCD) conveyance channel located generally in the center of the subject property and along the eastern and southern site boundary and an off-site detention basin located on an adjacent parcel along the western property boundary. Existing stormwater infrastructure is part of the Eastvale Master Drainage Plan (MDP), and is tributary to Eastvale MDP Line E-1 (Line E-1) located within Bellegrave Avenue approximately ½ mile south of the site. All on-site flows will be treated by infiltration basins as described below in Section 2.4.3. Off-site flow from the Line E-1 Basin will be conveyed through the site and conveyed off-site under Cantu-Galleano Ranch Road to stormwater infrastructure constructed as part of the Goodman Commerce Center project currently under construction on a 205-acre site located south of the Project site.

Primary truck access to the proposed warehouse would be via a shared driveway and gated security area located along the north side of Cantu-Galleano Ranch Road adjacent to and east of the existing W.W. Grainger facility. Primary passenger car access would be via Micro Drive. Grading and landscaping would be required adjacent to and within the California Department of Transportation right-of-way (ROW) along the eastern site boundary to remove drainage infrastructure and construct a retaining wall. Additional grading will be required to remove the conveyance channel and off-site detention basin referenced above and to modify the site entrance. All cut and fill would be balanced on-site. Overall, project improvements would comprise 28.8 acres.

2.1 PROJECT APPLICANT

LBA Realty
3347 Michaelson Drive. Suite 200
Irvine, CA 92612

2.2 PROJECT LOCATION

Project related improvements would occur on all or a portion of two separate and contiguous parcels generally located northwest of the Interstate 15/Cantu-Galleano Ranch Road interchange in the City of Eastvale, Riverside County, CA. The project site is bordered by Cantu-Galleano Ranch Roach to the south; Interstate 15 to the east, an existing W.W. Grainger warehouse facility to the west, a Riverside County Flood Control and Water Conservation District detention basin, warehousing and truck parking to the north. Micro Drive is located on the north side of APN 156-050-025 and is proposed to be a primary access for passenger cars and secondary truck access for the proposed project. As shown on Figure 2-1 (Regional

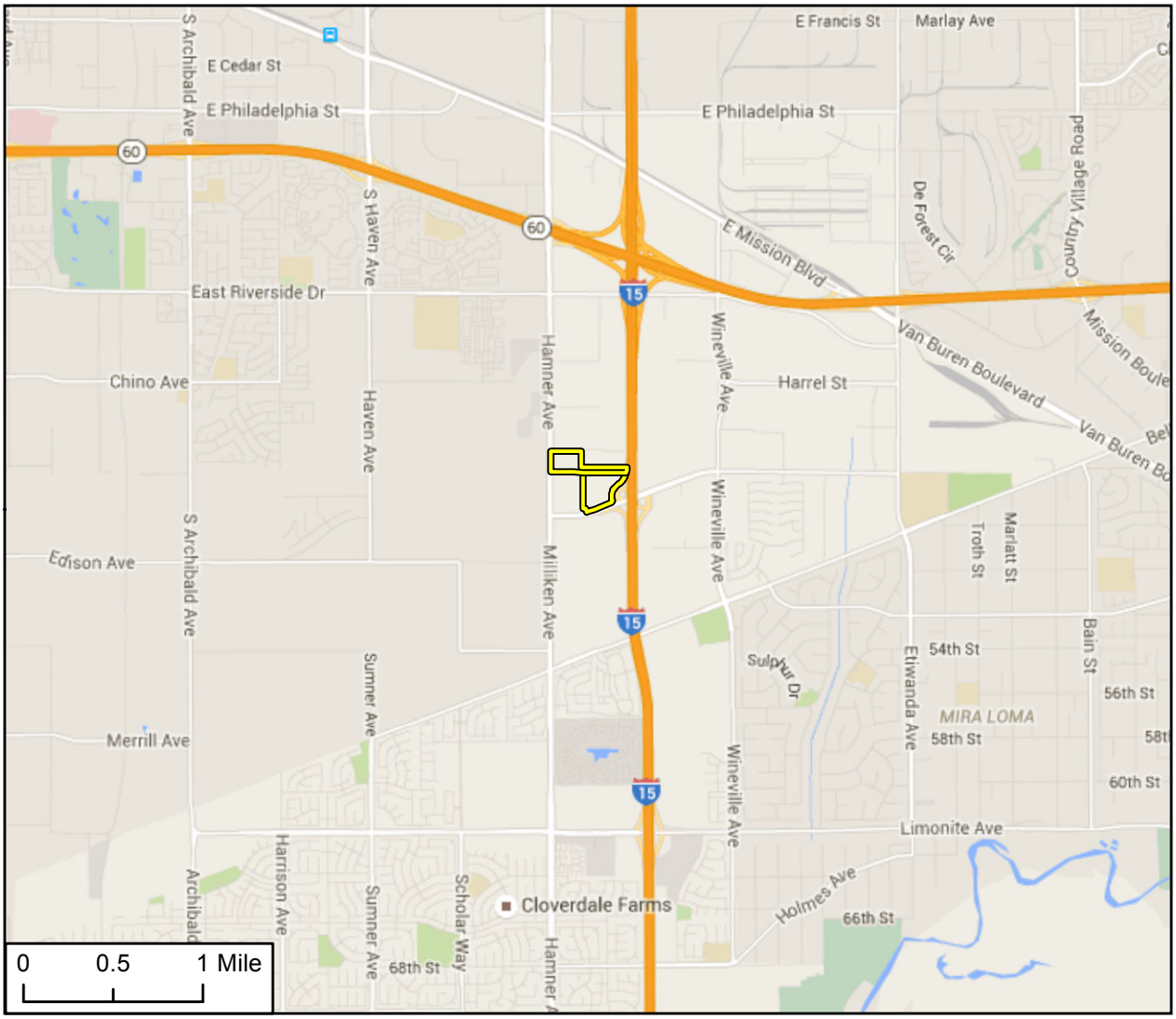
Location), the project site is located in the western/northwestern corner of Riverside County in proximity to the San Bernardino County line. The site is regionally accessible from Interstate 15 and State Route 60 (to the north) via Milliken Avenue. Figure 2-2 presents an aerial view of the project site and surrounding uses. Figures 2-3a and 2-3b provide ground-level photographs of the site, and Figures 2-4a and 2-4b provide ground-level photographs of nearby land uses.

2.3 CURRENT LAND USE AND REGULATORY SETTING

Table 2-1 summarizes the existing characteristics of the project site, which are also described below. Maps showing the land use designation and zoning of the site and its surroundings are shown in Figures 2-5 and 2-6.

Table 2-1
Existing Site Characteristics

Assessor's Parcel Number	160-020-033 and 156-050-025
Site Size	The majority of improvements would occur on APN 160-020-033 – 23.5 acres. Project improvements will require 5.3 acres.
General Plan Land Use Designations	Light Industrial-Business Park
Zoning Designations	Primary site zoned Industrial Park. APN 156-050-025 is zoned Manufacturing-Service Commercial
Current Use and Development	APN 160-020-033 is vacant. A portion of APN 156-050-025 is developed with an existing warehouse and truck parking and accommodates an SCE easement.
Surrounding Land Use Designations (see Figure 2-5)	North: Business Park East: Municipal Boundary (no land use designation) West: Light Industrial South: Light Industrial and High Density Residential
Surrounding Zoning Designations (see Figure 2-6)	North: Manufacturing-Service Commercial (M-SC) East: Interstate 15 right of way South: Specific Plan (The Resort – SP No. 335) and General Residential (R-3) – the Resort Specific Plan will be replaced by the Goodman Commerce Center Specific Plan West: Industrial Park (IP)
Regional Access Local Access	Interstate 15 and SR 60 Cantu-Galleano Ranch Road Hamner Avenue Micro Drive
Public Services	Electricity: Southern California Edison Natural Gas: Southern California Gas Company Water/Sewer: Jurupa Community Services District Stormwater: Riverside County Flood Control and Water Conservation District Solid Waste: Waste Management Fire: Riverside County Fire Department Station 27 Police: Riverside County Sheriff Jurupa Valley Station



Imagery provided by Google and its licensors © 2015.

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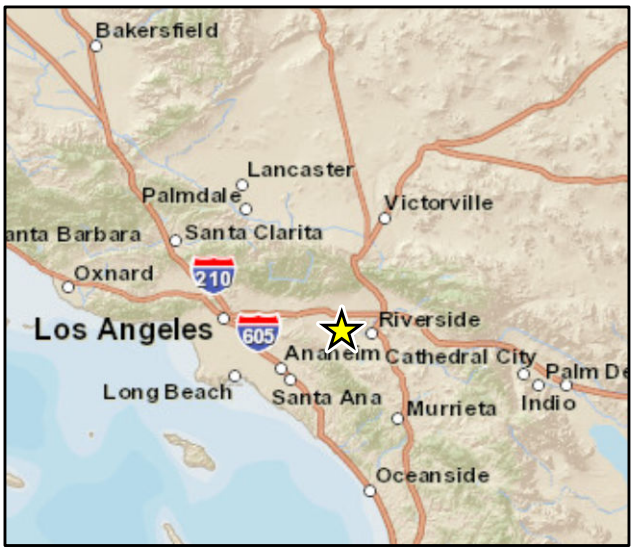
Project Location



Regional Location of Project

Figure 2-1

Imagery provided by Google and its licensors © 2015.

Project Location

Figure 2-2

Project Site Looking Northeast

Figure 2-3a

Project Site Looking Southwest

Figure 2-3b

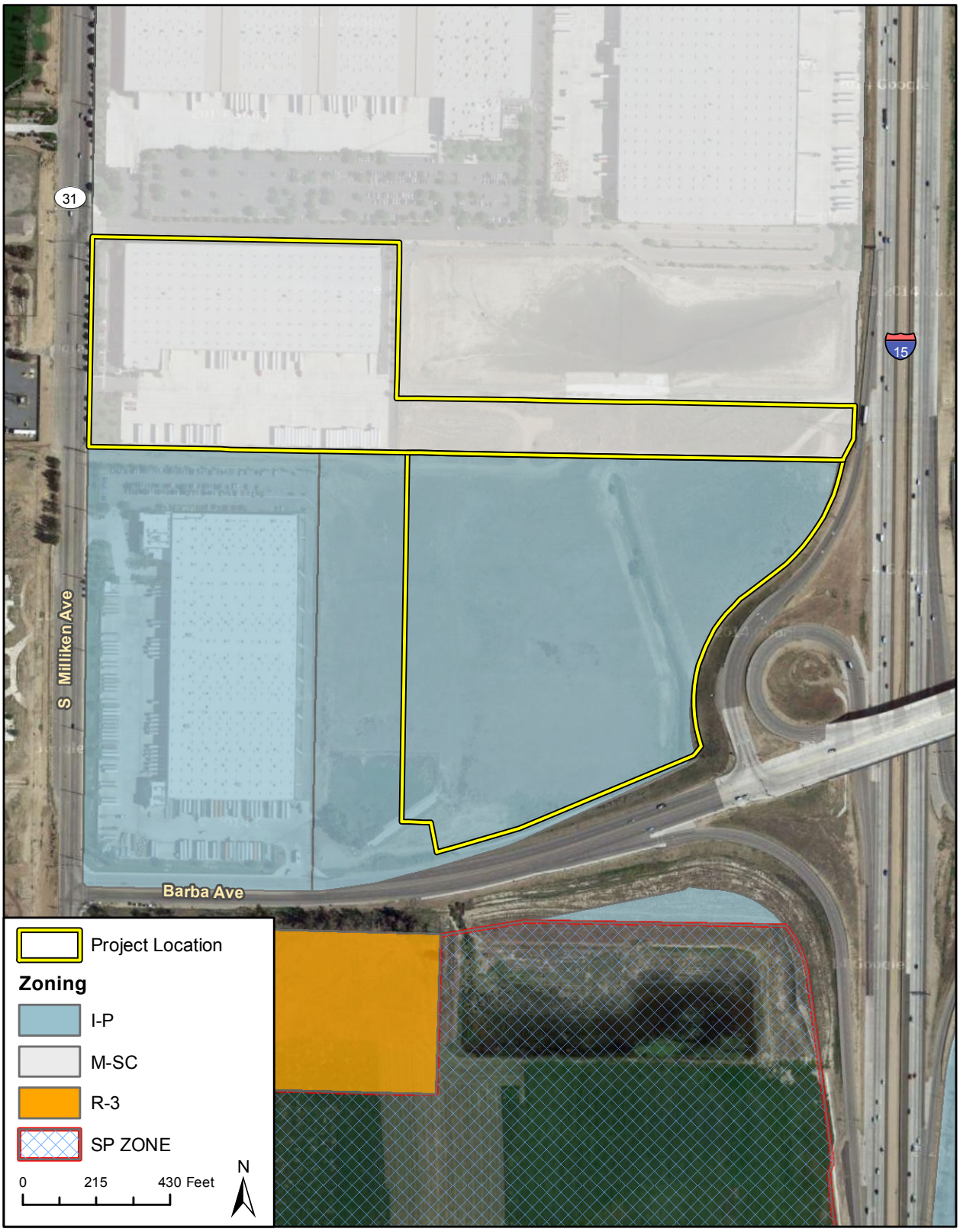
Project Site Looking Northeast at SCE Easement Figure 2-4a

Project Site Looking West Toward
W.W. Grainger Warehouse

Figure 2-4b

Imagery provided by Google and its licensors © 2015.
Land Use data by County of Riverside, 2013.

General Plan Land Use Designations Figure 2-5



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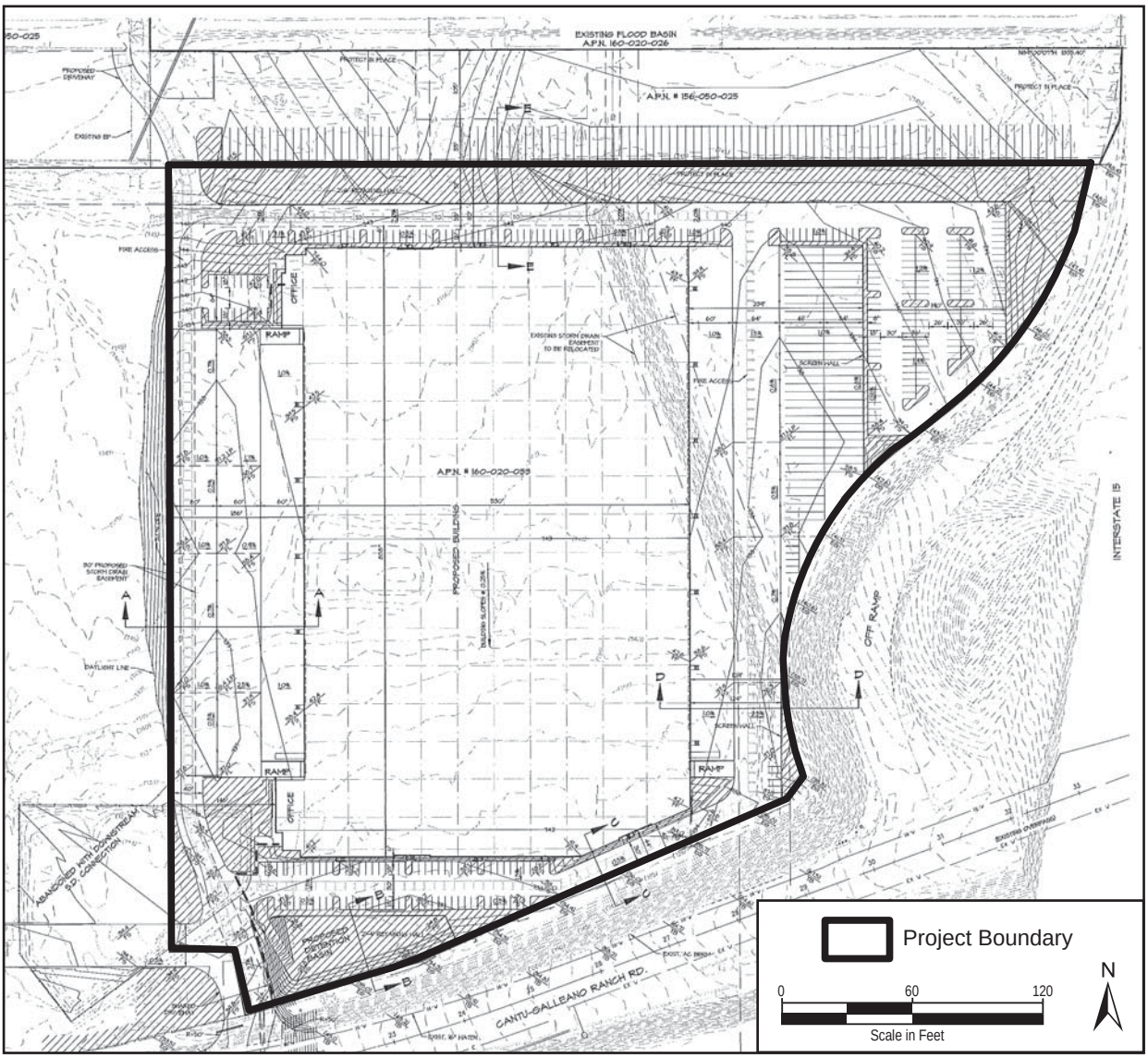
Land Use data by County of Riverside, 2013.

Zoning Designations

Figure 2-6



Drawing Source: Albert A. Webb Associates, October 2014.

Site Plan

Figure 2-7

from the shared access driveway. The existing access drive for the Grainger building directly from Cantu-Galleano Ranch Road would be closed. Access to and from the site would be restricted by fencing and controlled by gates and a guard shack. Trucks would circulate counter clockwise around the warehouse to access the docks located on the west and east sides of the building. Secondary truck access will be constructed to the north of the site across the SCE easement to Micro Drive adjacent to and east of an existing warehouse building. A total of 319 parking spaces and 64 trailer spaces will constructed on the primary parcel. A total of 48 additional trailer parking spaces will be constructed on the overflow parking area.

The warehouse would generally operate from 6:00 a.m. to 5:00 p.m. Monday through Friday. Inbound and outbound truck trips would occur throughout the day. The warehouse would likely run two shifts with workers arriving prior to opening and working until early afternoon. A second shift would arrive mid-morning and work through closing. Office personnel would typically work between 8:00 a.m. and 5:00 p.m. Both in- and outbound deliveries would occur with the majority of the truck trips occurring in the early morning hours.

2.3.1 Current Land Use

The project site (APN 160-020-033) is generally undeveloped though a Riverside County Flood Control facility conveys stormwater through a concrete lined open channel from the Line E Basin to the north generally through the center of the site to the southeast corner then along the southern site boundary to an impoundment area adjacent to an outlet structure located under Cantu-Galleano Ranch Road. A second off-site detention basin is located on an adjacent parcel along the western site boundary and discharges to the impoundment area southwest of the site. This water is currently conveyed off-site under Cantu-Galleano Ranch Road to an existing detention basin. The project site generally abuts a portion of APN 156-050-025 to the north. A portion of this parcel generally located northwest of the primary site, is developed with an existing warehouse and truck parking. The remainder is located adjacent to and within an existing SCE easement that runs parallel to the northern site boundary.

The overflow parking and secondary access road would be constructed along the northern boundary of the SCE easement which is disturbed bare ground. These improvements would comprise approximately 5.3 acres of APN 156-050-025.

2.3.2 Surrounding Land Uses

The project site is bordered by Interstate 15 to the east, Cantu-Galleano Ranch Road to the south, warehouse development, parking and a detention basin to the north. An existing W.W. Grainger warehouse with access gate, guard shack and parking, as well as an existing detention basin are located adjacent to and west of the project site.

2.4 PROJECT CHARACTERISTICS

2.4.1 Proposed Warehouse

The proposed warehouse would be approximately 446,173 square feet with a truck court, parking, landscaping, fencing and stormwater collection, conveyance and treatment features located on a 23-acre site. The warehouse is a “spec” development – no tenants have been

identified. The types of goods stored in the warehouse are unknown; however, it is assumed to be dry goods. No cold storage or storage of perishable items is assumed for this analysis. The proposed layout of the development is shown on Figure 2.7, Site Plan.

The warehouse building would be approximately 560 feet by 797 feet and oriented north/south on the project site. It would be a tilt up concrete structure approximately 40 feet high with 2 foot high parapets. Architectural relief would be provided along the building exterior for aesthetic purposes. Office areas would be located on the northwest and southwest corners of the building. A total of 39 dock doors would be located on the west side the building; 47 dock doors would be located on the east side of the building. Employee and visitor parking would be provided on the north and south sides of the warehouse; truck parking would be provided generally in the northeast portion of the site.

All vehicles would enter the site via a shared access driveway located at the southwest corner of the site. Off-site improvements include a relocated entrance road for the W.W. Grainger site

2.4.2 Secondary Truck Access and Overflow Parking

As referenced, the project applicant proposes to construct 48 paved overflow truck parking spaces on a 5.3 acre area north of the warehouse site on a portion of APN 156-050-025 (see Figure 2-7). One row of parking would be constructed within the SCE easement parallel to the transmission lines along the southern property boundary.

This area would also accommodate a gated paved two-lane site access road from the northwest corner of the site to Micro Drive which is located on the north side of APN 156-050-025. The access road would provide secondary truck access and primary access for passenger cars. The access road would be approximately 180 feet long and generally located along the east side of the existing warehouse building adjacent to the existing detention basin. Construction of the access road and 48 paved overflow truck parking spaces would occur in disturbed, partially paved areas.

2.4.3 Stormwater Infrastructure Improvements

The project would require the modification of existing flood control infrastructure located on-site. The existing open drainage channel which conveys flows across the site from the Line E Basin adjacent to and north of the property, would be removed and replaced by a new underground drainage pipe located along the western site boundary. Off-site flow from the Line E Basin will be conveyed through the pipe and off-site under Cantu-Galleano Road to stormwater infrastructure constructed as part of the Goodman Commerce Center project and eventually flow into Line E-1 located along Bellegrave Avenue approximately one-half mile to the south.

All on-site flows would be treated by two infiltrations basin – one located near the northeast corner of the site and the other located near the southwest corner of the site. The infiltration basin near the southwest corner would be open and treat all on-site flows on the west side of the project. The underground infiltration detention system located under the parking lot near the northeast corner of the site and would treat all on-site flows on the east side of the project. An existing off-site detention basin located along the western property boundary on an adjacent

parcel would be abandoned and filled as part of the overall scope of project improvements. All improvements would be coordinated with the Riverside County Flood Control and Water Conservation District.

Existing drainage infrastructure located south of Cantu-Galleano Ranch Road is proposed to be modified per the Eastvale Area Drainage Plan and construction of the Goodman Commerce Center at Eastvale Specific Plan Project. Potential impacts associated with these improvements were evaluated in the Goodman Commerce Center at Eastvale Specific Plan EIR (SCH#2011111012).

2.4.4 Utilities and Infrastructure

The proposed project would connect to an existing 16" Jurupa Community Services District water line located along Cantu-Galleano Ranch Road. The proposed project would connect to an existing 8" sewer line located along Cantu-Galleano Road that extends east from Hamner Avenue to the southwest corner of the site. All wet utility connections would be installed within the existing road corridor during construction of access driveway improvements.

2.4.5 Site Preparation and Construction

Site preparation for the proposed project would include removal of all vegetation, clearing and grubbing and grading throughout the project site to construct the building pad, parking areas, excavate footings and utility trenches and generally prepare the site for construction of the proposed project. An 8-foot high retaining wall approximately 1,000 feet long would be required along the east/southeast corner of the property within or along Caltrans ROW to create adequate room for track passage and parking through this area.

The proposed infiltration facility would be constructed as would the new stormwater conveyance pipeline along the western property boundary. When complete, the existing detention basin would be filled, paved and incorporated as part of the surface truck circulation and parking area. Subsequent activities would include constructing the warehouse, parking areas, secondary access roadway and installing landscaping/irrigation. All construction staging would occur on-site. Construction is anticipated to begin in June 2016 and last approximately 18 months, ending December 2018.

2.5 PROJECT OBJECTIVES

The objectives of the proposed project are as follows:

- Develop market ready warehouse space to accommodate tenants requiring shipping, receiving and temporary storage for non-perishable commodities;

- Provide for an industrial development that is consistent with the City's General Plan Land Use Goal LU-2 of providing "A balance of land uses that maintains and enhances the City's fiscal viability, economic diversity, and environmental integrity and meets the needs of Eastvale's residents."

- Provide employment opportunities through the creation of approximately 100 new jobs that will allow Eastvale residents to live and work within their community and helps improve the jobs and housing ratio;

- Contribute to the concentration of warehouse uses near existing freeways and interchanges to minimize traffic congestion and reduce air emissions consistent with Southern California Association of Governments Goods Movement Corridor and promote consistency with SB 375;

- Facilitate goods movement for the benefit of local, regional and statewide commerce and economic growth;

- Utilize existing undeveloped land on an adjacent parcel to avoid development fragments and meet truck parking requirements;

- Incorporate state of the art design and construction techniques to ensure compliance with California Energy Code Title 24.

2.6 REQUIRED APPROVALS

Implementation of the proposed LBA Realty Eastvale Industrial Development Project would require the following discretionary approvals from the City of Eastvale, which is the lead agency for the project:

- **Major Development Plan Review and Approval –** Review and approval of the development plan for the proposed project

- **Agricultural Diminishment from Mira Loam 1 Agricultural Preserve –** Removal of the project site from the Mira Loam Agricultural Preserve

- **Certification of Final EIR –** The Eastvale City Council will be required to certify the LBA Realty Eastvale Industrial Development Final Environmental Impact Report.

In addition to the above discretionary City approvals, the project would require the following:

- **Encroachment Permit –** An encroachment permit will be required from Caltrans to allow grading within Caltrans ROW.

- **Southern California Edison Easement –** An easement will be required from SCE to allow construction of the secondary access across the SCE easement as well as construction of overflow truck parking within the easement.

- **Secondary Access Easement –** An easement will be required from the neighboring property owner to allow construction of the secondary access across the property.

- **Riverside County Flood Control and Water Conservation District Approval –** The Riverside County Flood Control District will review and approve the proposed relocation of the existing stormwater conveyance structure and modifications to existing detention basins.

3.0 ENVIRONMENTAL SETTING

This section summarizes the environmental setting for the project. More detailed descriptions of the settings for each of the environmental issue areas studied in this EIR can be found in Section 4.0, *Environmental Impact Analysis*.

3.1 REGIONAL SETTING

The project site is located in the City of Eastvale, in northwestern Riverside County (refer to Figure 2-1, *Regional Location*, and Figure 2-2, *Aerial View of Project Site and Surrounding Uses*, both of which can be found in Section 2.0, *Project Description*). Eastvale is located adjacent to and west of the Interstate 15 corridor approximately 10 miles west of the City of Riverside and abuts the City of Ontario to the north, the City of Jurupa Valley to the east, the City of Norco to the south and the City of Chino to the west.

The total area of Eastvale is approximately 13.1 square miles. Developed or developable land comprises approximately 86%; 10% is set aside for conservation and 4% is designated as water use (City of Eastvale General Plan, 2012). The Mediterranean climate of the region produces moderate temperatures year round, with mild winters and hot summers with rainfall concentrated in the winter months. The region is subject to various natural hazards including earthquakes.

3.2 PROJECT SITE SETTING

Project development is proposed on two parcels with improvements comprising approximately 28.8 acres located at the northwest quadrant of the I-15/Cantu-Galleano Ranch Road interchange in north Eastvale. The project site is bordered by Cantu-Galleano Ranch Road to the south, I-15 to the east, the W.W. Grainger warehouse complex to the west and an existing Eastvale Master Drainage Plan Line E-1 Basin, SCE transmission line easement and warehouse development to the north and northwest. The majority of all project improvements would be focused on APN 160-020-033 (23.5 acres). The parcel is vacant with the exception of Riverside County Flood Control and Water Conservation District improvements located generally near the center of the site and extending to the southern boundary adjacent to California Department of Transportation (Caltrans) I-15 right of way (ROW) to the terminus at an outflow structure located at the southwest corner of the site. The parcel located northwest of the site (APN 156-050-025) is approximately 17.6 acres and partially developed with an existing warehouse and truck parking. An SCE transmission line easement is located on this parcel and generally parallels the boundary between the project site and APN 156-050-025. A 5.3-acre area on and in proximity to the SCE easement would accommodate overflow truck parking and a secondary site access roadway. A Riverside County Flood Control Line E-1 detention basin is located immediately north of the project site and would not be affected by project improvements. An existing off-site detention basin is located generally along the western site boundary on an adjacent parcel. This basin drains surface flows from the project site and surrounding property and would be relocated to the southwest corner of the site as an open infiltration basin.

Uses immediately surrounding the site are light industrial. The I-15 freeway corridor borders the site to the east. The Goodman Commerce Center at Eastvale Specific Plan

(Goodman Commerce Center) is proposed for a 205-acre site adjacent to project site on the south side of Cantu-Galleano Ranch Road. Commercial and light industrial uses are located west of Milliken Avenue west of the site. Residential uses are located approximately ½ mile south of the site south of Bellegrave Avenue. A stormwater detention basin is located south of the site, south of Cantu-Galleano Road at the north end of the proposed Goodman Commerce Center site.

Photos of the project site and surrounding uses are shown in Figure 2-3, Figure 2-4a, and Figure 2-4b, in Section 2.0, *Project Description*.

3.3 CUMULATIVE PROJECTS SETTING

CEQA defines "cumulative impacts" as two or more individual events that, when considered together, are considerable or will compound other environmental impacts. Cumulative impacts are the changes in the environment that result from the incremental impact of development of the proposed project and other nearby projects. For example, traffic impacts of two nearby projects may be insignificant when analyzed separately, but could have a significant impact when analyzed together. Cumulative impact analysis allows the EIR to provide a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects.

Cumulative impacts are discussed within each of the specific impact analysis discussions in Section 4.0, *Environmental Impact Analysis*. Section 15130 of the *CEQA Guidelines* states that an adequate discussion of cumulative impacts should include either a list of past, present, and probable future projects producing related or cumulative impacts; or a summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect.

For cumulative impacts that are localized in nature, such as aesthetics, cultural resources, geology and soils, and noise, the cumulative analysis in this EIR uses the list of planned and pending projects in the general area shown in Table 3-1. The projects on this list consist of 47 planned or pending projects in the City of Eastvale, City of Ontario and City of Jurupa Valley. The largest project proposed in proximity to the project site is the Goodman Commerce Center. As referenced, this is a commercial/industrial development located on a 205-acre site bounded by Cantu-Galleano Ranch Road to the north, I-15 to the east, Hamner Avenue to the west and Bellegrave Avenue to the south. The Goodman Commerce Center project was evaluated in a project-specific EIR (SCH# 2011111012), which was certified May 28, 2014. It is located adjacent to and south of the project site and portions are currently under construction.

Other impacts, such as greenhouse gas emissions that may contribute towards global warming, are cumulative by nature, with no localized impacts that could be attributed to any one project alone. The cumulative impacts analysis for such impacts notes this fact and explains that the analysis is cumulative. The cumulative impacts analysis for Section 4.13, *Transportation and Traffic*, is conducted under the future year scenarios within the project-level impact analysis. Table 3-1 provides a list of cumulative projects used in the cumulative effects analysis. Cumulative projects would add 6,082 residential units, 2,754,631 square feet of commercial and

4,452,100 square feet of industrial development to the Cities of Eastvale, Ontario and Jurupa Valley.

Table 3-1
Location and Description of Cumulative Projects [1]

No.	Cumulative Project	Location/Address	Description
City of Eastvale Development			
1.	11-0354 – Arco Gas Station	South of Riverside Drive and east of Hamner Avenue	18 VFP Gas Station with Store and Car Wash, 2.8 TSF Fast-Food without Drive-Thru, 2.1 TSF Fast-Food with Drive-Thru
2.	14-1077 – Grainger Site	North of Cantu-Galleano Ranch Road and east of Hamner Avenue	226.0 TSF Industrial Expansion
3.	10-0271 – Eastvale Commerce Center	North of Bellegrave Avenue and east of Hamner Avenue	249.0 TSF Shopping Center, 130 Room Hotel, 3,100.0 TSF High Cube Warehouse, 610.0 TSF Business Park
4.	10-0124 – TR31252 (The Lodge)	North of Limonite Avenue and west of Sumner Avenue	205 DU Single Family Detached
5.	TR32821	North of Limonite Avenue and west of Cleveland Avenue	350 DU Condo/Townhome
6.	TR32909	North of Limonite Avenue and east of Cleveland Avenue	140 DU Single Family Detached
7.	14-0032 – Tio's Mexican Restaurant	North of Limonite Avenue and east of Hamner Avenue	2.411 TSF High Turnover (Sit-Down) Restaurant
8.	Eastvale Gateway South	South of Limonite Avenue and east of Hamner Avenue	20.132 TSF Shopping Center
9.	11-0366 – Eastvale South	South of Limonite Avenue and east of Hamner Avenue	70.0 TSF Medical-Dental Office
10.	14-0046 – Kasbergen/ William Lyons Homes	South of Limonite Avenue and west of I-15	220 DU Condo/Townhome
11.	15-1508	South of Riverside Avenue and east of Hamner Avenue	156.478 TSF Industrial
12.	Leal Master Plan	North of Limonite Avenue and west of Hamner Avenue	660 DU Apartment, 450 Room Hotel, 1,525.0 TSF Shopping Center, 46.0 TSF General Office, 46.0 TSF Medical Office, 100.0 TSF Civic Center
City of Ontario Development			
13.	TM 18026	North of Chino Avenue and west of Haven Avenue	106 DU Single Family Detached
14.	TM 18476	North of Schaefer Avenue and east of Turner Avenue	143 DU Single Family Detached

[1] *Source: City of Eastvale, City of Ontario and City of Jurupa Valley Planning Department staff.*

Table 3-1
Location and Description of Cumulative Projects [1]

No.	Cumulative Project	Location/Address	Description
15.	TM 18027	North of Schaefer Avenue and west of Haven Avenue	90 DU Single Family Detached
16.	TM 18925	South of Chino Avenue and west of Mill Creek Avenue	143 DU Single Family Detached
17.	TM 17931	North of Eucalyptus Avenue and east of Mill Creek Avenue	105 DU Single Family Detached
18.	TM 17932	South of Eucalyptus Avenue and east of Mill Creek Avenue	82 DU Single Family Detached
19.	TM 17933	North of Bellegrave Avenue and east of Mill Creek Avenue	107 DU Single Family Detached
20.	TM 17935	South of Eucalyptus Avenue and west of Milliken Avenue	61 DU Single Family Detached
21.	TM 17936	North of Bellegrave Avenue and west of Milliken Avenue	90 DU Single Family Detached
22.	TM 18876	North of Eucalyptus Avenue and west of Milliken Avenue	74 DU Single Family Detached
23.	TM 18878	South of Eucalyptus Avenue and west of Milliken Avenue	157 DU Single Family Detached
24.	TM 18419	South of Schaefer Avenue and east of Archibald Avenue	229 DU Single Family Detached
25.	TM 18937	North of Edison Avenue and east of Archibald Avenue	122 DU Single Family Detached
26.	TM 18991	South of Schaefer Avenue and west of Haven Avenue	15 DU Single Family Detached, 20 DU Multi-Family
27.	TM 18992	South of Schaefer Avenue and west of Haven Avenue	225 DU Single Family Detached, 2 DU Multi-Family
28.	TM 18993	South of Schaefer Avenue and west of Haven Avenue	210 DU Single Family Detached
29.	TM 18994	North of Edison Avenue and west of Haven Avenue	136 DU Single Family Detached, 2 DU Multi-Family
30.	TM 18995	North of Edison Avenue and west of Haven Avenue	98 DU Townhome
31.	TM 18662	North of Eucalyptus Avenue and west of Haven Avenue	329 DU Single Family Detached
32.	TM 18081	South of Eucalyptus Avenue and east of Archibald Avenue	60 DU Single Family Detached
33.	TM 18065	South of Eucalyptus Avenue and east of Archibald Avenue	68 DU Single Family Detached
34.	TM 18066	South of Eucalyptus Avenue and east of Archibald Avenue	47 DU Single Family Detached

Table 3-1
Location and Description of Cumulative Projects [1]

No.	Cumulative Project	Location/Address	Description
35.	TM 18067	South of Eucalyptus Avenue and west of Haven Avenue	62 DU Single Family Detached
36.	TM 18068	South of Eucalyptus Avenue and west of Haven Avenue	50 DU Single Family Detached
37.	TM 18073	North of Bellegrave Avenue and west of Haven Avenue	134 DU Single Family Detached
38.	TM 18074	North of Bellegrave Avenue and west of Haven Avenue	167 DU Single Family Detached
39.	TM 18998	North of Bellegrave Avenue and west of Haven Avenue	114 DU Single Family Detached
40.	TM 19907	North of Bellegrave Avenue and west of Haven Avenue	108 DU Single Family Detached
41.	TM 19909	North of Bellegrave Avenue and west of Haven Avenue	117 DU Single Family Detached
City of Jurupa Valley			
42.	Space Center	South of Iberia Street and west of Etiwanda Avenue	1,126,100 SF Industrial
43.	Harvest Villages	North of Limonite Avenue and west of Wineville Avenue	138 DU Single Family Detached
44.	The Oaks	North of Bellegrave Avenue and west of Etiwanda Avenue	217 DU Single Family Detached
45.	Rancho del Sol	North of Bellegrave Avenue and east of Wineville Avenue	203 DU Single Family Detached
46.	Turnleaf	North of Bellegrave Avenue and east of Wineville Avenue	300 DU Single Family Detached
47.	Harmony Trails	South of Cantu-Galleano Ranch Road and east of Wineville Avenue	176 DU Single Family Detached
Cumulative Total			
Residential Units		Commercial Square Footage	Industrial Square Footage
6,082		2,754,631	4,452,100

Notes:

- *VFP = Vehicle Fueling Position*
- *TSF = Thousand Square-Feet*
- *DU = Dwelling Units*

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4.0 ENVIRONMENT IMPACT ANALYSIS

This section discusses the possible environmental effects of the proposed project for the specific issue areas that were identified through the NOP process as having the potential to experience significant impacts. "Significant effect" is defined by the *State CEQA Guidelines §15382* as "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." An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant.

The assessment of each issue area begins with a discussion of the setting relevant to that issue area. Following the setting is a discussion of the project's impacts relative to the issue area. Within the impact analysis, the first subsection identifies the methodologies used and the "significance thresholds," which are those criteria adopted by the City, other agencies, universally recognized, or developed specifically for this analysis to determine whether potential impacts are significant. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each impact under consideration for an issue area is separately listed in bold text, with the discussion of the impact and its significance following. Each bolded impact listing also contains a statement of the significance determination for the environmental impact as follows:

> ***Significant and Unavoidable:*** *An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved.*
>
> ***Significant but Mitigable:*** *An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings to be made.*
>
> ***Not Significant:*** *An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.*

Following each environmental impact discussion is a listing of recommended mitigation measures (if required) and the residual effects or level of significance remaining after the implementation of the measures. In those cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect.

The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other future development in the area.

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4.1 AESTHETICS

This section addresses potential impacts related to aesthetics, including changes in public views and visual character, and consistency with adopted urban design policies.

4.1.1 Setting

a. Visual Character of the Project Site Vicinity. The project area is characterized by existing warehouse development and flat, undeveloped land designed for business park and commercial/industrial development. The project site is bordered by Cantu-Galleano Ranch Road to the south, the existing W.W. Grainger warehouse to the west, Interstate 15 to the east and an existing warehouse, SCE transmission line easement and stormwater detention basin to the north. The general study area is characterized by light industrial warehouse development. The nearest residential area is located approximately ½ mile to the south on the south side of Bellegrave Road. The project site is not located along or within the viewshed of a designated scenic corridor. Figure 2-2 in Section 2.0, Project Description, presents an aerial view of the project site and surrounding uses. Figures 4-1a and 4-1b and Figures 4-2a and 4-2b provide photographs of the site and nearby land uses.

b. Visual Character of the Project Site. The primary project site is a flat, undeveloped parcel located at the northwest corner of the Interstate 15/Cantu-Galleano Road interchange. Russian thistle is the dominant vegetation species. An area of riparian vegetation is located at the southwest corner of the site adjacent to an existing flood control outlet structure. An existing off-site detention basin is located along the western boundary of the site on an adjacent parcel. An existing open, concrete lined Riverside County Flood Control and Water Conservation District channel conveys stormwater from the detention basin located north of site, southeast from the center of the site along the Interstate 15 right-of-way and then parallel to Cantu-Galleano Ranch Road to the outlet structure at the southwest corner of the site described above.

Views from the site west are of the W.W. Grainger warehouse; views to south are Cantu-Galleano Road and a row of mature eucalyptus trees along the south side of road corridor; views to the east are of Interstate 15 and the elevated interchange. Foreground views to the north are of existing warehouse buildings, the SCE transmission line easement and a stormwater detention basin. The higher elevations of the San Gabriel Mountains are visible in the distance. Views from I-15 are of a flat, undeveloped site surrounded by warehouse uses. As referenced, no scenic corridors are located within or in proximity to the project area.

Sources of light/glare within the study area are limited to building and street lighting. Development is predominantly concrete tilt-up concrete warehouse buildings. Interior lighting visible off-site is limited to lobby space and parking lot security lighting.

c. Regulatory Setting. The General Plan Design Element contains several provisions that relate to aesthetic and visual issues and requirements of project design. The proposed project meets each of the following policies applicable to the proposed project as identified in Section 4.9, Table 4.9-1, City of Eastvale General Plan Policy Consistency:

Project Site Looking Northeast

Figure 4.1-1a

Project Site Looking Southwest

Figure 4.1-1b

Project Site Looking Northeast at SCE Easement Figure 4.1-2a

Project Site Looking West Toward
W.W. Grainger Warehouse

Figure 4.1-2b

- Policy DE-1: The City of Eastvale will require that all new development is well-planned and of high quality. Design will be used to reinforce Eastvale's image as a contemporary community with vibrant, livable neighborhoods and walkable pedestrian- and bicycle-oriented development.

- Policy DE-3: Eastvale will strive to continuously improve the architectural quality of public and private projects. Developers proposing to rely on the use of "standard designs" or "corporate architecture" may be required to improve their designs as necessary to meet the City's overall standards for quality.

- Policy DE-5: New development shall be approved only if it is consistent with the design principles set forth in this Design Chapter and to any local, project-specific, or citywide design guidelines.

- Policy DE-7: All new development projects which require development plan approval shall establish landscape and façade maintenance programs for the first three years to ensure that streetscapes and landscape areas are installed and maintained as approved.

- Policy DE-22: Buildings shall include human-scale details such as windows facing the street, awnings, and architectural features that create a visually interesting pedestrian environment.

- Policy DE-34: Non-residential developments shall be designed to consider their surroundings and visually enhance, not degrade, the character of the surrounding area.

- Policy DE-35: Commercial, industrial, and public projects shall be designed to minimize the visibility of parked vehicles from public streets. Where possible, parking lots shall be located behind or on the side of buildings to reduce their visual impact.

- Policy DE-38: Unarticulated, "boxy" structures shall be broken up by creating horizontal emphasis through the use of trim, varying surfaces, awnings, eaves, or other ornamentation and by using a combination of complementary colors.

- Policy DE-40: Loading facilities for uses requiring delivery from large trucks shall be screened from public view and located away from residential uses, and their impacts should be appropriately mitigated.

- Policy DE-41: Design parking lots and structures to be functionally and visually integrated and connected.

- Policy DE-42: Parking lots shall be screened and separated into smaller units with landscaping or low walls.

- Policy DE-44: All outdoor storage areas shall be visually screened with attractive fencing or walls and landscaping.

- Policy DE-45: Development in industrial areas which are visible from public roadways and/or from adjacent properties shall incorporate high-quality design principles, including:
    - Offices and enclosed structures oriented toward street frontages.
    - Building façades that provide visual interest.
    - Loading facilities and storage areas which are screened from public view along collectors and arterials.
    - Visually appealing fences and walls.
    - The use of landscaped buffers around parking lots and industrial structures.

- Policy DE-46: Where the use of security fencing, window barriers, or similar features is necessary to secure a building or site, these measures shall be incorporated into the visual/architectural design of the project and shall be complementary to surrounding uses.

4.1.2 Impact Analysis

a. Methodology and Significance Thresholds. The assessment of aesthetic impacts involves qualitative analysis that is inherently subjective in nature. Individual viewers react to viewsheds and aesthetic conditions differently. This evaluation measures the proposed project against existing visual conditions by providing a comparative analysis of the anticipated change. The project site was observed and photographed (see Figures 2-3a and 2-3b, and Figures 2-4a and 2-4b in Section 2.0, *Project Description*).

An impact is considered significant if the proposed project would result in one or more of the following conditions, as described in Appendix G of the State *CEQA Guidelines*:

1. *Have a substantial adverse effect on a scenic vista;*
2. *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;*
3. *Substantially degrade the existing visual character or quality of the site and its surroundings; or*
4. *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.*

As referenced in the discussion of *Effects Found Not to be Significant* beginning on page 219, the project would have no effect on resources located within a state scenic highway. The project's consistency with adopted City of Eastvale goals or policies most directly relating to the potential aesthetic impacts of the proposed project, which are listed above in Section 4.1.1c, are discussed herein and within the impact discussion sections to which they most directly relate.

b. Project Impacts and Mitigation Measures.

Impact AES-1 The proposed project would involve conversion of the site from its current, mostly undeveloped, state into a warehouse development. However, because it would not block views of the higher elevations of the San Gabriel Mountains to the north from publically accessible vantage points and residential areas to the south, which are the only potential scenic vista in the project vicinity, the project's impact on scenic vistas would be less than significant.

As discussed in the *Setting*, the project site is located on a flat, undeveloped site northwest of and adjacent to the Interstate 15/Cantu-Galleano Ranch Road interchange. Views from the project site to the west and east consist of existing warehouses and transportation corridors. Views of the distant San Gabriel Mountains to the north are limited over intervening trees and buildings. Views to the south are of Cantu-Galleano Ranch Road and a row of eucalyptus trees. The Goodman Commerce Center project is currently under construction south of Cantu-Galleano Ranch Road. The project site is privately owned and not publicly accessible; thus, public views from the project site would not be affected by the project. The proposed building would be approximately 42 feet tall at the highest point on the parapet. Views of the higher elevations of the San Gabriel Mountains to the north would not be blocked from Cantu-Galleano Ranch Road as the road is elevated near its intersection with I-15. No areas to the west or north of the project site have distant views through the project site that could be blocked by project-related structures. The project's impact to scenic vistas; would therefore, be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AES-2 The project site does not contain any scenic resources identified in the City of Eastvale General Plan. The proposed project's impact on scenic resources would therefore be less than significant.

The project site itself does not contain any natural or scenic resources. Although the proposed project would involve the removal of trees and vegetation currently on the project site, the City of Eastvale does not have any policy or ordinance protecting trees on private property. The riparian vegetation and trees located at the southwest corner of the site are visible from Cantu-Galleano Ranch Road. However, these trees are part of a wetland area created by ponded stormwater and are not a landscape feature associated with the project site. While the proposed project would involve removal of these trees (examples of on-site trees are shown in Figures 4-1a and 4-1b and 4-2a and 4-2b), trees and shrubs would be planted and maintained at various locations on-site as part of project landscaping consistent with General Plan Policy DE-7 (see Figure 4-3; Preliminary Landscape Plan). In addition, design of the proposed project would generally comply with policies referenced above. Specifically, the project would incorporate design features consistent with General Plan Policies DE-45 and DE-47 to create an aesthetically

consistent appearance relative to adjacent industrial development (see Figure 4-4, Building Elevation).

The proposed project would change existing views of the project site; however, these views are not scenic and the project would be designed consistent with General Plan design policies. This impact would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AES-3 While the proposed project would add a new source of light and glare, outdoor lighting would be limited to security/parking lot lights and the use of glass or other reflective material would be minimal. The project would therefore have a less than significant, impact related to light and glare.

The proposed project would require nighttime lighting for safety, security, and operational purposes. Thus, the proposed project will introduce new sources of nighttime lighting resulting from the conversion from vacant/undeveloped to warehouse/mixed-use. Project lighting would be visible from surrounding roadways and adjacent uses, but is not expected to spill over to adjacent land uses. Existing warehouses to the west and north of the project site operate with lighting conditions similar to those associated with the proposed project. These uses are not sensitive to new sources of light. The Goodman Commerce Center project located to the south of the proposed project proposes to construct high-density residential uses at the north end of the project area adjacent and south of Cantu-Galleano Ranch Road. Lighting from the project would likely be visible from these residential areas. To ensure adequate on-site lighting, preserve the existing nighttime character of the project area and minimize lighting impacts on planned residential uses to the south, the project would be required to comply with Section 120.50.050 of the Eastvale Municipal Code which provides lighting standards. Compliance with local lighting standards would reduce potential impacts to a less than significant level.

The proposed project would use similar building materials (e.g. concrete, stucco, glass, etc) as existing warehouses in the project vicinity. These materials are typical for warehouse construction and would not contribute to significant daytime glare. Moreover, no glare sensitive uses are located in the site vicinity. Therefore, impacts associated with glare would be less than significant.

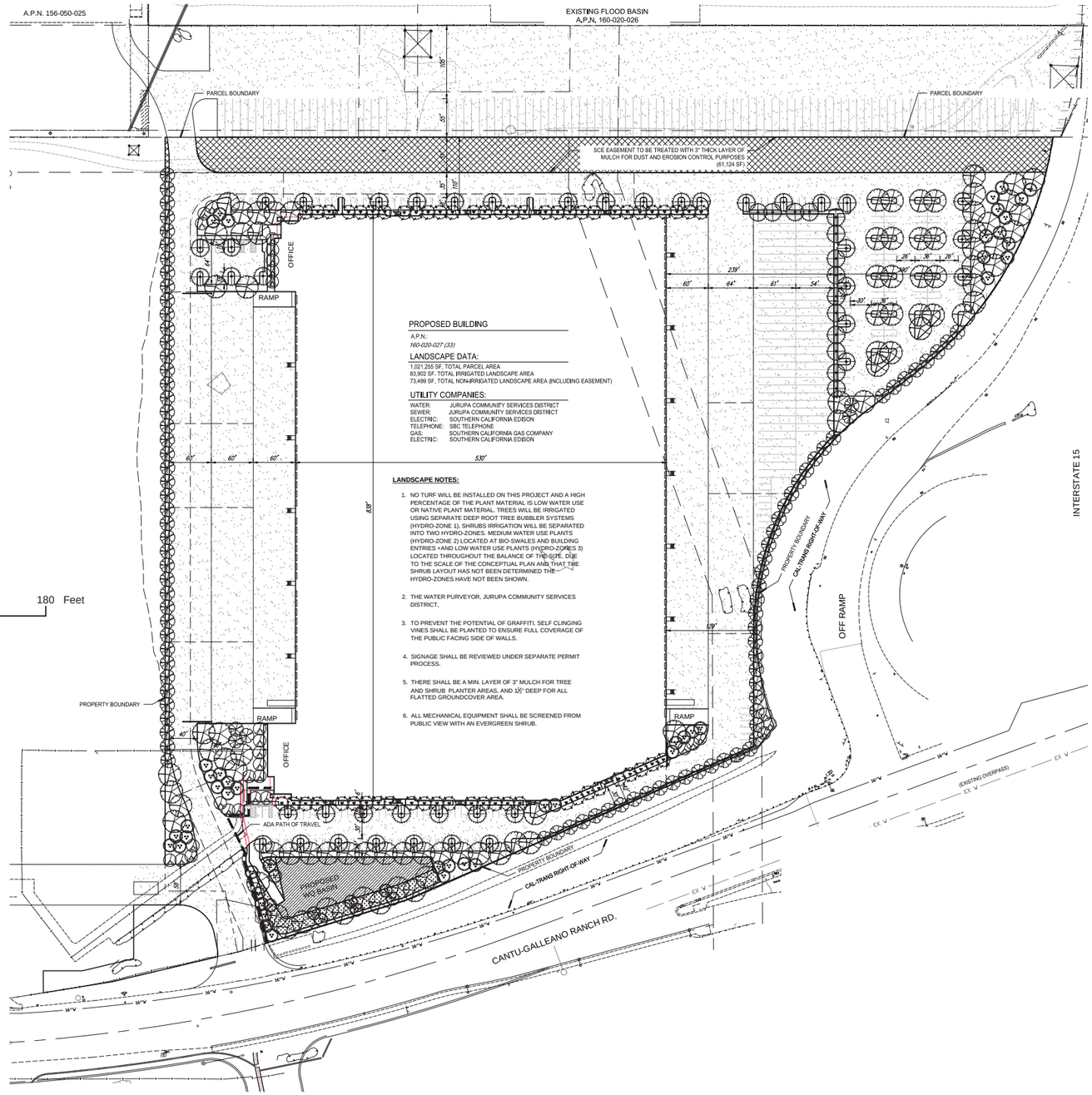
Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Planned and pending projects in the vicinity of the project site are listed in Table 3-1 in Section 3.0, *Environmental Setting*. Projects would add approximately

6,082 residential units, 2,754,631 square feet of commercial space and 4,452,100 square feet of industrial development.

Future projects in Eastvale will be required to adhere to specific development standards in the City's Zoning Ordinance and General Plan designed to maintain or enhance the area's aesthetic and visual resources. The Goodman Commerce Center project is proposed for construction on the south side of Cantu-Galleano Ranch Road. No significant or adverse impacts to aesthetic resources were identified in the EIR prepared for that project. The proposed project would be an industrial infill project as it involves construction of an industrial warehouse facility located in an existing warehouse zoning district adjacent to Interstate 15 and other warehouse uses. The design and context of the project would be consistent with adjacent development and its surroundings (refer to Figure 2-2 in Section 2.0, *Project Description*). Although cumulative development would, over time, alter the visual character of this part of Eastvale, future development would be subject to the same policies and regulations as the proposed project. Cumulative impacts related to aesthetics would be less than significant.



LBA REALITY-EASTVALE INDUSTRIAL DEVELOPMENT

WUCOLS REGION - 4, SUNSET ZONE - 18

TREES

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	QUANTITY	MATURE HEIGHT (FEET)	MATURE WIDTH (FEET)	PLANT FACTOR	NOTES
	LAGERSTROMIA HYBRID / CRAPE MYRTLE (MULTI-TRUNK)	24" BOX	29	20'	20'	MED. (0.5)	MULTI-TRUNK
	PINUS CANARIENSIS / CANARY ISLAND PINE	24" BOX	97	50'-80'	20'-25'	MED. (0.5)	STANDARD
	PINUS ELDERICA / AFGHAN PINE	24" BOX	54	30'-40'	20'-25'	MED. (0.5)	STANDARD
	PLATANUS ACERIFOLIA / LONDON PLANE TREE	24" BOX	88	40'-80'	30'-50'	MED. (0.5)	STANDARD
	RHUS LANCEA / AFRICAN SUMAC	24" BOX	55	30'	25'-30'	MED. (0.5)	STANDARD
	TRISTANIA CONFERTA / TRISTANIA	24" BOX	57	60'	25'-35'	MED. (0.5)	STANDARD

SHRUBS

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	MATURE HEIGHT (FEET)	MATURE WIDTH (FEET)	PLANT FACTOR	APPLICATION
	ABELIA X GRANDIFLORA / GLOSSY ABELIA	5 GAL.	8'-12'	8'-10'	MED (0.5)	SCREENING SHRUB
	ANIGOZANTHOS HYBRID / DWARF KANGAROO PAW	5 GAL.	5'	2'-3'	MED (0.5)	ACCENT
	CALLISTEMON VIMINALIS 'LITTLE JOHN' / LITTLE JOHN BOTTLE BRUSH	5 GAL.	5'	5'	MED (0.5)	LOW MOUNDING
	CARRISA MICROCARPA 'GREEN CARPET' / GREEN CARPET NATAL PLUM	5 GAL.	1'	2'-4'	MED (0.5)	GROUND COVER
	DIETES BICOLOR / FORTHNIGHT LILY	5 GAL.	2'-3'	2'-3'	MED (0.5)	ACCENT
	FESTUCA CINEREA 'ELIJAH BLUE' / ELIJAH BLUE FESCUE	1 GAL.	1'	1'	MED. (0.5)	GROUNDCOVER
	GAZANIA RIGENS LEUCOLAENA / TRAILING GAZANIA	HYDROSEED.	6"-10"	5'	MED (0.5)	GROUNDCOVER
	HEMEROCALLIS SP / DAYLILY	5 GAL.	2'-3'	2'-3'	MED. (0.5)	ACCENT
	COTONEASTER LACTEUS / RED CLUSTERBERRY	5 GAL.	8'-10'	6'-10'	MED. (0.5)	SCREENING SHRUB
	LONICERA JAPONICA 'HALLIANA' / JAPANESE HONEYSUCKLE	5 GAL.	1'-2'	8'-10'	MED. (0.5)	GROUNDCOVER
	PHORMIUM TENAX 'BRONZE BABY' / NEW ZEALAND FLAX REDDISH	15 GAL.	5'	3'-4'	MED. (0.5)	ACCENT
	PITTOSPORUM TOBIRA 'VARIEGATA' / RED SALVIA	5 GAL.	4'-6'	4'-6'	MED (0.5)	LOW MOUNDING
	RHAPHIOLEPIS INDICA 'CLARA' / INDIAN HAWTHORNE	5 GAL.	3'	3'	MED. (0.5)	SCREENING SHRUB
	TRACHELOSPERMUM JASMINOIDES / STAR JASMINE	5 GAL.	1'	4'-5'	MED. (0.5)	GROUNDCOVER
	LIGUSTRUM JAPONICUM 'TEXANUM' / TEXAS PRIVET	5 GAL.	4'-6'	4'-6'	MED. (0.5)	SCREENING SHRUB
	MYOPORUM PARVIFOLIUM 'PUTAH CREEK' / BOSTON IVY	1 GAL.	6"	9'	LOW (0.2)	GROUNDCOVER
	HESPERALOE PARVIFLORA / RED YUCCA	5 GAL.	3'-4'	3'-4'	LOW (0.2)	ACCENT
	ROSMARINUS O. 'PROSTRATUS' / CREEPING ROSEMARY	1 GAL.	2'	8'	LOW (0.2)	GROUNDCOVER
	SALVIA GREGGII 'SIERRA LINDA' / RED SALVIA	5 GAL.	4'	4'	LOW (0.2)	LOW MOUNDING
	SENECIO SERPENS / BLUE CHALK STICKS	FLATS	6"	8'	LOW (0.2)	GROUNDCOVER

DETENTION BASIN & DRAINAGE SWALE SLOPES

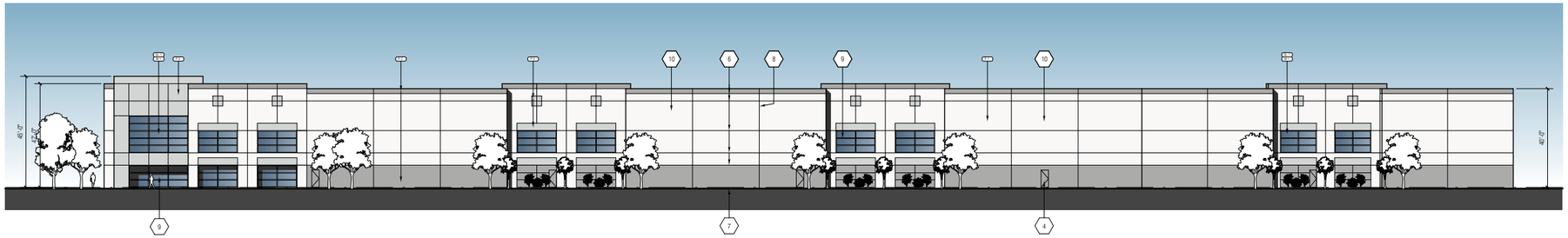
SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	MATURE HEIGHT (FEET)	MATURE WIDTH (FEET)	PLANT FACTOR	APPLICATION
	CAREX PANSA / CALIFORNIA MEADOW SEDGE	5 GAL.	2'	2'	MED. (0.5)	BIO & ORNAMENTAL GRASS
	CHONDROPETALUM TECTORUM / CAPE RUSH	5 GAL.	3'-5'	4'-6'	MED. (0.5)	BIO & ORNAMENTAL GRASS
	CALAMAGROSTIS X ACUTIFLORA / KARL FOERSTER'S FEATHER REED	5 GAL.	2'-3'	2'-3'	MED. (0.5)	BIO & ORNAMENTAL GRASS
	MUHLENBERGIA CAPILARIS 'REGAL MIST' / REGAL MIST MURLY	5 GAL.	3'	6'	MED. (0.5)	SCREENING SHRUB BIO & ORNAMENTAL GRASS
	MUHLENBERGIA RIGENS / DEERGRASS	5 GAL.	3'	6'	MED. (0.5)	SCREENING SHRUB BIO & ORNAMENTAL GRASS
	HELICTOTRICHON SEMPERVIRENS / BLUE OAT GRASS	5 GAL.	2'-3'	3'	MED. (0.5)	BIO & ORNAMENTAL GRASS
	LEYMUS CONDENSATUS / GIANT WILD RYE	5 GAL.	6'-8'	4'-5'	MED. (0.5)	BIO & ORNAMENTAL GRASS

HYDROSEED	COMPANY	DESCRIPTION
ORNAMENTAL, LOW GROWING MIX	*S&S SEEDS*	This is a mixture of showy, low growing annual and perennial species that will provide months of bright Spring color in a non-irrigated setting, or year-round color when irrigated. This mix may be used alone or in conjunction with grass and shrub seeds.

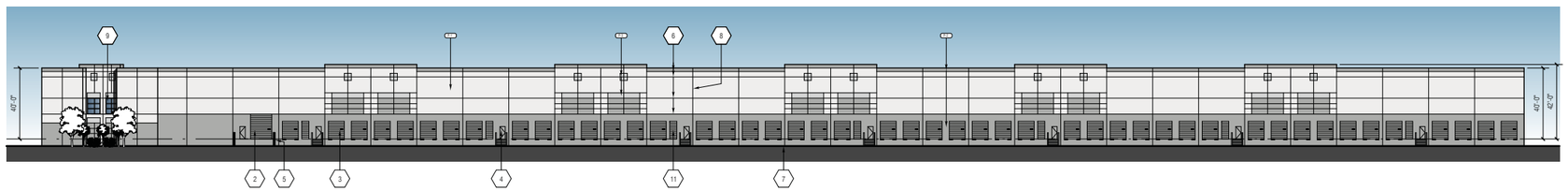
Conceptual Landscape Plan

Source: RGA, March 2014

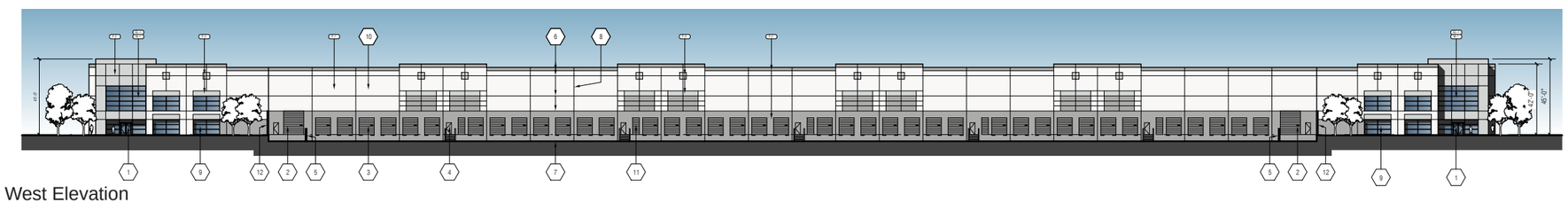
Figure 4.1-3



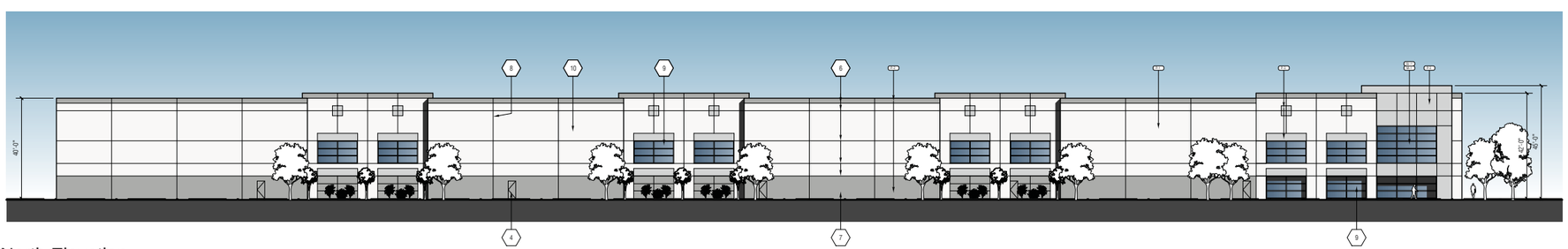
South Elevation



East Elevation



West Elevation



North Elevation

0 40 80 Feet

Plan 1 Elevations

Source: RGA, March 2014

Figure 4.1-4

4.2 AIR QUALITY

This section analyzes the proposed project's temporary and long-term impacts to local and regional air quality.

4.2.1 Setting

a. Climate and Meteorology. The project area is within the South Coast Air Basin (SCAB), which is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The regional climate within the SCAB is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality within the SCAB is primarily influenced by meteorology and a wide range of emissions sources, such as dense population centers, substantial vehicular traffic, and industry.

Air pollutant emissions within the SCAB are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment such as when high winds suspend fine dust particles.

b. Air Pollution Regulation. The federal and state governments have established ambient air quality standards for the protection of public health. The United State Environmental Protection Agency (USEPA) is the federal agency designated to administer air quality regulation, while the Air Resources Board (ARB) is the state equivalent in the California EPA. County-level Air Pollution Control Districts (APCDs) provide local management of air quality. The ARB has established air quality standards and is responsible for the control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 14 air basins statewide.

The USEPA has set primary national ambient air quality standards (NAAQS) for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), course particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$) and lead (Pb). Primary standards are those levels of air quality deemed necessary, with an adequate margin of safety, to protect public health. In addition, the State of California has established health-based ambient air quality standards for these and other pollutants, some of which are more stringent than the federal standards. Table 4.2-1 lists the current federal and state standards for regulated pollutants.

The South Coast Air Quality Management District (SCAQMD) is the designated air quality control agency in the SCAB. The SCAB is designated in nonattainment for the federal and state one-hour and eight-hour ozone standards, the state PM_{10} standard, the federal 24-hour $PM_{2.5}$ standard, and the state annual $PM_{2.5}$ standard. The Riverside County portion of the SCAB is designated unclassifiable/ attainment for all other federal and state standards.

Table 4.2-1
Current Federal and State Ambient Air Quality Standards

Pollutant	Federal Standard	California Standard
Ozone	0.075 ppm (8-hr avg)	0.09 ppm (1-hr avg) 0.07 ppm (8-hr avg)
Carbon Monoxide	9.0 ppm (8-hr avg) 35.0 ppm (1-hr avg)	9.0 ppm (8-hr avg) 20.0 ppm (1-hr avg)
Nitrogen Dioxide	0.100 ppm (1-hr avg) 0.053 ppm (annual avg)	0.18 ppm (1-hr avg) 0.03 ppm (annual avg)
Sulfur Dioxide	0.075 ppm (1-hr avg)	0.25 ppm (1-hr avg) 0.04 ppm (24-hr avg)
Lead	0.15 μg/m3 (3-mo avg)	1.5 μg/m3 (30-day avg)
Particulate Matter (PM10)	150 μg/m3 (24-hr avg)	50 μg/m3 (24-hr avg) 20 μg/m3 (annual avg)
Particulate Matter (PM2.5)	12 μg/m3 (annual avg) 35 μg/m3 (24-hr avg)	12 μg/m3 (annual avg)

ppm= parts per million μg/m^3 = micrograms per cubic meter

Source: California Air Resources Board, http://www.arb.ca.gov/research/aaqs/aaqs2.pdf, June 2013; EPA

Air Pollutants of Concern

Characteristics of ozone, carbon monoxide, nitrogen dioxide, suspended particulates, and toxic air contaminants, as they relate to vehicle exhaust, are discussed below.

Ozone. Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_X) and volatile organic compounds (VOC).2 Nitrogen oxides are formed during the combustion of fuels, while reactive organic gases are formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it mostly occurs in concentrations considered serious between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, persons with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide. Carbon monoxide (CO) is a colorless, odorless, poisonous gas. The major source of CO in California is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes. Carbon monoxide's health effects are

2 Volatile organic compounds (VOC) are also referred to as reactive organic gases (ROG) or reactive organic compounds (ROC)

related to its affinity for hemoglobin in the blood. At high concentrations, carbon monoxide reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities.

Nitrogen Dioxide. Nitrogen dioxide (NO_2) is a by-product of fuel combustion, with the primary sources being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. Nitrogen dioxide is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light and causes a reddish brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of PM_{10}, $PM_{2.5}$ and acid rain.

Suspended Particulates. PM_{10} is particulate matter measuring no more than 10 microns in diameter, while $PM_{2.5}$ is fine particulate matter measuring no more than 2.5 microns in diameter. Suspended particulates are mostly dust particles, nitrates and sulfates. Both PM_{10} and $PM_{2.5}$ are by-products of fuel combustion and wind erosion of soil and unpaved roads, and are directly emitted into the atmosphere through these processes. Suspended particulates are also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with the small particulates (those between 2.5 and 10 microns in diameter) and fine particulates ($PM_{2.5}$) can be very different. The small particulates generally come from windblown dust and dust kicked up from mobile sources. The fine particulates are generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. Fine particulate matter is more likely to penetrate deeply into the lungs and remain there and poses a health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

An important fraction of the particulate matter emission inventory is that formed by diesel engine fuel combustion. Particulates in diesel emissions are very small and readily respirable. The particles have hundreds of chemicals adsorbed onto their surfaces, including many known or suspected mutagens and carcinogens. The California Office of Environmental Health Hazard Assessment (OEHHA) reviewed and evaluated the potential for diesel exhaust to affect human health, and the associated scientific uncertainties (California EPA, ARB, April 1998). Based on the available scientific evidence, it was determined that a level of diesel PM exposure below which no carcinogenic effects are anticipated has not been identified. The Scientific Review Panel that approved the OEHHA report determined based on studies to date that 3.0E-04 $(\mu g/m^3)^{-1}$ is a reasonable estimate of the unit risk for diesel PM. This means that a person exposed to a diesel PM concentration of 1 $\mu g/m^3$ continuously over the course of a lifetime has a 3 per 10,000 chance (or 300 in one million chance) of contracting cancer due to this exposure. Based on an estimated Year 2000 statewide average concentration of 1.26 $\mu g/m^3$ for indoor and outdoor ambient air, about 380 excess cancers per one million population could be expected if diesel PM concentrations remained the same (ARB, October 2000). Therefore, these particulate emissions have been determined by the ARB to be a toxic air contaminant (TAC).

Compared to other air toxics that the ARB has identified and controlled, diesel PM emissions are estimated to be responsible for about 70% of the total ambient air toxics risk. In addition to these general risks, diesel PM can also be responsible for elevated localized or near-source exposures ("hot-spots"). Depending on the activity and nearness to receptors, these potential risks can range from small to 1,500 per million or more (ARB, October 2000). Risk characterization scenarios have been conducted by the ARB staff to determine the potential excess cancer risks involved due to the location of individuals near to various sources of diesel engine emissions, ranging from school buses to high volume freeways. The purpose of the risk characterization was to estimate, through air dispersion modeling, the cancer risk associated with typical diesel-fueled engine or vehicle activities based on modeled PM concentration at the point of maximum impact (PMI). The study included various sources of diesel PM emissions, including idling school buses, truck stops, low and high volume freeways, and other sources. High volume freeways were estimated to cause 800-1,700 per million potential excess cancers, while low volume freeways were estimated to cause about 100–200 per million potential excess cancers. The ARB Land Use Handbook recommends siting distribution facilities (industrial uses) no closer than 1,000 feet from residences (ARB, 2005). The recommendation is based on research showing that concentrations of pollutants decline with distance from major sources. These recommendations are strictly advisory, and local agencies are expected to balance them with other considerations, which presumably include the land use context and local land use priorities. Please see further discussion concerning risk levels below under "Health Risk Assessment" in subsection 4.2.2, *Impact Analysis*.

Besides diesel PM, several other pollutants are emitted by vehicle exhausts that are a public health concern. The USEPA has identified six pollutants of highest priority: diesel particulate matter (DPM), acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene. The latter five pollutants are part of the total organic gases emitted by vehicles both diesel and gasoline fueled. The following is a brief description of these chemicals:

Acrolein. Acrolein is the simplest unsaturated aldehyde. It is a widely produced substance with a piercing, disagreeable, acrid smell similar to that of burning fat. Acrolein is an unstable toxic substance that can burn the nose and throat and is a severe pulmonary irritant. It is a flammable and poisonous substance prepared industrially by the oxidation of propene. Small amounts of acrolein are formed and enter the air when trees, tobacco, other plants, gasoline, and oil are burned.

Acetaldehyde. Acetaldehyde, sometimes known as ethanal, is an organic chemical compound used as an intermediate in the production of acetic acid, certain esters, and a number of other chemicals. It is a flammable liquid with a fruity smell. Acetaldehyde is toxic when applied externally for prolonged periods, an irritant, and a probable carcinogen.

Formaldehyde. Formaldehyde is an organic chemical compound containing a terminal carbonyl group. It is produced in the atmosphere by the action of sunlight and oxygen on atmospheric methane and other hydrocarbons; thus, it becomes part of smog. Additionally, formaldehyde is an intermediate in the oxidation (or combustion) of methane as well as other carbon compounds including automobile exhaust. Formaldehyde is a flammable substance that can be toxic, allergenic, and a carcinogen. It is naturally made in small amounts in human

bodies and is found in small amounts in household sources, such as fiberglass, carpets, permanent press fabrics, paper products, and some household cleaners.

Benzene. Benzene, or benzol, is an organic chemical compound and a known carcinogen. It is a colorless and highly flammable liquid with a sweet smell and a relatively high melting point. Benzene is an important industrial solvent and precursor in the production of drugs, plastics, synthetic rubber, and dyes. Benzene is a natural constituent of crude oil, and may be synthesized from other compounds present in petroleum, and is found in gasoline, and cigarette smoke. Natural sources of benzene include emissions from volcanoes and forest fires.

1,3-Butadiene. 1,3-Butadiene is an important industrial chemical used in the production of synthetic rubber (about 75% of the manufactured 1,3-butadiene), which is then used primarily in the production of automobile tires. It is a colorless gas with a mild gasoline-like odor and small amounts are contained in gasoline and exhausted into the air after the combustion process. It is a carcinogen and highly irritative and flammable.

c. Current Air Quality. The SCAB monitoring station located nearest to the project site is the Mira Loma Van Buren monitoring station located approximately 3.5 miles east of the project site. Table 4.2-2 indicates the number of days each of the standards has been exceeded at this station in each of the last three years for which data is available. As shown, the ozone concentration exceeded state standards in 2012 on 31 days, in 2013 on 11 days, and in 2014 on 17 days. The $PM_{2.5}$ concentration exceeded federal standards on seven days in 2012 and nine days in both 2013 and 2014. The PM_{10} concentration exceeded federal standards on 15 days in 2012, 12 days in 2013, and 15 days in 2014. No exceedances of either the state or federal standards for NO_2 or CO have occurred in the last three years. Table 4.2-2 indicates that background CO levels are well within standards.

Table 4.2-2
Ambient Air Quality at the Mira Loma Van Buren Monitoring Station

Pollutant	2012	2013	2014
Ozone (ppm), Worst 1-Hour	0.124	0.118	0.138
Number of days of State exceedances (>0.09 ppm)	31	11	17
Nitrogen Dioxide (ppb) - Worst Hour	60.7	53.7	57.7
Number of days of State exceedances (>0.25 ppm)	0	0	0
Carbon Monoxide (ppm), Highest 8-Hour Average	1.95	*	*
Number of days of above State or Federal standard (>9.0 ppm)	0	0	0
Particulate Matter <2.5 microns, $\mu g/m^3$, Worst 24 Hours	47.7	83.2	73.6
Number of days above Federal standard (>35 $\mu g/m^3$)	7	9	9
Particulate Matter <10 microns, $\mu g/m^3$, Worst 24 Hours	76.0	143.0	83.0
Number of days above State standard (>50 $\mu g/m^3$)	0	0	0
Number of days above Federal standard (>150 $\mu g/m^3$)	15	12	15

Data collected for the Mira Loma Van Buren monitoring station

** There was insufficient (or no) data available to determine the value.*

Source: ARB Aerometric Data Analysis and Measurement System (ADAM) Top Four Summaries from 2012 to 2013, available at: http://www.arb.ca.gov/adam/topfour/topfour1.php (CARB, 2015b)
ppm = parts per million; PM_{10} – particulate matter 10 microns in diameter or less; NM = not measured; $\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter 2.5 microns in diameter or less; There was insufficient (or no) data available to determine the value.*

d. Sensitive Receptors in the Project Area. Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. The majority of sensitive receptor locations are therefore schools and hospitals. Residences are also sensitive receptors, as they may be occupied by children or the elderly for long periods of time. Sensitive receptors that could be affected by air quality impacts associated with project construction include residential areas approximately 2,200 feet northwest of the project site and 3,000 feet south of the project site. The nearest school is Colony High School, which is approximately 5,000 feet northwest of the site. The closest uses to the project site are industrial buildings, which are non-sensitive land uses, and are located approximately 200 feet north and south of the project site boundary. Therefore, the sensitive receptors closest to the project site that could be affected by air quality impacts would be the residences located on Westmont Lane (northwest of the site) and Bellegrave Avenue (south of the site). Air pollutant emissions associated with long-term use of the site have the potential to

impact nearby receptors, as trucks would frequently work on the site. The emissions are also a contribution to the airshed as a whole.

A Health Risk Assessment (HRA) was prepared for the proposed project to analyze the possible health effects to the existing residences associated with pollutant sources (truck trips and idling) that would be generated by the project.

e. Air Quality Management. Under state law, the SCAQMD is required to prepare a plan for air quality improvement for pollutants for which the District is in non-compliance. The SCAQMD updates the plan every three years. Each iteration of the SCAQMD's Air Quality Management Plan (AQMP) is an update of the previous plan and has a 20-year horizon. SCAQMD staff is currently developing the 2016 AQMP. The 2012 AQMP incorporates new scientific data and notable regulatory actions that have occurred since adoption of the 2007 AQMP. The SCAQMD adopted the 2012 AQMP in February 2013.

The Final 2012 AQMP also addresses several state and federal planning requirements, incorporating new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and new meteorological air quality models. The AQMP builds upon the approaches taken in the 2007 AQMP for the South Coast Air Basin for the attainment of federal PM and ozone standards, and highlights the significant amount of reductions needed and the urgent need to engage in interagency coordinated planning to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the timeframes allowed under the federal Clean Air Act. The Final 2012 AQMP also includes a discussion of the emerging issues of ultrafine particle and near-roadway exposures, an analysis of the energy supply and demand issues that face the Basin and their relationship to air quality. The Plan also includes new demonstrations of 1-hour ozone attainment and vehicle miles travelled (VMT) emissions offsets, as per recent U.S. EPA requirements. The 2012 AQMP is incorporated by reference and available to download at http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan.

The City of Eastvale General Plan (2012) includes an Air Quality and Conservation Chapter with four goals, one of which is "air quality that meets or exceeds all state and federal standards." Relevant air quality policies in the Chapter are:

- *Policy AQ-5: Sensitive receptors should be separate and protected from polluting point sources to the greatest extent possible.*
- *Policy AQ-6: Require site plan designs to protect people and land uses sensitive to air pollution.*
- *Policy AQ-7: The City encourages the use of pollution control measures such as landscaping, vegetation, and other materials, which trap particulate matter or control pollution.*
- *Policy AQ-13: The City encourages the use of building materials and methods which reduce emissions and energy use.*
- *Policy AQ-17: To the greatest extent possible, require every project to mitigate any of its anticipated emissions which exceed allowable emissions as established by the SCAQMD, the Environmental Protection Agency, and the California Air Resources Board.*

4.2.2 Impact Analysis

a. Methodology and Significance Thresholds. Pursuant to the Appendix G of the *CEQA Guidelines*, air quality impacts related to the proposed project would be considered significant if the project would:

1. *Conflict with or obstruct implementation of the applicable air quality plan;*
2. *Violate any air quality standard or contribute substantially to an existing or projected air quality violation;*
3. *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);*
4. *Expose sensitive receptors to substantial pollutant concentrations; or*
5. *Create objectionable odors affecting a substantial number of people.*

As described in Section 4.15, the proposed project would not involve construction of a use that would emit an objectionable odor affecting a substantial number of people. No impacts are anticipated. Therefore, Threshold 5 is not discussed further in this section.

Construction activities facilitated by the proposed project would generate diesel emissions and dust. Construction equipment that would generate criteria air pollutants includes excavators, graders, dump trucks, and loaders. Some of this equipment would be used during grading activities as well as when structures are constructed. It is assumed that all construction equipment used would be diesel-powered. The regional construction emissions associated with development of the proposed project were calculated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2 computer program by estimating the types and number of pieces of equipment that would be used on-site during each of the construction phases. Construction emissions are analyzed using the regional thresholds established by the SCAQMD and published in the *CEQA Air Quality Handbook*.

Operational emissions associated with development facilitated by the proposed project were also estimated using CalEEMod. Operational emissions include mobile source emissions, energy emissions, and area source emissions. Mobile source emissions are generated by the increase in motor vehicle trips to and from the project site associated with operation of the proposed warehouse. Emissions attributed to energy use include electricity and natural gas consumption. Area source emissions are generated by landscape maintenance equipment, consumer products and architectural coating. To determine whether a significant regional air quality impact would occur, the increase in emissions was compared with the SCAQMD's recommended regional thresholds for operational emissions. A HRA was also conducted to determine if project operation, due to truck trips and idling emissions, would result in health risk above SCAQMD's toxic air contaminant thresholds at sensitive receptor locations; the HRA methodology is discussed in more detail under "Health Risk Assessment" below.

The SCAQMD has developed specific numeric thresholds that apply to projects within the SCAB. The SCAQMD has established the significance thresholds for both construction activities and project operations. These thresholds are shown in Table 4.2-3.

Table 4.2-3
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	**Operation Thresholds**	**Construction Thresholds**
NO_X	55 lbs/day	100 lbs/day
VOC	55 lbs/day	75 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_X	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day

Source: SCAQMD, http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2, March 2015.

In addition to the regional air quality thresholds shown in Table 4.2-3, the SCAQMD has also developed Localized Significance Thresholds (LSTs) in response to the Governing Board's Environmental Justice Enhancement Initiative (1-4), which was prepared to update the *CEQA Air Quality Handbook*. LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), project size, distance to the sensitive receptor, etc. However, LSTs only apply to emissions produced on the project site, including idling emissions during both project construction and operation. LSTs have been developed for NO_X, CO, PM_{10} and $PM_{2.5}$. LSTs are not applicable to mobile sources off-site such as cars on a roadway (SCAQMD, 2008). As such, LSTs for operational emissions do not apply to on-site development, as the majority of emissions would be generated by cars on the roadways.

LSTs have been developed for emissions within areas up to five acres in size, with air pollutant modeling recommended for activity within larger areas. The SCAQMD provides lookup tables for project sites that measure 1, 2 or 5 acres. According to the SCAQMD's publication, *Final Localized Significant (LST) Thresholds Methodology* (2008), the use of LSTs is voluntary, to be implemented at the discretion of local agencies. The project site is greater than five acres, and the nearest sensitive receptors are located more than 1,640 feet from the site boundary (the greatest distance for which SCAQMD provides LSTs). Furthermore, the analysis in this EIR includes a detailed health risk assessment for operational emissions (see below); therefore the project's emissions are not compared to SCAQMD LSTs.

SCAQMD also recommends a local CO hotspot analysis if an 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 Levels of Service (LOS) at an intersection to D or worse. A CO hotspot is a localized concentration of CO that is above the

state or national 1-hour or 8-hour CO ambient air standards. Localized CO "hotspots" can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal AAQS of 35.0 parts per million (ppm) or the state AAQS of 20.0 ppm. Potential carbon monoxide impacts at roadway intersections were determined using the traffic study (see Appendix J).

Health Risk Assessment. A health risk assessment (HRA) was prepared for the proposed project to estimate the potential health risk at existing residences (sensitive receptors) along Interstate 15 (I-15) and State Route 60 (SR-60) near the project site, associated with diesel particulate emissions (PM) and other toxic air contaminants (TACs) from project-related truck trips and truck idling on the project site. Toxic air contaminants associated with vehicle exhaust are described under "Air Pollutants of Concern," in Section 4.2.1, *Setting*, above.

Cancer risk is expressed as the maximum number of new cases of cancer projected to occur in a population of one million people due to exposure to the cancer-causing substance, typically over a 70-year lifetime (California EPA, 2001). For example, a cancer risk of one in one million means that in a population of one million people, not more than one additional person would be expected to develop cancer as a result of exposure to the substance causing that risk.

Acute and chronic health risks are expressed in terms of a hazard index (HI). The Acute HI is the ratio of the average short term (generally one hour) ambient concentration of an acutely toxic substance(s) divided by the acute reference exposure level set by the OEHHA. The Chronic HI is the ratio of the average annual ambient concentration of a chronically toxic substance(s) divided by the chronic reference exposure level set by the OEHHA. If either ratio is above one, then adverse health effects may occur (California Air Pollution Control Officers Association, 2009). With respect to pollutants for which primary ambient air quality standards have been promulgated (such as for particulate matter), the chronic health risk is determined by concentrations that exceed the ambient air quality standard on an average annual basis.

The HRA was completed to evaluate the potential health risk from project-generated trucks traveling on I-15 and SR-60 and idling at the project site using the Hotspots Analysis Reporting Program Version 2 (HARP 2). HARP 2 is a single integrated software package that can be used to inventory emissions and evaluate health risks. The HRA was performed in accordance with the methodologies presented in the California Air Pollution Control Officers Association (CAPCOA) Guidance Document, *Health Risk Assessments for Proposed Land Use Projects* (CAPCOA 2009), OEHHA March 2015 Guidance Manual, *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments*, *Supplemental Guidelines for Submission of Rule 1200 Health Risk Assessments*, and *Risk Assessment Procedures* issued by the South Coast Air Quality Management District (SCAQMD 2015).

HARP 2 Model. HARP 2 includes a database to inventory the geographical location of sources and sensitive receptors. In addition, the database maintains the emissions associated with the sources. The freeways and project site were modeled as a series of volume sources and the emissions data entered into the HARP 2 program database. The HARP 2 program also includes the AERMOD dispersion model, which was used to calculate concentrations in the project vicinity resulting from the emissions contained in the database. Specific meteorology

was input into the model using the nearest available meteorological files downloaded from the SCAQMD website. Terrain for the area was based on digital elevation models (DEMs) downloaded from the United States Geological Survey, with the freeway elevations obtained from Google™ Earth and adjusted to the DEM elevations. The elevation on SR-60 varies from between 809 feet and 827 feet above mean sea level (amsl) along the length of the approximately one mile segment. The elevation on I-15 varies from between 692 feet and 719 feet msl along the length of the approximately one-mile segment. These differences in topography are considered by the dispersion model.

The carcinogenic health risk is calculated by the HARP 2 model based on the emission concentration at each sensitive or grid receptor using the toxicity data contained in the HARP 2 database.[3] The chronic health risk value is calculated by the HARP 2 model using the California Environmental Protection Agency (CalEPA), OEHHA method of dividing the annual average concentration by the chronic inhalation reference exposure level (REL) (HARP 2, May 2013). The RELs are generally the levels at (or below) which no adverse health effects are expected. The latest HARP 2 model incorporates the most recent potency factors and RELs for use in HRAs.

Three exposure pathways are considered for health effects: ingestion, dermal contact, and inhalation. The first two generally require direct contact with the contaminated medium (usually soil), while the latter includes the inhalation of vapors and respirable dust (usually in the form of PM_{10}). Inhalation is the only available pathway for the exhaust vapors that contain acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene. Diesel PM is a respirable dust that can potentially be both ingested (oral) or enter the body through contact with contaminated soil. With respect to diesel PM, the oral pathway is available only through ingestion of contaminated soil, similar to the dermal contact. Neither OEHHA nor the USEPA Integrated Risk Information System (IRIS) lists an oral slope toxicity for diesel PM, as ingestion of soil is uncommon and not generally a substantial contributor to carcinogenic health risk associated with diesel PM. Therefore, only the inhalation pathway is considered in the risk assessment for diesel PM.

Risk characterization is performed to integrate the health effects and public exposure information and provide quantitative estimates of potential health risks from project-related emissions. Risk modeling was performed using the HARP 2 model to estimate cancer and non-cancer health risks from project-related emissions. The HARP 2 model uses the equations and algorithms contained in the Revised 2015 OEHHA Guidelines to calculate health risks based on input parameters such as emissions, ground-level concentrations, and toxicological data. The carcinogenic health risk equations follow a dose response relationship where the dosage is averaged over a particular timeframe. On a standard basis, the timeframe used for carcinogenic health risk is generally that for a 30-year timeframe, which presumes occupancy of sensitive receptor site from the third trimester to Age 30. A more conservative 70-year lifetime residency and a 9-year lifetime residency can also be calculated. The average annual concentration was used to determine health risk for 9, 30, and 70 year lifetime scenarios.

[3] *AERMOD provides X/Q (CHI/Q = chi/q) values, or dispersion factors, which are the concentration estimated by the air quality model based on an emission rate of one gram per second. HARP 2 then uses the X/Q values to estimate actual concentration by multiplying this value against the emission rate in grams per second.*

Emission Factor Calculations. Mobile source TAC emissions associated with vehicle traffic on I-15 and SR-60 were estimated using the methodology developed by the University of California at Davis (UCD) in cooperation with Caltrans. This industry-standard methodology was used to develop benzene, acrolein, acetaldehyde, 1,3-butadiene, and formaldehyde emission factors from EMFAC2014 total organic gas (TOG) emission factors, ARB speciation factors, and the particulate emission factors from EMFAC2014. These emission factors are then multiplied by traffic volumes for the segments of concern to obtain total bulk emissions for each segment.

Traffic volumes for I-15 and SR-60 were based on most recently available traffic volumes (Caltrans, 2013). Operating year (2019) traffic volumes were estimated using the traffic study prepared for the proposed project (LLG, 2015). 2019 development would be similar to existing development in the area with regard to land uses. Therefore, the ratio of trucks to passenger vehicles was assumed to be the same for 2019 traffic volumes as existing volumes. The traffic study provided traffic volumes and truck counts, which were used to determine the appropriate percentage to apply to 2019 traffic. The projected 2019 emissions associated with existing and future truck traffic were analyzed and compared to the emissions that would result from the traffic that would be generated by the proposed project. Spreadsheet outputs adapted from the UC Davis-Caltrans MSAT model are contained in Appendix B.

Based on Caltrans Annual Average Daily Truck Traffic data, truck traffic has stayed constant between 2007 and 2014. Medium and large trucks (2 axles or greater) are estimated to comprise 8.2% of the average annual daily traffic (AADT) on I-15 and approximately 15.7% of AADT on SR-60. The nearest verified count of truck travel was made in 2013 at the junction of SR-60 and I-15. The truck traffic generated by cumulative projects in the area, as calculated in the LLG traffic study, was added to the Caltrans traffic counts to determine the level of truck traffic that would occur on the both freeways when the proposed project would be operational.
In addition, EMFAC2011 idling emissions for diesel PM, benzene, acrolein, acetaldehyde, 1,3-butadiene, and formaldehyde emission factors for medium and large trucks were also applied to the proposed project (EMFAC2014 idling emission rates are not available at this time). California law prohibits trucks from idling for more than five minutes at any one time. The emission factor calculations for idling conservatively assumed that every truck visiting the project site would idle for five minutes at arrival and five minutes at departure, for a total of ten minutes.

In order to assess the maximum potential health risks at residences near both freeways and the project site, seven sensitive receptor locations nearest to I-15, SR-60, and the project site were chosen as the maximum exposed individual residential (MEIR) receptors.

Significance Thresholds. As previously discussed, three possible levels of risk can occur for exposure to contaminants: cancer, acute, and chronic. Each has separate threshold criteria for determining the significance of an impact (and the potential need for reduction in exposure).

In March 2015, the SCAQMD published the following thresholds for carcinogen and non-carcinogen TACs:

- Maximum Incremental Cancer Risk (MICR) ≥ 10 in 1 million (or 1.0E-05)
- Cancer Burden > 0.5 excess cancer cases (where MICR ≥ 1 in 1 million or 1.0E-06)
- Chronic & Acute Hazard Index (HI) ≥ 1.0 (project increment)

These thresholds are used in the health risk-related analysis.

b. Project Impacts and Mitigation Measures.

Impact AQ-1 The proposed project would not generate an increase in population that would conflict with or obstruct implementation of the SCAQMD AQMP. Therefore, impacts would be *less than significant*.

In order to be consistent with the AQMP, a project must conform to the local general plan and must not result in or contribute to an exceedance of the City's projected population growth forecast. The project's consistency with the local general plan is discussed in detail in Section 4.9, *Land Use and Planning*. The project would be separated from the existing residential uses approximately 2,200 feet northwest and 3,000 feet south of the site, consistent with General Plan Policy AQ-5. The project also includes landscaping, vegetation, and other materials, which trap particulate matter or control pollution, as recommended in the General Plan. Finally, as required by the General Plan, this EIR analyzes and mitigates impacts associated with the project's anticipated emissions.

The proposed project would not directly generate population growth since it does not include a housing component. The increase in industrial warehouse square footage associated with the project would add one employee per 1,225 square feet of space, a total of approximately 364 jobs (Natelson Co., 2001). The proposed project would be expected to draw from the local labor pool rather than inducing 364 people to move to the area to fill the new employment opportunities, nonetheless, it is conservatively assumed that all 364 employment opportunities would be filled by new residents of Eastvale.

Based on the Southern California Association of Governments adopted growth forecast (2012) the City of Eastvale is expected to reach 61,500 by 2020. The existing population (2015) is approximately 60,633 (California Department of Finance, 2015). Therefore, the City's population is expected to grow by 867 more residences. As discussed, it is unlikely that all 364 employment opportunities would be filled by new residents of Eastvale; some would continue living in other parts of the county and some would be current residents. Nonetheless, even if all 364 jobs were filled by persons relocating to Eastvale, this would not exceed the growth projections associated with the SCAQMD AQMP and therefore would not conflict with implementation of the AQMP.

Mitigation Measures. None required.

Significance After Mitigation. The impact would be less than significant without mitigation.

Impact AQ-2 Project construction would generate temporary increases in localized air pollutant emissions. Emissions of ROG would exceed the applicable SCAQMD threshold. All other emissions would be below threshold. Therefore, air quality impacts associated with construction activities would be *significant but mitigable*.

The proposed project would involve construction and operation of a new 446,173 square foot industrial warehouse building, parking, utility and stormwater infrastructure and landscaping. Construction of the proposed project is expected to occur over 18 months. Project grading would be minimal and is expected to be balanced on-site. Therefore, no trips associated with dirt hauling would be made. The construction emissions estimate also includes work associated with construction of the proposed secondary access road, removal of the concrete-lined drainage facility, or the construction of the proposed retaining wall. The stormwater infrastructure improvements would not generate substantial construction emissions; these improvements would include the replacement and relocation of an existing drainage pipe.

Construction activities associated with construction of the proposed project would result in temporary air quality impacts. Ozone precursors NO_X and ROG, as well as CO, would be emitted by the operation of construction equipment such as graders, backhoes, and generators, while particulate matter (PM_{10} and $PM_{2.5}$) would be emitted by activities that disturb the soil, such as grading and excavation, road construction and building construction. Table 4.2-5 shows estimates of maximum daily construction emissions associated with the proposed project. Lead emissions are not analyzed because pollutant quantities are negligible and there is no risk of exceeding the SCAQMD threshold of three pounds per day.

Table 4.2-4
Estimated Construction Maximum Daily Air Pollutant Emissions (lbs/day)

Construction Phase[1]	Maximum Emissions (lbs/day)				
	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
2016 Maximum lbs/day	6.6	75.0	50.5	21.2	12.7
2017 Maximum lbs/day	5.4	39.0	47.5	7.0	3.2
2018 Maximum lbs/day	135.6	34.8	44.8	6.7	2.9
SCAQMD Thresholds	75	100	550	150	55
Threshold Exceeded?	***Yes***	*No*	*No*	*No*	*No*

Notes: All calculations were made using CalEEMod and are based on winter CalEEMod results. See Appendix B for calculations. Grading, Paving, Building Construction and Architectural Coating totals include worker trips, soil export hauling trips, construction vehicle emissions and fugitive dust. Numbers may not add up due to rounding.

1. The architectural coating phases incorporate anticipated emissions reductions from the conditions listed above, which are required by Rule 1113.

As shown in Table 4.2-5, emissions of NO_X, CO, PM_{10}, and $PM_{2.5}$ would be below SCAQMD regional thresholds for all criteria pollutants. Emissions of ROG would exceed SCAQMD's 75 pounds per day threshold. Mitigation would be required to reduce this exceedance to a less than significant level.

Mitigation Measures. Construction emissions associated with the proposed project would exceed SCAQMD threshold for ROG. The following mitigation would be required to reduce emissions below threshold.

AQ-2 **Low-VOC Paint.** The project applicant shall require the use of coatings and solvents with a VOC content lower than required under SCAQMD Rule 1113 (i.e., Super Compliant Paints) on all interior and exterior surfaces. All architectural coatings shall be applied either by (1) using a high-volume, low-pressure spray method operated at an air pressure between 0.1 and 10 pounds per square inch gauge to achieve a 65 percent application efficiency; or (2) manual application using a paintbrush, hand-roller, trowel, spatula, dauber, rag, or sponge, to achieve a 100 percent applicant efficiency. Paint should not exceed 50 g/L for all interior surfaces and exterior surfaces. The construction contractor shall also use pre-coated/natural colored building, where feasible. Use of low-VOC paints and spray method shall be included as a note on architectural building plans.

Significance After Mitigation. As shown in Table 4.2-6 implementation of Mitigation Measure AQ-2 would reduce ROG emissions to 47 pounds per day. The impact would be less than significant with mitigation incorporated.

Table 4.2-5
Estimated Construction Maximum Daily Air Pollutant Emissions with Mitigation Measure (lbs/day)

Construction Phase[1]	Maximum Emissions (lbs/day)				
	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
2016 Maximum lbs/day	6.6	74.9	50.5	21.2	12.7
2017 Maximum lbs/day	5.4	39.0	47.5	7.0	3.2
2018 Maximum lbs/day	51.1	34.8	44.8	6.7	2.9
SCAQMD Thresholds	75	100	550	150	55
Threshold Exceeded?	*No*	*No*	*No*	*No*	*No*

Notes: All calculations were made using CalEEMod and are based on winter CalEEMod results. See the Appendix B for calculations. Grading, Paving, Building Construction and Architectural Coating totals include worker trips, soil export hauling trips, construction vehicle emissions and fugitive dust. Numbers may not add up due to rounding.

1. The architectural coating phases incorporate anticipated emissions reductions from the conditions listed above, which are required by Rule 1113.

Impact AQ-3 **Operation of the proposed project would generate air pollutant emissions, but emissions would not exceed SCAQMD operational significance thresholds. Therefore, long-term regional air quality impacts would be *less than significant*.**

The increase in long-term emissions associated with the proposed project, as presented in Table 4.2-7, includes those emissions associated with vehicle trips (mobile emissions), the use of natural gas (energy emissions), and consumer products, architectural coatings, and landscaping equipment (area emissions). CalEEMod was used to calculate emissions based on the proposed land uses for the site and the number of trips generated. Mobile emissions are based on the estimated amount of project-generated vehicle trips determined by the project traffic study (see

Section 4.13, *Transportation and Circulation*). Estimated daily trips include up to 398 passenger vehicle trips and 368 truck trips. The stormwater infrastructure improvements would not generate operational emissions, as this portion of the project would improve existing infrastructure.

Table 4.2-7 summarizes operational emissions resulting from the proposed project. Lead emissions are not analyzed because pollutant quantities are negligible and there is no risk of exceeding the SCAQMD threshold of three pounds per day. As shown, no SCAQMD thresholds would be exceeded; therefore, impacts would be less than significant.

Table 4.2-6
Operational Emissions Associated with the Proposed Project

	Emissions (lbs/day)					
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_X**
Area	20.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Energy	< 0.1	0.3	0.2	< 0.1	< 0.1	< 0.1
Mobile	3.5	37.6	44.2	8.3	2.8	0.2
Total Emissions	**23.7**	**37.9**	**44.5**	**8.4**	**2.8**	**0.2**
SCAQMD Thresholds	55	55	550	150	55	150
Threshold Exceeded?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Table 2.2, "Overall Operational", CalEEMod winter calculations, see Appendix B.

Mitigation Measures. None required. Operational emissions associated with the proposed project would not exceed SCAQMD thresholds.

Significance after Mitigation. Impacts would be less than significant without mitigation.

Impact AQ-4 **Project-generated traffic could incrementally increase localized carbon monoxide (CO) levels. However, because the increase in CO levels at study area intersections as a result of the proposed project would not cause an exceedance of state or federal CO standards, this impact would be *less than significant*.**

Areas with high vehicle density, such as congested intersections and parking garages, have the potential to create high concentrations of carbon monoxide (CO), known as CO "hot spots." Specifically, hot spots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal AAQS of 35.0 parts per million (ppm) or the state AAQS of 20.0 ppm. As discussed in Section 4.13, *Transportation and Circulation* and in the traffic study conducted by LLG (see Appendix J), traffic at study area intersections would incrementally increase under the existing plus project and future plus project conditions. The CO levels at sensitive receptors located near these intersections could therefore increase incrementally.

SCAQMD recommends a local CO hotspot analysis if an intersection meets one of the following criteria: 1) the intersection is at level of service (LOS) D or worse and where the project increases the volume to capacity ratio by 2 percent; or 2) the project decreases the LOS at an intersection to D or worse. According to the traffic study (see Section 4.13, *Transportation and Circulation*), the proposed project, including the planned intersection improvements, would improve intersection operations and reduce congestion. Therefore, impacts associated with CO concentrations would be less than significant.

Mitigation Measures. None required.

Significance after Mitigation. CO concentrations at study area intersections would remain below the state and federal CO standards; and therefore, impacts related to CO hot spots would be less than significant.

Impact AQ-5 The proposed project would generate pollutants that could potentially impact sensitive receptors. However, project-related cancer, acute, and chronic risk would not exceed SCAQMD thresholds for toxic air contaminants. Therefore, impacts would be *less than significant*.

The results of the HARP 2 modeling for cancer risk show that the project has a Maximum Incremental Cancer Risk (MICR) of 0.77 in one million (or 7.70E-07) under the most conservative, 70-year adult resident scenario (see Appendix B for HARP 2 results). Therefore, the project's MICR is less than SCAQMD's TAC thresholds of 10 in one million (or 1.0E-05) and less than 1 in 1 million (or 1.0E-06), the threshold that would require a cancer burden analysis.

In addition, the project would result in a maximum acute HI of 0.00736 (or 7.36E-03) and a maximum chronic HI of 0.00039 (or 3.90E-04). The project's acute and chronic HI are both below the SCAQMD threshold of 1. Consequently, project-related cancer, acute, and chronic health risks would all be below applicable SCAQMD thresholds, and impacts associated with long-term emissions of TACs due to the proposed project would be less than significant (refer to Appendix B for detailed accounting of risk at each sensitive receptor location).

Mitigation Measures. None required.

Significance after Mitigation. Health risks associated with the proposed project would not exceed SCAQMD thresholds. Therefore, impacts related to health risks would be less than significant.

c. Cumulative Impacts. The SCAB is a non-attainment area for the federal and state one-hour and eight-hour ozone standards, the state PM_{10} standard, the federal 24-hour $PM_{2.5}$ standard, and the state annual $PM_{2.5}$ standard. Any growth within the Basin would contribute to existing exceedances of AAQS. Cumulative impacts to air quality are evaluated under two sets of thresholds for CEQA and the SCAQMD. The SCAQMD's approach to determining cumulative air quality impacts for criteria air pollutants is to first determine whether or not the proposed project would result in a significant project-level impact to regional air quality based on SCAQMD significance thresholds. If the project does not exceed SCAQMD thresholds, then the lead agency needs to consider the additive effects of related projects only if the proposed project is part of an ongoing regulatory program or is contemplated in a program EIR, and the

related projects are located within an approximately one mile of the project site. If there are related projects within the vicinity (one-mile radius) of the project site that are part of an ongoing regulatory program or are contemplated in a Program EIR, then the additive effect of the related projects should be considered.

The proposed project is not part of an ongoing regulatory program; therefore, the SCAQMD recommends that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality. As discussed in Impact AQ-2, daily emissions of construction-related pollutants would not exceed SCAQMD significance thresholds with implementation of Mitigation Measure AQ-2. As discussed in Impact AQ-3, the proposed project would result in an increase in daily operational emissions; however, this increase would not exceed SCAQMD thresholds. In addition, as discussed in Impact AQ-4, project traffic would not create a CO hot spot at any study area intersections.

By applying the SCAQMD cumulative air quality impact methodology, implementation of the proposed project would not result in an addition of criteria pollutants such that cumulative impacts, in conjunction with related projects, would occur. Because the proposed project would not generate emissions that exceed the SCAQMD's thresholds and the project is consistent with the AQMP, the project would not make a cumulatively considerable contribution with regard to criteria pollutants. Therefore the project's contribution to cumulative regional air quality impacts would not be cumulatively considerable.

4.3 BIOLOGICAL RESOURCES

This section assesses potential impacts to biological resources from the proposed project, including potential impacts to special-status species and impacts related to consistency with local policies or ordinances protecting biological resources. The impact analysis is based on review of the California Natural Diversity Database (CNDDB), USGS topographic maps, and previously prepared technical reports. The Burrowing Owl Technical Report and Riverside County Multiple Species Habitat Conservation Plan Consistency Evaluation are provided for reference in Appendix C. The Jurisdictional Wetland Delineation is provided as Appendix D.

4.3.1 Setting

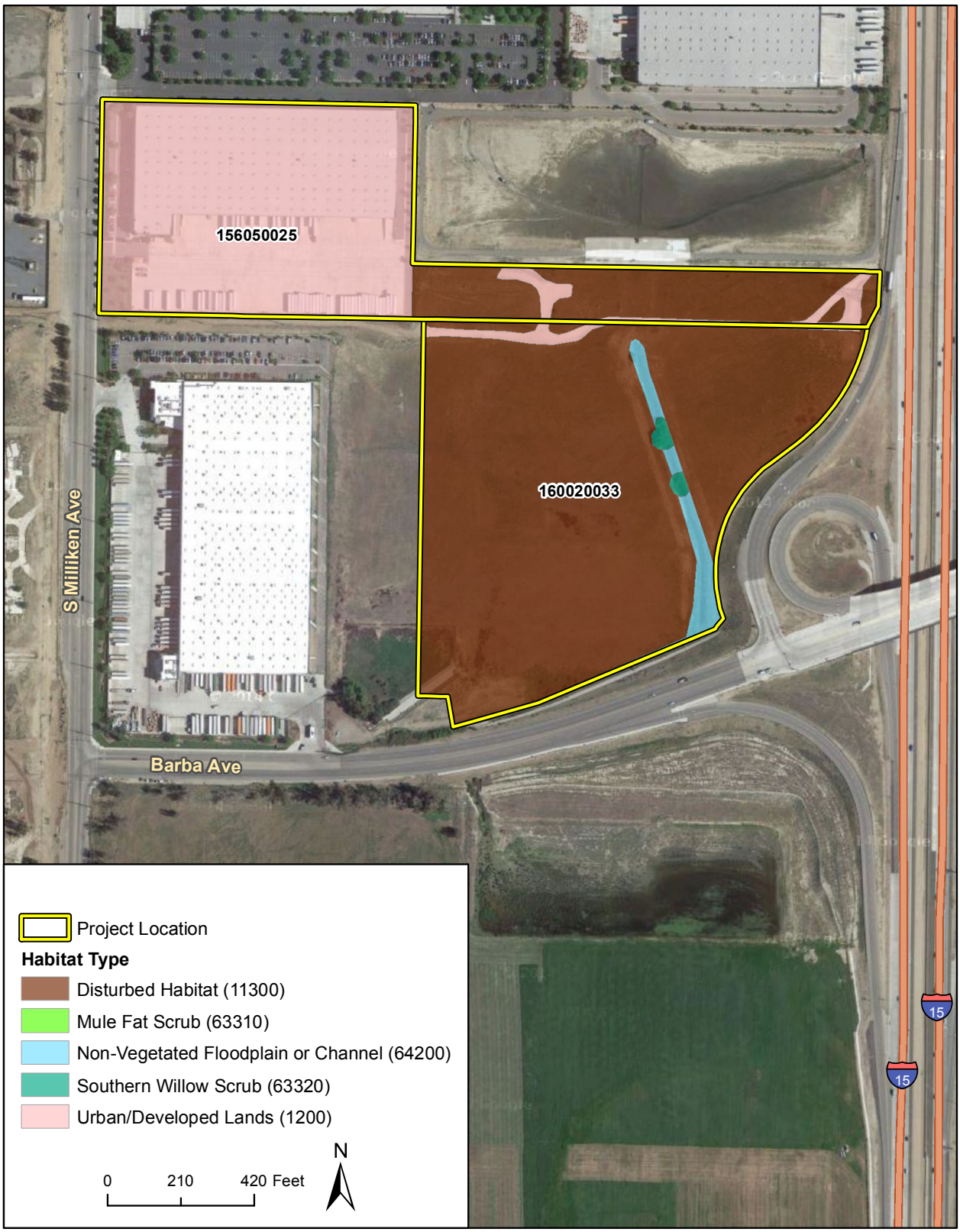
a. Physical Setting. The project site is located in the City of Eastvale, Riverside County, California. The regional climate within the basin is Mediterranean, characterized by warm summers, mild winters, and infrequent seasonal rain fall. Average annual precipitation in this project area is approximately 12 inches, with most of the annual precipitation occurring between the months of November and March (NOAA 2015).

The project site is bordered by Cantu Galleano Ranch Road to the south, S. Milliken Avenue to the west, the I-15 Freeway to the east and Micro Drive to the north. Specifically, project related improvements would occur on all or a portion of two separate and contiguous parcels: APN 160-020-033 (23 acres) and APN 156-050-025 (18 acres). These two parcels are depicted in Township 2 South, Range 6 West, Section 18 of the U.S. Geological Survey (USGS) *Guasti, California* 7.5-minute topographic quadrangle.

Vegetation and Land Cover. With the exception of the Southern California Edison (SCE) transmission corridor, and flood conveyance structure, the site is undeveloped and generally consists of disturbed areas with patches of native vegetation. An off-site detention basin is located along the western site boundary on an adjacent parcel. The disturbed vegetation is generally comprised of a mosaic of various non-native ruderal (weedy) species such as London rocket (*Sisymbrium irio*), basia (*Basia hyssopifloia*), Russian thistle (*Salsola tragus*) and foxtail barley (*Hordeum murinum*). These areas show evidence of frequent and repeated disturbance from agriculture, vehicle use and clearing/grading.

An excavated drainage feature transverses the center and southern boundary of the project site. This drainage has small pockets of southern willow scrub (*Salix lasiolepis* shrubland alliance, as described by Sawyer et al. [2009]), and mulefat scrub (*Baccharis salicifolia* shrubland alliance [Sawyer et al. 2009]). Specifically, the southern willow scrub includes a few solitary stands of arroyo willow (*Salix lasiolepis*) and Goodding's black willow (*Salix gooddingii*). The mulefat scrub is dominated with black elderberry (*Sambucus nigra*;), Goodding's black willow and some minor ruderal species such as cheeseweed (*Malva parviflora*), Bermuda grass (*Cynodon dactylon*), short podded mustard (*Hirschfeldia incana*), and ripgut brome (*Bromus diandrus*). Salix lasiolepis shrubland alliance and *Baccharis salicifolia* shrubland alliance are classified as a special-status natural community with the G4/S4 and the G5/S4 ranking, respectively (CDFW 2010).

A small patch of eucalyptus woodland *Eucalyptus (globulus, camaldulensis)* woodland semi-natural alliance, as described by Sawyer et al. (2009), occurs offsite on an adjacent parcel, adjacent to the existing off-site detention basin. Mulefat and ruderal non-natives occur within the understory. Figure 4.3-1 provides locations of each vegetation community/land cover type within the project site.



Imagery provided by National Geographic Society, ESRI and its licensors © 2015.

Vegetation Communities/Land Cover Types Figure 4.3-1

Wildlife. The project site provides habitat for wildlife species that commonly occur within urban and fallow agricultural areas of Riverside County. Avian species observed/detected on or adjacent to the site include red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), Anna's hummingbird (*Calypte anna*), northern mockingbird (*Mimus polyglottos*), Brewer's blackbird (*Euphagus cyanocephalus*), red-winged blackbird (*Agelaius phoeniceus*), bushtit (*Psaltriparus minimus*), American crow (*Corvus brachyrhynchos*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), black phoebe (*Sayornis nigricans*), Cassin's kingbird (*Tyrannus vociferans*), song sparrow (*Melospiza melodia*), and yellow warbler (*Dendroica petechial*), lesser goldfinch (*Spinus psaltria*), turkey vulture (*Cathartes aura*), common yellowthroat (*Geothlypis trichas*), brown-headed cowbird (*Molothrus ater*), orange crowned warbler (*Vermivora celata*), white crowned warbler (*Zonotrichia leucophrys*)

Three mammalian species, California ground squirrel (*Otospermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), and coyote (*Canis latrans*) were also either observed or detected (through observation of their sign) on the study area during the survey. While not directly detected or observed, striped skunk (*Mephitis mephitis*), jack rabbit (*Lepus californicus*), opossum (*Didelphis virginiana*), pocket gopher (*Thomomys bottae*), and field mice are expected to occur.

Three reptilian species, western fence lizard (*Sceloporus occidentalis*) and side-blotched lizard (*Uta stansburyana*), and granite spiny lizard (*Sceloporus orcutti*) were observed during the assessment. In addition, common amphibian and reptile species such as western toad (*Bufo boreas*), tree frogs (*Pseudacris* sp.), Pacific rattlesnake (*Crotalus viridis*), Pacific gopher snake (*Pituophis catenifer*), and alligator lizard (*Elgaria multicarinata*) are likely to occur.

Invertabrates, including painted lady (*Vanessa cardui*), Sara orangetip (*Anthocharis sara*), and checkered white (*Pontia protodice*) were readily observed throughout the site. No fish species were observed during the site visit. Given that year-round stream flow is not present, no fish species are expected to occur.

Special Status Biological Resources. Special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS under the Federal Endangered Species Act (FESA); those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act (CESA); animals designated as "Species of Special Concern," "Fully Protected," and/or "Watch List," (CDFW 2010); and those species on the Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2015c) and/or the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Vascular Plants*, (CNPS 2015) . Those plants contained on the CNPS California Rare Plant Rank (RPR). Only Listed species and RPR Lists 1 and 2 are considered "special status species in this EIR, per the RPR code definitions:

- *List 1A = Plants presumed extinct in California*
- *List 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)*
- *List 1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20-80 percent occurrences threatened)*
- *List 1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20 percent of occurrences threatened or no current threats known)*

- *List 2 = Rare, threatened or endangered in California, but more common elsewhere*
- *List 3 = Plants needing more information (most are species that are taxonomically unresolved; some species on this list meet the definitions of rarity under CNPS and CESA)*
- *List 4.1 = Plants of limited distribution (watch list), seriously endangered in California*
- *List 4.2 = Plants of limited distribution (watch list), fairly endangered in California (20-80 percent occurrences threatened)*
- *List 4.3= Plants of limited distribution (watch list), not very endangered in California*

As indicated above, the RPR also includes Lists 3 and 4. Per the CDFW (2009), these plants typically do not warrant consideration under State CEQA Guidelines §15380 unless the specific circumstances relevant to local distributions make them of potential scientific interest. Similarly local agencies may also consider and list additional plants to be of "local concern" or "narrow endemic" because of local or regional scarcity as determined by that agency (per the State CEQA Guidelines §15380).

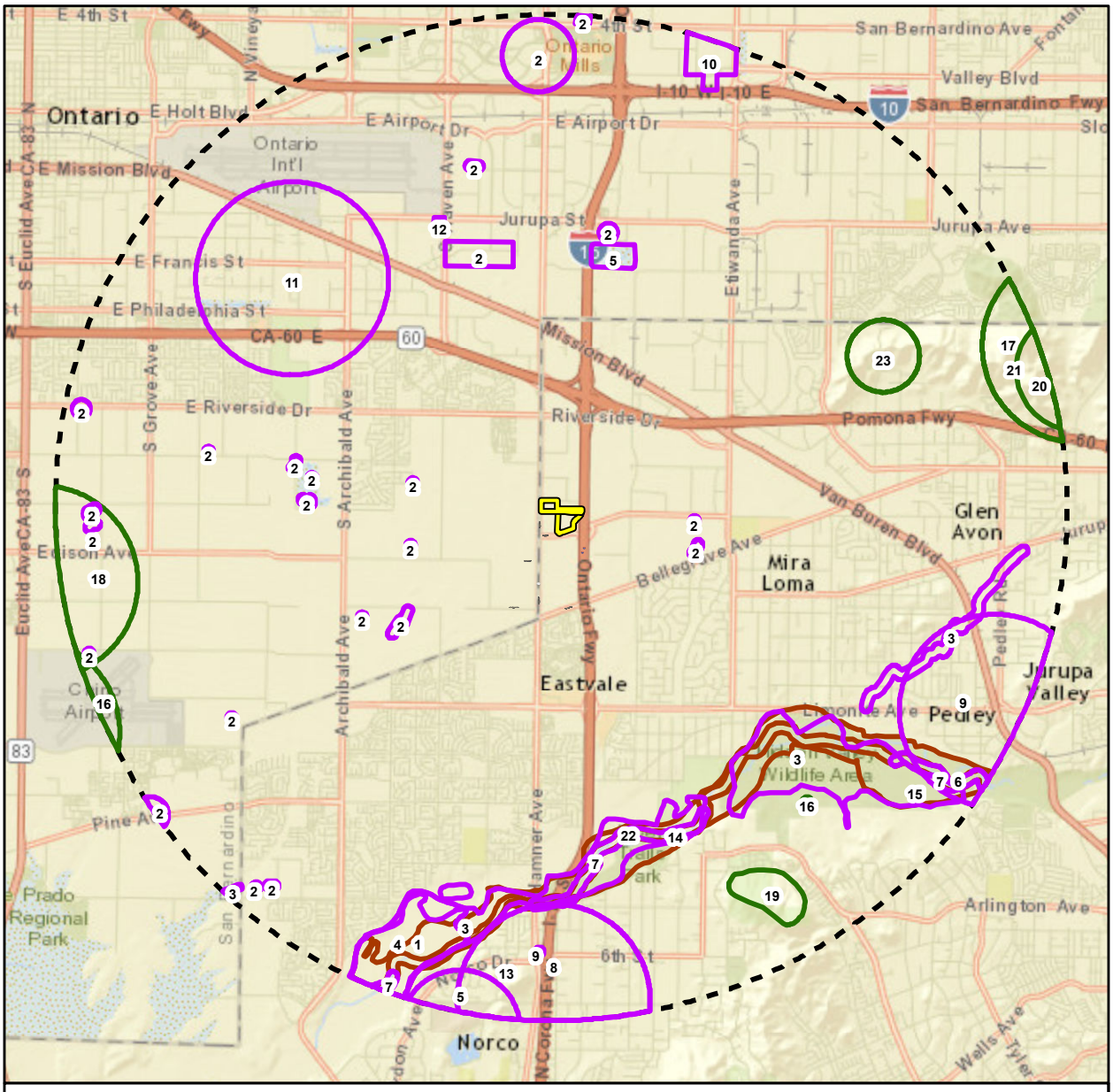
Queries of the USFWS Environmental Conservation Online System (ECOS): Information, Planning and Conservation System (IPaC) (USFWS, 2015b), USFWS Critical Habitat Portal (USFWS, 2015a), California Natural Diversity Database (CNDDB) (CDFW, 2015a), and California Native Plant Society (CNPS) *Online Inventory of Rare, Threatened and Endangered Plants of California* (CNPS, 2015) were conducted. The queries were conducted to obtain comprehensive information regarding state and federally listed species, sensitive communities and federally designated Critical Habitat known to or considered to have potential to occur within the vicinity of the project site.

Sensitive Communities and Critical Habitat. No natural communities considered sensitive by the CDFW occur within the project site. However, the CNDDB lists two sensitive natural communities that occur within a 5-mile radius of the project site (see Figure 4.3-2). Federally designated critical habitat for five species also occurs within a five-mile radius of the project site. These sensitive communities and critical habitats are listed in Table 4.3-1.

Table 4.3-1
Sensitive Communities and Critical Habitats Documented within Five-Mile Radius of Project Site

Communities Considered Sensitive by the CDFW
Southern Cottonwood Willow Riparian Forest
Southern California Arroyo Chub/Santa Ana Sucker Stream
Critical Habitat
Coastal California gnatcatcher
Least Bell's vireo
Yellow-billed Cuckoo
Southwestern willow flycatcher
Santa Ana sucker

Sources: CNDDB (CDFW, 2015a); USFWS, Critical Habitat Portal (2015a)



Project Location
Five-Mile Buffer
Animals
Natural Communities
Plants

0 0.875 1.75 Miles

N

1 - Swainson's hawk
2 - burrowing owl
3 - least Bell's vireo
4 - yellow-breasted chat
5 - tricolored blackbird
6 - arroyo chub
7 - Santa Ana sucker
8 - western yellow bat
9 - western mastiff bat
10 - Los Angeles pocket mouse
11 - silvery legless lizard
12 - coast horned lizard
13 - orangethroat whiptail
14 - Southern California Arroyo Chub/Santa Ana Sucker Stream
15 - Southern Cottonwood Willow Riparian Forest
16 - smooth tarplant
17 - chaparral ragwort
18 - San Bernardino aster
19 - many-stemmed dudleya
20 - Pringle's monardella
21 - Parry's spineflower
22 - Santa Ana River woollystar
23 - Plummer's mariposa-lily

Imagery provided by ESRI and its licensors © 2015. Special status species data source: California Natural Diversity Database, June 2015. Additional suppressed records reported by the CNDDB known to occur or potentially occur within this search radius include: Golden Eagle and Delhi Sands Flower-loving Fly. For more information please contact the Department of Fish and Wildlife.

Special Status Species Recorded by the CNDDB Figure 4.3-2

Special Status Plant and Animal Species. Riverside County is home to several species protected by federal and state agencies. Special status animal species can be found in a variety of habitat types the County provides, including those within and surrounding the project site. The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), CNDDB (CDFW, 2015a), CNPS (2015), and USFWS ECOS IPaC (2015b) together list 11 special-status plant species (including 3 MSHCP narrow endemics) and 14 special-status wildlife species that are known to or have potential to occur within the vicinity of the project-site. The status and habitat requirements for these special status animal and plant species are presented in Table 4.3-2.

Table 4.3-2
Special-Status Species in the Project Site Vicinity

Scientific Name **Common Name**	**Status** **Fed / State** **ESA** **CDFW** **G-Rank / S-Rank**	**Habitat Requirements**	**Potential for Occurrence / Basis for Determination**
Plants			
Ambrosia pumila San Diego ambrosia	FE / -- 1B.1 MSHCP G1/S1	Perennial rhizomatous herb. Blooms April – October, although appears to be primarily a clonal species that does not, under current conditions, favor sexual reproduction. Open floodplain terraces or on the watershed margins of vernal pools. This species occurs in a variety of associations dominated by sparse non-native grasslands or ruderal habitat in association with river terraces, vernal pools, and alkali playas. Garretson gravelly fine sandy loams when in association with floodplains, and on Las Posas loam near silty, alkaline soils of the Willows series. 30-610m (100-2000ft).	**No Potential.** Habitat requirements not present onsite
Calochortus plummerae Plummer's mariposa lily	-- / -- 4.2 G4/S4	Perennial bulbiferous herb. Blooms May-Jul. Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 100-1700m (330-5575ft).	**No Potential.** Habitat requirements not present onsite
Centromadia pungens ssp. l*aevis* Smooth tarplant	--/ -- 1B.1 G3G4T2/S2	Annual herb. Blooms Apr-Sep. Valley and foothill grassland, chenopod scrub, meadows, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places. 0-640 m (0-2100ft).	**No Potential.** Habitat requirements not present onsite

Table 4.3-2
Special-Status Species in the Project Site Vicinity

Scientific Name **Common Name**	**Status** **Fed / State** **ESA** **CDFW** **G-Rank / S-Rank**	**Habitat Requirements**	**Potential for Occurrence / Basis for Determination**
Chorizanthe parryi var. *parryi* Parry's spineflower	--/-- 1B.1 G2T2/S2	Annual herb. Blooms Apr-Jun. Coastal scrub, chaparral. Dry slopes and flats; sometimes at interface of 2 veg types, such as chaparral and oak woodland; dry, sandy soils. 40-1705m (130-5595ft).	**No Potential.** Habitat requirements not present onsite
Clinopodium chandleri San Miguel savory	--/-- 1B.2 MSHCP G2/S2	Perennial herb. Blooms March- May. Coastal sage scrub, chaparral, cismontane woodland, riparian woodland, and valley and foothill grasslands. Rocky gabbroic and metavolcanic substrates. 310-910m (1017-2985ft).	**No Potential.** Habitat requirements not present onsite
Dudleya multicaulis Many-stemmed dudleya	--/ -- 1B.2 G2/S2	Perennial herb. Blooms Apr-Jul. Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. 0-790m (0-2590ft).	**No Potential.** Habitat requirements not present onsite
Eriastrum densifolium ssp. sanctorum Santa Ana River woollystar	FE / SE 1B.1 G4T1/S1	Perennial herb. Blooms May-Sep. Chaparral, Coastal Sage Scrub communities within alluvial-fans. 260-690m (850-2260ft).	**No Potential.** Habitat requirements not present onsite
Monardella pringlei Pringle's monardella	--/ -- 1A GX/SX	Annual herb. Blooms May-Jun. Coastal Sage Scrub. Presumed Extinct. Last seen in 1941. Known from only two occurrences from the vicinity of Colton. Habitat lost to urbanization. Recent field surveys have been unsuccessful. 280-350m (920-1150ft).	**No Potential.** Habitat requirements not present onsite
Phacelia stellaris Brand's phacelia	--/-- 1B.1 MSHCP G1/S1	Annual herb. Blooms March – June. Sandy washes and/or benches in alluvial flood plains. 0-360m (0-1180ft).	**No Potential.** Habitat requirements not present onsite
Senecio aphanactis Chaparral ragwort	-- / -- 2B.2 G3? / S2	Annual herb. Blooms Jan-Apr. Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 15-800m (50-2625ft).	**No Potential.** Habitat requirements not present onsite
Symphyo-trichum defoliatum San Bernardino aster	-- / -- 1B.2 G2 / S2	Perennial rhizomatous herb. Blooms Jul-Nov. Meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 2-2040m (6-6695ft).	**No Potential.** Habitat requirements not present onsite

Table 4.3-2
Special-Status Species in the Project Site Vicinity

Scientific Name **Common Name**	**Status** **Fed / State** **ESA** **CDFW** **G-Rank / S-Rank**	**Habitat Requirements**	**Potential for Occurrence / Basis for Determination**
Invertebrates			
Rhaphiomidas terminatus abdominalis Delhi Sands flower-loving fly	FE / SE MSHCP G1 / S1	Restricted to fine-sandy Delhi soils, usually with wholly or partly stabilized sand dunes and sparse native vegetation. Frequently associated with California buckwheat (*Eriogonum fasciculatum*), California croton (*Croton californicus*), annual bursage (*Ambrosia acanthicarpa*) and telegraph weed (*Heterotheca grandiflora*).	**No Potential.** Delhi sands soil series onsite; however site is heavily disturbed and sand dunes not present. Focused surveys for this species were negative in 1997, 1999, 2004,and 2012 .
Fish			
Catostomus santaanae Santa Ana sucker	FT / -- SSC MSHCP G1 / S1	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	**No Potential.** Habitat requirements not present onsite.
Gila orcutti Arroyo chub	-- / -- SSC MSHCP G2 / S2	Native to streams from Malibu Cr to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mohave and San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	**No Potential.** Habitat requirements not present onsite.
Reptiles			
Anniella pulchra pulchra Silvery legless lizard	-- / -- SSC G3G4T3T4Q /S3	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. Prefer soils with a high moisture content.	**No Potential.** Habitat requirements not present onsite.
Aspidoscelis hyperythra Orangethroat whiptail	-- / -- SSC G3G4T3T4Q /S3	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food- termites.	**No Potential.** Habitat requirements not present onsite.
Phrynosoma blainvillii Coast horned lizard (=Blainvilli's)	-- / -- SSC G3G4 / S3S4	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	**No Potential.** Habitat requirements not present onsite.

Table 4.3-2
Special-Status Species in the Project Site Vicinity

Scientific Name **Common Name**	**Status** **Fed / State** **ESA** **CDFW** **G-Rank / S-Rank**	**Habitat Requirements**	**Potential for Occurrence / Basis for Determination**
Birds			
Agelaius tricolor Tricolored blackbird	-- / -- SSC MSHCP G2G3 / S2	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	**No Potential.** Habitat requirements not present onsite.
Athene cunicularia Burrowing owl	-- / -- SSC MSHCP G4 / S2	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**Low Potential.** Habitat present onsite; however, focused surveys of this species were negative during the 2015 breeding season.
Buteo swainsoni Swainson's hawk	-- / ST -- G5 / S2	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**No Potential.** Habitat disturbed and not immediately adjacent to active agricultural land.
Icteria virens Yellow-breasted chat	-- / -- SSC MSHCP G5 / S3	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	**No Potential.** Habitat requirements not present onsite. Riparian vegetation minimal and disturbed.
Vireo bellii pusillus Least Bell's vireo	FE / SE MSHCP G5T2 / S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	**No Potential.** Habitat requirements not present onsite. Riparian vegetation minimal and disturbed.
Mammals			
Eumops perotis californicus Western mastiff bat	-- / -- SSC G5T4 / S3?	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	**No Potential.** Habitat not present onsite. Lack roosting and foraging requirements.
Lasiurus xanthinus Western yellow bat	-- / -- SSC G5 / S3	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	**No Potential.** Habitat not present onsite. Lack roosting and foraging requirements.

Table 4.3-2
Special-Status Species in the Project Site Vicinity

Scientific Name **Common Name**	**Status** **Fed / State** **ESA** **CDFW** **G-Rank / S-Rank**	**Habitat Requirements**	**Potential for Occurrence / Basis for Determination**
Perognathus longimembris brevinasus Los Angeles pocket mouse	-- / -- SSC G5T1T2 / S1S2	Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin. Open ground with fine sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	**No Potential.** Habitat requirements not present onsite.

Source: CNDDB (2015a); CNPS (2015); USFWS IPaC (2015b)
FT = Federally Threatened SE = State Endangered
FC = Federal Candidate Species ST = State Threatened
FE = Federally Endangered SR = State Rare
FS = Federally Sensitive SS = State Sensitive
DL = Delisted WL = State Watch List
SC = State Candidate Species
G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind5.
CRPR (California Rare Plant Rank):
1A = Presumed Extinct in California
1B = Rare, Threatened, or Endangered in California and elsewhere
2 = Rare, Threatened, or Endangered in California, but more common elsewhere
3 = Need more information (a Review List)
4 = Plants of Limited Distribution (a Watch List)
MSHCP = Covered Species

As shown in Table 4.3-2, no special status plant or wildlife species are known to occur within the project site. As previously mentioned, the habitat on site is disturbed, and based on habitat requirements of the above species, only western burrowing owl has the potential to occur onsite.

Wildlife Movement Corridors. Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats within the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (such as rock outcroppings, vernal pools, or oak trees) may need to be located within the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

The CDFW BIOS (2015b) does not include any mapped essential habitat connectivity areas, nor does it contain any missing linkages, as identified by South Coast Wildlands Network within the vicinity of the project site. Furthermore, the site is not located with an MSHCP Conservation Area, such as Public/Quasi-Public (PQP) Reserves, or other areas set aside for conservation purposes.

b. Regulatory Setting. Federal, state, and local authorities under a variety of statutes and guidelines share regulatory authority over biological resources. The primary authority for general biological resources lies within the land use control and planning authority of local jurisdictions, which in this instance is the City of Eastvale. The CDFW is a trustee agency for biological resources throughout the state under CEQA and also has direct jurisdiction under the California Fish and Game Code, which includes, but is not limited to, resources protected by the State of California under the CESA.

Federal and State Jurisdictions.

United States Fish and Wildlife Service. The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the FESA (16 USC § 153 et seq.). The USFWS generally implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in "take" of any federally listed threatened or endangered species are required to obtain permits from the USFWS and/or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

United States Army Corps of Engineers. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has authority to regulate activities that result in discharge of dredged or fill material into wetlands or other "waters of the United States." Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters. The USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetlands. In achieving the goals of the Clean Water Act (CWA), the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any discharge into wetlands or other "waters of the United States" that are hydrologically connected and/or demonstrate a significant nexus to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetlands is met through compensatory mitigation involving creation or enhancement of similar habitats.

California Department of Fish and Wildlife (formerly the California Department of Fish and Game). The CDFW derives its authority from the Fish and Game Code of California. The CESA (Fish and Game Code Section 2050 et. seq.) prohibits "take" of state-listed threatened and endangered species. Take under CESA is restricted to direct harm of a listed species and does not prohibit indirect harm by way of habitat modification. The CDFW additionally prohibits take for species designated as Fully Protected under the CFGC under various sections. Projects that would result in take of any state listed threatened or endangered species are required to obtain an incidental take permit (ITP) pursuant to Fish and Game Code Section 2081. The issuance of an ITP is dependent upon the following: 1) the authorized take is incidental to an otherwise lawful activity; 2) the impacts of the authorized take are minimized and fully mitigated; 3) the measures required to minimize and fully mitigate the impacts of the authorized take are roughly proportional in extent to the impact of the taking on the species, maintain the applicant's objectives to the greatest extent possible, and are capable of successful implementation; 4) adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with and the effectiveness of the measures; and 5) issuance of the permit will not jeopardize the continued existence of a state-listed species.

California Fish and Game Code sections 3503, 3503.5, and 3511 describe unlawful take, possession, or destruction of birds, nests, and eggs. Fully protected birds (CFGC Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Species of Special Concern (SSC) is a category used by the CDFW for those species that are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except those afforded by the Fish and Game Code as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species into special consideration when decisions are made concerning the development of natural lands, and these species are consider sensitive as described under the CEQA Appendix G questions. The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (CFGC Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of the plant(s). Perennial and intermittent streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 et seq. of the Fish and Game Code (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over work within the stream zone (which could extend to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake.

Regional Water Quality Control Board. The State Water Resources Control Board (SWRCB) and each of nine local Regional Water Quality Control Boards (RWQCB) has jurisdiction over "waters of the State" pursuant to the Porter-Cologne Water Quality Control Act, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters

Deemed by the USACE to be Outside of Federal Jurisdiction). The local RWQCB (Santa Ana RWQCB) enforces actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the CWA for waters subject to federal jurisdiction.

California Department of Transportation - California Streets and Highways Code Section 156.3. Assessments and remediation of potential barriers to fish passage for transportation projects using state or federal transportation funds are required. Such assessments must be conducted for any projects that involve stream crossings or other alterations and must be submitted to the CDFW.

Regional and Local.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The Western Riverside County MSHCP is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on Conservation of species and their associated habitats in Western Riverside County. 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.

The MSHCP serves as an HCP pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act of 1973 (FESA), as well as a Natural Communities Conservation Plan (NCCP) under the NCCP Act of 2001. The MSHCP is used to allow the participating jurisdictions to authorize "Take" of plant and wildlife species identified within the Plan Area under specific conditions/measures. Under the MSHCP, USFWS and CDFW will grant "Take Authorization" for otherwise lawful actions in exchange for the assembly and management of a coordinated MSHCP Conservation Area.

The project site is located within MSHCP-Jurupa Area Plan, within Cell Group A, Sub Unit 3, Criteria Cells 118 and 168. As such, the proposed project must be consistent with the requirements set forth in the MSHCP.

City of Eastvale General Plan. The Land Use Element of the City of Eastvale General Plan (June 2012) includes the following policies to protect habitat and endangered species:

Policy LU-9: The City will participate in regional efforts to address issues of mobility, transportation, traffic congestion, economic development, air and water quality, and watershed and habitat management with cities, local and regional agencies, stakeholders, and surrounding jurisdictions.

Policy LU-41: The City shall require that proposed projects on properties containing the Water designation be reviewed for compliance with habitat, endangered species, flood control, and applicable regulations and standards.

4.3.2 Impact Analysis

a. Methodology and Significance Thresholds. The following thresholds are based on Appendix G of the State CEQA Guidelines. Impacts would be significant if the proposed would result in any of the following:

1. *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.*
2. *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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*
3. *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.*
4. *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.*
5. *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*
6. *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

Potential impacts associated with the significance criteria 4 and 5 were found not to be significant (refer to Section 4.1.4). Therefore, for the purposes of this EIR, the impact analysis below is focused on significance criteria 1-3 and 6.

Data used for this analysis include aerial photographs, topographic maps, the CNDDB, the CNPS online inventory of rare and endangered plants, accepted scientific texts to identify species, field surveys, and previously prepared technical reports, including:

- Campbell, K. 1997. *Evaluation of potential for Delhi Sands Flower-loving Fly on a site at Mira Loma, Riverside County, California.* March 25.
- NOREAS (2012) *Eastvale Industrial Project - Delhi Sands Flower-loving Fly Memo to the USFWS.*
- NOREAS (2012) *Focused San Diego ambrosia survey & Delhi sands flower loving fly habitat assessment report Eastvale Industrial Project*. June.
- NOREAS (2013) *Delhi sands flower loving fly survey report Eastvale Industrial Project*. November.
- Thomas Olson Associates. 1999. *Results of Delhi Sands Flower-Loving Fly Habitat Suitability Evaluation on 60 acres west of Interstate 15 and east of Hamner Avenue in the Mira Loma Area of Riverside County, California*. October 11, 1999.
- URS Corporation. 2011. *Biological Technical report for the Grainger Project*

Federal special status species inventories maintained by the USFWS were reviewed in conjunction with the CNDDB and CNPS online inventory. Other data on biological resources were collected from numerous sources, including relevant literature, maps of natural resources, and data on special status species and sensitive habitat information obtained from the CDFW CNDDB (2015a), CDFW BIOS (CDFW, 2015b), the California Native Plant Society (CNPS) online *Inventory of Rare, Threatened, and Endangered Plants of California* (2015), and the USFWS ECOS IPaC (2015b). The USFWS Critical Habitat Mapper (2015a) and National Wetlands Inventory (2015c) were also queried.

b. Project Impacts and Mitigation Measures.

Impact BIO-1 Implementation of the proposed project may result in impacts to special status plant and animal species, including western burrowing owl and migratory birds. Impacts are *less than significant with mitigation.*

For the purposes of this analysis, special status plant and animal species include those described under Section 4.3.1.a above. As presented in tables 4.3-2 and 4.3-3, 21 special status species are known to occur or with potential to occur within the vicinity of the project site. Of the 21 species, only western burrowing owl has potential to occur onsite. A habitat assessment for burrowing owl was conducted on April 21, 2015. The survey area contains elements of suitable habitat for western burrowing owl. No burrowing owls or sign of burrowing owl were observed within the survey area during the focused burrowing owl surveys. Therefore, burrowing owls are currently considered absent from the project site and buffer area. Nevertheless, because there is suitable habitat within the project site and there is potential for burrowing owl to move onto the site during winter migration or during the next nesting season, development of the project site has potential to affect burrowing owl if present. Therefore, impacts to special-status species are considered potentially significant.

Mitigation Measures. The following measures would mitigate potentially significant impacts relating to the potential presence of special-status wildlife species and protected nesting birds and to ensure compliance with the MBTA and the CFG Code.

BIO-1(a) **Worker Environmental Training.** A condition will be placed on grading permits requiring a qualified biologist to conduct a training session for project personnel prior to grading. The training will include a description of the species of concern and its habitats, the general provisions of the ESA and the MSHCP, the need to adhere to the provisions of the ESA and the MSHCP, the penalties associated with violating the provisions of the ESA, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project sit boundaries within which the project activities must be accomplished. This measure is require under the MSHCP (Volume I, Appendix C) and is intended to avoid direct and indirect impacts to riparian/riverine resources, sensitive habitats, and species outside of the development footprint during construction activities.

BIO-1(b) **Preconstruction Burrowing Owl Survey.** Per Objective 6 of the MSHCP BUOW Species Account, to avoid direct mortality of any owls that may be using habitat within the impact area, a 30-day pre-construction survey shall be conducted prior to ground disturbing activities. The pre-construction surveys shall be conducted by a qualified biologist within the development footprint and a 150-meter (500-foot) buffer within 30 days of grading or other significant site disturbance.

If owls are not occupying habitat within the disturbance area during the pre-construction surveys, the proposed disturbance activities may proceed. A burrow is considered occupied when there is confirmed use by burrowing owl. In the event that owls are discovered and may be affected by the proposed project, avoidance measures will be developed in compliance with the MSHCP and in coordination with the CDFW and/or Western Riverside County Regional Conservation Authority (RCA). Avoidance measures may include construction buffers and/or working outside the breeding season.

BIO-1(c) **Nesting Bird Avoidance.** To avoid impacts to nesting and special-status birds, including raptorial species, protected by the MBTA and CFGC, project-related activities shall occur outside of the bird breeding season (typically February through August in the project region). If construction must begin within the breeding season, then a qualified biologist shall conduct a pre-construction nesting bird survey no more than three (3) days prior to all initiations of demolition, ground disturbance, and/or vegetation removal activities. The nesting bird pre-construction survey shall be conducted within the project boundary, including a 300-foot buffer (500-foot for raptors), on foot, and within inaccessible areas (i.e., private lands) using binoculars to the extent practical.

If nests are found, an avoidance buffer (which is dependent upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site) shall be determined and demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground disturbing activities shall occur within this buffer until the qualified biologist has confirmed that breeding/nesting is completed and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist.

Significance After Mitigation. With implementation of Mitigation Measures BIO-1a through BIO-1c, potential impacts to special-status species would be reduced to a less than significant level.

Impact BIO-2 Implementation of the proposed project has the potential to affect riparian habitat or other sensitive natural communities

identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Impacts would be *less than significant with mitigation.*

Per the Jurisdictional Delineation Report (Rincon 2015b) and the MSHCP Consistency Analysis and Habitat Assessment (Rincon 2015c), five terrestrial vegetation communities and/or land cover types were identified within the study area. These include *Salix lasiolepis* shrubland alliance, *Baccharis salicifolia* shrubland alliance, *Eucalyptus* (*globulus, camaldulensis*) woodland semi-natural alliance, non-vegetated floodplain or channel, disturbed habitat, and urban/developed lands. *Salix lasiolepis* shrubland alliance and *Baccharis salicifolia* shrubland alliance are both riparian habitats that are classified as special-status natural communities with the G4/S4 and G5/S4 ranking, respectively (CDFW 2010).

In addition to being responsible for the maintenance and protection of California's fish and wildlife, the CDFW has authorities under the California's Public Resources Codeto regulate or comment on activities in riparian areas, as well as areas identified as non-vegetated floodplain or channel. As such, any proposed development in areas identified as riparian habitat and/or channel may be subject to the notification requirements pursuant to Section 1600 et seq. of the California Fish and Game Code (CFGC). Specifically, the removal of the non-vegetated channel, *Salix lasiolepis* shrubland alliance, and *Baccharis salicifolia* shrubland alliance would result in the loss of 0.41 acre (1,413 linear feet) of potential CDFW regulated streambed and 10.50 acres (542 linear feet) of potential CDFW regulated riparian habitat.

Regardless of state agency jurisdiction over riparian resources, the loss of riparian vegetation would be considered a significant impact under CEQA and the land use authority and General Plan of the City of Eastvale. Given the existing conditions at this drainage and the regional context of rural and agricultural land use within which the project is located, this effect can be reduced to a less than significant level with mitigation.

Mitigation Measures. The following measures would mitigate significant impacts relating to riparian habitat or other sensitive natural community.

BIO-2(a) **Revegetation Plan.** If impacts to the streambed and riparian habitat cannot be avoided, the applicant shall prepare a Revegetation Plan to address impacts. This should be prepared by a qualified restoration biologist for review and approval by the City, prior to issuance of a grading permit or building permit, whichever comes first. The plan shall include, but not be limited to, the following components:

- Location of the mitigation/re-vegetation and map;
- Performance criteria
- Plant species, container sizes, and seeding rates;
- Planting schedule;
- Monitoring effort
- Contingency planning

- Irrigation method/schedule
- Means to control exotic vegetation; and
- Identification of the party responsible for meeting the success criteria.

Such that no net loss of functions and values occurs, temporary impacts would be mitigated by returning the site to its approximate original conditions. Typically, areas of temporary disturbance are enhanced (weeds removed) and re-seeded or planted with a palette of native species at a 1:1 ratio. Permanent impacts would be compensated with the creation of new wetlands/waterways at a 2:1 ratio, or as required by the regulatory agencies having permitting jurisdiction over the resources. The City is obligated to ensure that the 2:1 mitigation is completed.

Re-vegetation should occur as close to the impact area as possible, and in the same creek/stream to be disturbed, as feasible. If infeasible, another similar location may be acceptable, and shall be as close to the area disturbed as possible, and at least within the local watershed. An in-lieu fee to a conservation organization approved by the City (and acceptable to the resource agencies, as appropriate) to conduct the mitigation may be accepted if no other locations are feasible.

BIO-2(b) **Agency Consultation.** Because of the presence of riparian vegetation, it is anticipated that the CDFW and the RWQCB will assert jurisdiction through Fish and Game Code Section 1600, et. seq., and the Porter-Cologne Act, respectively. The applicant shall submit a Notification of Lake or Streambed Alteration to the CDFW and an application for a Section 401 water quality certification or Waste Discharge Requirements to the RWQCB. Evidence that the applicant has secured any required authorization from these agencies shall be submitted to the City prior to issuance of any grading or building permits for the project.

Significance After Mitigation. With implementation of Mitigation Measures BIO-2(a) and BIO-2(b), potential impacts to jurisdictional resources would be reduced to a less than significant level.

Impact BIO-3 **Implementation of the proposed project has the potential to affect wetlands, as defined by Section 404 of the Clean Water Act. Impacts would be *less than significant with mitigation.***

The field reconnaissance survey conducted by Rincon Consultants on March 27, 2015 noted one main ephemeral drainage feature within the project site that conveys surface flows. This drainage is an excavated drainage channel that conveys water from an off-site detention basin through culverts under APN 156-050-025 south approximately 850 feet through APN 160-020-033 toward Cantu-Galleano Ranch Road (herein, referred to as Portion A). From Cantu-

Galleano Ranch Road the channel (herein, referred to as Portion B) makes a 45° turn, conveying stormflow approximately 250 feet southwest through a concrete channel to a second culvert that traverses under Cantu-Galleano Ranch Road into the off-site Line E Detention Basin. According to the USFWS National Wetlands Inventory, this drainage feature is designated as a Freshwater Emergent Wetland (USFWS, 2015c).

Because of the presence of potential jurisdictional features, a formal jurisdictional delineation was conducted to determine the location and extent of potentially jurisdictional features within the project site and to analyze project impacts. A detailed discussion of this feature is provided in the Jurisdictional Delineation Report (Rincon 2015b). Hydrophytic conditions are present onsite. Approximately 0.05 acre of wetlands was documented within the project site. Additionally, approximately 0.15 acre of non-wetland waters is present on site, these portions of the excavated drainage are characterized by an ordinary high water mark, but lacks one or more hydric indicator. However, the drainage feature lacks a significant nexus to a Traditionally Navigable Water (TNW). Therefore, USACE is not expected to apply jurisdiction to this feature. However, as previously mentioned, even if federal waters do not occur on site, the RWQCB may take jurisdiction of "isolated" waters (total of 0.20 acre) of the State. Impacts would be less than significant with mitigation.

Mitigation Measures. The following measure is included to ensure that proper notification with the US Army Corps of Engineers is conducted. In the event that federal jurisdiction is present, then implementation of measures BIO-2(a) and BIO-2(b) above would mitigate potentially significant impacts relating to the potential presence of federal waters.

BIO-3 **Corps Consultation.** The applicant shall submit a jurisdictional analysis regarding waters of the United States to be verified by the Corps through the CWA Section 404 process. The Corps determination regarding federal jurisdictional waters shall be submitted to the City prior to issuance of any grading or building permits for the project.

If it is determined that fill of waters of the United States would result from project implementation, authorization for such fill shall be secured from the Corps through the Section 404 permitting process. Such authorization shall be submitted to the City prior to issuance of any grading or building permits for the project.

Significance After Mitigation. With implementation of Mitigation Measures BIO-2(a), BIO-2(b), and BIO-3, potential impacts to jurisdictional resources would be reduced to a less than significant level.

Impact BIO-4 Implementation of the proposed project would result in development within Criteria Cells 118 and 168 of the Western Riverside MSHCP. Impacts would be *less than significant with mitigation.*

The project site is located within MSHCP-Jurupa Area Plan, within Cell Group A, Sub Unit 3, Criteria Cells 118 and 168. Management within Criteria Cells 118 and 168 focuses on maintaining Core and Linkage Habitat for the Delhi Sands flower-loving fly and conservation

of Delhi sands soil series occurring within agricultural lands along the western and northeastern boundary of the Jurupa Area Plan to support known locations of the Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*; DSFL). In addition, the MSHCP identifies the project area as requiring habitat assessments for western burrowing owl, DSFL, and narrow endemic plant species, specifically San Diego Ambrosia, Brand's Phacelia, and San Miguel savory. Moreover, an assessment on the presences of and potentially significant project effects on riparian/riverine areas and vernal pools; MSHCP conservation areas; and urban/wildlands interfaces is required to comply with the MSHCP.

To ensure consistency with the requirements set forth in the MSHCP, a MSHCP Consistency Analysis and Habitat Assessment was prepared for the proposed project (Rincon Consultants, 2015c). Results of the MSHCP Consistency Analysis and Habitat Assessment are summarized below.

Criteria Area Cells. According to the MSHCP Consistency Analysis and Habitat Assessment, the project site has been identified as containing inclusions of the Delhi series soils. As such, evaluations for the potential for Delhi Sands flower-loving fly to occur on site was conducted by Cambell Bio Consulting in March of 1997, by Thomas Olsen Associates in 1999, by Ecological Science Inc. in July of 2004, and by Noreas Environmental Engineering and Science in 2012. The evaluation found that the project site does not contain open wind-blown sandy areas or native scrub habitats suitable to support the Delhi Sands flower-loving fly and that the absence of these areas lower the possibility for the Delhi Sands flower-loving fly from utilizing the project site. Impacts would be less than significant.

Narrow Endemic Plant Species. A habitat assessment for Narrow Endemic Plant Species was conducted on March 27, 2015, concurrently with the general field reconnaissance survey. Based on the site visit, habitat for San Miguel Savory and Brand's phacelia is absent from the site. However, potentially low suitable habitat for San Diego ambrosia does exist within the survey area. Focused special-status plant surveys were conducted within the study area in June 2012 by Noreas Environmental Engineering and Science. The focused surveys were specifically intended to determine the presence/absence of San Diego ambrosia within the study area. No San Diego ambrosia, or any other plant species protected under the MSHCP or either federal or state Endangered Species Acts were observed within the study area during the June 2012 survey. Furthermore, no San Diego ambrosia was observed during the March 27, 2015 field survey. Given the lack of occurrence during the field surveys, disturbed conditions of vegetation, and the presence of sandy soils, the project site is not expected to support San Diego ambrosia. Impacts would be less than significant.

Burrowing Owl. As previously mentioned, a habitat assessment for burrowing owl was conducted on April 21, 2015. The survey area contains elements of suitable habitat for BUOW, including flat, open areas occupied by non-native herbs and grasses, earthen levees and berms, manmade concrete and cement structures, an excavated drainage, and vacant urban lots. Portions of the survey area are also partially surrounded by fences, which provide prime perching substrate for BUOW to attain good visibility. In summary, several suitable burrows were identified during the habitat assessment and focused survey. No suitable BUOW habitat was identified within APN 156-050-025. One potential BUOW burrow was identified within APN 160-020-033, and two potential burrows were identified within the 150-meter buffer. One burrow was located at the top bank of the drainage channel surrounded by large rocky debris

and riprap. The additional two burrows were located outside the parcel boundary on the embankment of the I-15 on/off ramp. Because of the presence of potential habitat for burrowing owl, focused crepuscular surveys were conducted; however, no burrowing owls, or evidence of burrowing owls, were observed during the burrowing owl surveys. Impacts to BUOW would be less than significant with implementation of mitigation measure BIO-1(b).

Riparian/Riverine Habitat and Vernal Pools. The field reconnaissance survey noted one main ephemeral drainage feature within the project site that conveys surface flows. Because of the presence of potential jurisdictional features, a formal jurisdictional delineation was conducted to determine the location and extent of potentially jurisdictional features within the project site and to analyze project impacts. A detailed discussion of this feature is provided in the Jurisdictional Delineation Report (Rincon 2015b). In summary CDFW, Regional Water Quality Control Board (RWQCB), and USACE jurisdictional resources are potentially present on site. Final jurisdictional determinations of the boundaries of waters and riparian habitats are made by each agency, typically at the time that authorizations to impact such features are requested. Impacts to potentially jurisdictional resources would less than significant with implementation of mitigation measure BIO-2.

Small portions of the drainage channel are sparsely vegetated with riparian vegetation (willow and mulefat), however for the most part, the drainage is otherwise unvegetated and/or concrete lined. In addition, the riparian habitat is highly constrained by development and/or disturbance and lacks structural complexity (i.e., dense, canopied, riparian-associated vegetation) and acreage required by special-status riparian species such as least Bell's vireo (Vireo bellii pusillus), southwestern willow flycatcher (Empidonax traillii extimus), and western yellow-billed cuckoo (Coccyzus americanus). Impacts to riparian/riverine habitat would be less than significant.

Per Section 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools) of the MSHCP, suitable habitat for fairy shrimp (i.e. Riverside, vernal pool, and Santa Rosa fairy shrimp), is defined as vernal pools, stock ponds, ephemeral ponds, or other human-modified depressions. With the exception of wetlands created for the purpose of providing wetlands habitat resulting from human actions to create open waters, or from the alteration of natural stream courses, areas demonstrating characteristic habitat for fairy shrimp as described above, which are artificially created, are not considered suitable to support these species per the MSHCP. No vernal pools as defined by MSHCP were observed on site and while ponding of the excavated drainage channel was observed during one of the crepuscular burrowing owl surveys, several days after a rain event, per definition of the MSHCP, the man-made channel would not constitute habitat for listed fairy shrimp. Impacts to vernal pool and fairy shrimp would be less than significant.

MSHCP Conservation Areas and Urban/Wildlands Interface Guidelines. According to section 6.1.4 of the MSHCP, the Urban/Wildlands Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. These guidelines are intended to reduce the indirect effects of development on areas described for conservation. Consistency with these guidelines must be considered for projects within or near the MSHCP Conservation Area, or other special-status habitats, such as Public/Quasi-Public (PQP) Reserves or other areas set aside for conservation purposes. As

previously mentioned, the project site is located within Criteria Cells 118 and 168; however, the site is not located with an MSHCP Conservation Area or other special-status habitats. The project site is primarily disturbed and/or developed and is bounded by industrial development to the north, west, and southeast; I-15 to the east; and active agricultural lands across Cantu-Galleano Ranch Road to the south. Impacts to Conservation Areas and Urban/Wildlands Interfaces would be less than significant.

Development Mitigation Fee. Per Riverside County Ordinance No. 810 new development affects the environment directly through construction activity and cumulatively through population bases that result from development. Therefore, pursuant to Section 8.5, Local Funding Program, of the MSHCP; the Cities and County have implemented a Development Mitigation Fee. Payment of the MSHCP Development Mitigation Fee would be required to maintain consistency with the MSCHP and reduce impacts to a less than significant level.

Mitigation Measures. In addition to implementation of BIO-1(a), BIO-1(b) and BIO-2 above, the following measure would mitigate potentially significant impacts relating to consistency with the MSHCP.

BIO-4 Local Development Mitigation Fees. The applicant shall pay all development fees required under the MSHCP to the RCA prior to issuance of a grading permit.

Significance After Mitigation. With implementation of Mitigation Measures BIO-1(a), BIO-1(b), BIO-2, and BIO-4, potential impacts related to consistency with the MSHCP would be reduced to a less than significant level.

c. Cumulative Impacts. Cumulative development in the area may contribute to the loss of foraging and breeding habitat for special status species; contribute to the decline of special status species, fragmentation of habitat and isolation of populations, and decreased movement opportunities. The planned and pending projects in the vicinity of the project site are listed in Table 3-1 in Section 3.0, *Environmental Setting*. Cumulative projects would add 6,082 residential units, 2,754,631 square feet of commercial and 4,452,100 square feet of industrial development to the Cities of Eastvale, Jurupa Valley and Ontario. Conversion of remaining undeveloped habitats in the study area to suburban development would occur in the cumulative study area over time, and would have considerable cumulative impacts to biological resources. However, the project site is zoned for urban uses and is located in an urbanized and developed area, surrounded by existing development and highly travelled transportation corridors that limit the habitat value and potential for presence of sensitive biological resources. Furthermore, as previously discussed, the project site is located with the Western Riverside County MSHCP jurisdictional area. The MSHCP includes numerous objectives and policies to reduce impacts to biological resources over the long-term. Those objectives pertaining to biological resources that have the potential to be impacted by project related activities have been addressed in BIO-1 through BIO-4. Therefore, the proposed project's incremental contribution to cumulative impacts associated with biological resources would not be cumulatively considerable, and cumulative impacts would be less than significant.

4.4 CULTURAL RESOURCES

The information and analysis presented in this section is based on a Cultural Resources Study prepared for the proposed project by Rincon Consultants, Inc. in April 2015. The study is included in its entirety as Appendix E of this EIR.

4.4.1 Setting

a. Historical Background.

Prehistory. The project site is located in the interior region of southern California (Jones and Klar 2007). Wallace (1955, 1978) devised a prehistoric chronology for the southern California coastal region which has been modified and improved by researchers over recent decades (Byrd and Raab 2007:217; Koerper and Drover 1983; Koerper et al. 2002; Mason and Peterson 1994). The chronological sequence is generally divided into four periods: Early Man, Milling Stone, Intermediate, and Late Prehistoric. The Early Man Horizon (ca. 10,000-6,000 B.C.) is represented by numerous sites identified along the mainland coast and Channel Islands (c.f., Erlandson 1991; Johnson et al. 2002; Jones and Klar 2007; Moratto 1984; Rick et al. 2001:609). Early Man Horizon sites are generally associated with a greater emphasis on hunting than later horizons, though recent data indicates that the economy was a diverse mixture of hunting and gathering, including a significant focus on aquatic resources (Jones and Klar 2007). The Millingstone Period, (6000-3000 B.C.), is characterized by an ecological adaptation to collecting suggested by the appearance and abundance of well-made milling implements (Wallace 1955; Jones et al. 2007). A broad spectrum of food resources were consumed, including small and large terrestrial mammals, sea mammals, birds, shellfish, fishes, and other littoral and estuarine species, yucca, agave, seeds, and other plant products (Reinman 1964; Kowta 1969). The Intermediate Horizon (3000 B.C. – A.D. 500) is characterized by a shift toward a hunting and maritime subsistence strategy. A noticeable trend occurred toward greater adaptation to local resources including a broad variety of fish, land mammal, and sea mammal along the coast. Tool kits for hunting, fishing, and processing food and other resources reflect this increased diversity, with flake scrapers, drills, various projectile points, and shell fishhooks being manufactured. An increase in mortars and pestles became more common, indicating an increasing reliance on acorn (Glassow et al. 1988; True 1993). The Late Prehistoric Horizon (A.D. 500 - Historic Contact) saw further increase in the diversity of food resources (Wallace 1955, 1978). More classes of artifacts were observed during this period and high quality exotic lithic materials were used for small, finely worked projectile points associated with the bow and arrow (Wallace 1955).

Ethnography. The project site is located within the Gabrielino/Tongva ethnographic territory (Bean and Smith 1978:538; Kroeber 1925:Plate 57). Adjacent native groups include the Chumash and Tataviam/Alliklik to the north, Serrano and Cahuilla to the east, and Juaneño to the south. The project area is specifically located within the southeastern corner of Gabrielino ethnographic territory near the contact zones with Cahuilla to the east, Serrano to the north, and Juaneño to the south (Bean and Smith 1978:538; Kroeber 1925:636). Archaeological, linguistic, and genetic evidence documents interaction between the Gabrielino and their neighbors in the form of intermarriage and trade. The term "Gabrielino" denotes those people who were administered by the Spanish at Mission San Gabriel, which included people from the traditional

Gabrielino territory as well as other nearby groups (Bean and Smith 1978; Kroeber 1925). Many modern Gabrielino identify themselves as descendants of the indigenous people who lived within the Los Angeles Basin and refer to themselves as Tongva (King 1994:12). This term is used in the remainder of this section to refer to the contact period indigenous inhabitants of the Los Angeles Basin and their descendants. Tongva lands encompassed the greater Los Angeles Basin and three Channel Islands: San Clemente, San Nicolas, and Santa Catalina (Bean and Smith 1978:538; Kroeber 1925:636).

The Tongva established large permanent villages and smaller satellite camps throughout their territory. Society was organized along patrilineal non-localized clans, a common Takic pattern (O'Neil 2002). Tongva subsistence was oriented around acorns supplemented by roots, leaves, seeds, and fruits of a wide variety of plants. Meat sources included large and small mammals, freshwater and saltwater fish, shellfish, birds, reptiles, and insects (Bean and Smith 1978; Langenwalter et al. 2001; Kroeber 1925; McCawley 1996). Tongva employed a wide variety of tools and implements to gather and hunt food. The digging stick, the bow and arrow, traps, nets, blinds, throwing sticks and slings, spears, harpoons, and hooks were common tools. Like the Chumash, the Tongva made oceangoing plank canoes (known as ti'at) capable of holding 6 to 14 people and used for fishing, travel, and trade between the mainland and the Channel Islands (Blackburn 1963; McCawley 1996).

History. Spanish exploration of California began when Juan Rodriguez Cabrillo led the first European expedition into the region in 1542. For more than 200 years after his initial expedition, Spanish, Portuguese, British, and Russian explorers sailed the California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003). In 1769, Gaspar de Portolá and Franciscan Father Junipero Serra established the first Spanish settlement at Mission San Diego de Alcalá. This was the first of 21 missions erected by the Spanish between 1769 and 1823. The establishment of the missions marks the first sustained occupation of Alta California by the Spanish. In addition to the missions four presidios and three pueblos (towns) were established throughout the state (State Lands Commission 1982).

During this period, Spain also deeded ranchos to prominent citizens and soldiers, though very few in comparison to the subsequent Mexican Period. To manage and expand their herds of cattle on these large ranchos, colonists enlisted the labor of the surrounding Native American population (Engelhardt 1927a). The missions were responsible for administrating to the local Indians as well as converting the population to Christianity (Engelhardt 1927b). The influx of European settlers brought the local Native American population in contact with European diseases which they had no immunity against, resulting in catastrophic reduction in native populations throughout the state (McCawley 1996).

The Mexican Period commenced when news of the success of the Mexican War of Independence (1810-1821) reached California in 1822. This period saw the federalization of mission lands in California with the passage of the Secularization Act of 1833. This Act enabled Mexican governors in California to distribute former mission lands to individuals in the form of land grants. Successive Mexican governors made more than 700 land grants between 1822 and 1846, putting most of the state's lands into private ownership for the first time (Shumway 2007). About 15 land grants (ranchos) were located in Riverside County. Rancho Jurupa (1838) and

Rancho El Rincon (1839) land grants were settled by Juan Bandini, the first European to own land in what is now Eastvale. He called his two land grants Rancho San Juan del Río.

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico $15 million for ceded territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming, and pay an additional $3.25 million to settle American citizens claims against Mexico. Settlement of southern California continued dramatically in the early American Period. Many ranchos in the county were sold or otherwise acquired by Americans, and most were subdivided into agricultural parcels or towns.

The discovery of gold in northern California in 1848 led to the California Gold Rush, despite the first California gold being previously discovered in southern California at Placerita Canyon in 1842 (Guinn 1977; Workman 1935:26). Southern California remained dominated by cattle ranches in the early American period, though droughts and increasing population resulted in farming and more urban professions supplanting ranching through the late nineteenth century. In 1850, California was admitted into the United States and by 1853, the population of California exceeded 300,000. Thousands of settlers and immigrants continued to move into the state, particularly after completion of the transcontinental railroad in 1869.

The Eastvale region has historical ties to the farming and dairy industry that flourished in the region for over 175 years. In 1893 Riverside County was created and in the first meeting minutes for the Riverside County Board of Commission, "East Vale" was listed as one of 53 school districts and is the likely origin for the Eastvale name. For nearly 65 years the Fuller family owned almost half of present-day Eastvale (Meissner and Johnson 2013). The area was settled by primarily Dutch and Portuguese families who owned and operated many of the agricultural and dairy farms that are iconic in this region. The Chino dairy area, of which present-day Eastvale was included, had over 400 dairies and thousands of cows (PMC 2012). Despite the development pressures in the region present-day Eastvale remained relatively rural with many dairy and agricultural farms well into the late 1990s. By the mid-2000s much the region had undergone extensive development. In the spring of 2007, a community was tasked with exploring the potential for Eastvale to gain cityhood. On October 1, 2010 Eastvale became an incorporated city in Riverside County (Meissner and Johnson 2013).

b. Existing Conditions.

Cultural. Two cultural resource studies were prepared for the proposed project. CRM Tech prepared a *Historical/Archaeological Resources Survey Report: Assessor's Parcel Nos. 156-050-025 and 160-020-033, City of Eastvale, Riverside County, California,* which documents results of a cultural resources records search and survey of the northern portion of the current project site (Tang and Hogan 2014). The records search conducted for this report identified the Mira Loma-Vista 230kV Transmission Line traversing the project site, previously recorded elsewhere as 36-027693 (CA-SBR-17229H). This resource was recommended ineligible for listing in the California Register of Historical Resources (CRHR) and the National Register of Historic Places (NRHP).

Rincon Consultants, Inc. prepared a separate cultural resources study for the proposed project, including the entirety of the project site. The study presents the results of cultural resources

records searches and a survey of the entirety of the project site. A records search was conducted for the project site at the California Historical Information System (CHRIS), Eastern Information Center (EIC) and the San Bernardino Archaeological Information Center (SBAIC) at University of California, Riverside and the San Bernardino County Museum, respectively. The records search identified four previously conducted cultural resource studies that included a portion of the project site, including Tang and Hogan 2014. The records search identified one previously recorded archaeological resource, a segment of the Mira Loma-Vista 230kV transmission line (P-36-027693) identified by Tang and Hogan 2014. No additional cultural resources were identified within the project site.

A Sacred Lands File search by the Native American Heritage Commission did not identify any sacred lands within the project site (Katy Sanchez, Associate Government Program Analyst, Native American Heritage Commission, April 9, 2015).

A cultural resources survey was conducted on March 27, 2015, for the proposed project. The survey consisted of walking in transects spaced 10 meters apart and parallel to Interstate 15. This survey did not identify any previously unrecorded cultural resources within the project site.

Paleontology. A paleontological resources assessment for the proposed project was conducted by CRM Tech (Quinn and Encarnacion 2014), covering the northern portion of the project site. Rincon Consultants, Inc. conducted a review of the CRM Tech report and geologic mapping of the project site and vicinity (Morton and Miller 2006)..

The project site is located in the northern end of the Peninsular Ranges Province which is bounded on the north by the Transverse Ranges Province, on the northeast by the Colorado Desert Province, and on the west by the Pacific Ocean (Jenkins 1980:40-41; Harms 1996:150). This province consists of a well-defined geologic and physiographic unit occupying the southwest portion of the State of California and extending south to the tip of Baja California (Jahns 1954; Harms 1996 as cited in Quinn and Encarnacion 2014). More specifically, the project area is located within the San Bernardino Valley portion of the Peninsular Ranges province (Clarke 1978-1979 as cited in Quinn and Encarnacion 2014). This structurally depressed trough is filled with sediments of Miocene through Recent age while the Jurupa Mountains to the northeast are composed of up-lifted basement rock. The San Bernardino Valley, the Jurupa Mountains, and the Chino Basin are among the many tectonically controlled basins and ridges within the Perris Block.. English (1926 as cited in Quinn and Encarnacion 2014) defined the Perris Block as a region between the San Jacinto and Elsinore-Chino fault zones, bounded on the north by the Cucamonga (San Gabriel) Fault and on the south by a vaguely delineated boundary near the southern end of the Temecula Valley. This structural block is considered to have been active since Pliocene time (Woodford et al. 1971 as cited in Quinn and Encarnacion 2014). The Pliocene- and Pleistocene-age non-marine sedimentary rocks found filling the valley areas have produced a few vertebrate fossils, as well as a few invertebrate fossil remains (Mann 1955 as cited in Quinn and Encarnacion 2014)

A single sedimentary geologic unit has been mapped within the project area (Morton and Miller 2006): Young eolian sands of Holocene (Qye) age.

Quaternary Geologic Units. The Quaternary sediments mapped within the project site come from a single unit; young eolian sands. These windblown sand dune deposits, are Holocene in age. They are chiefly unconsolidated, are moderately well sorted, and generally comprise fine- to medium-grained sand. Eolian sands are typically unfossiliferous. These deposits have a low potential to preserve; and thus, have a low potential to yield fossils of any kind.

The eolian deposits mapped in the project vicinity likely overlie older, early Holocene and late to middle Pleistocene age deposits representing old wash (Qow), alluvial fan (Qof), alluvial channel (Qoa), and alluvial valley (Qov) depositional settings. The depth of the younger eolian/older alluvial contact, however, is unknown. Pleistocene age alluvium located relatively near the project site (i.e., one-mile west) yielded fossils of extinct camel (*Camelops*), bison (*Bison*), and a probable mastodon (cf. *Mammut americanum*) (CRM Tech 2014: Appendix 2). Early Holocene and Pleistocene alluvium underlies surface units of middle and late Holocene age within project site at unknown depths.

Paleontological Sensitivity. Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits (formations) within which fossils are buried and physically destroy the fossils. Since fossils are the remains of prehistoric animal and plant life, they are considered nonrenewable. Sensitivity is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

Currently, two generally accepted paleontological sensitivity classifications are used: the Society of Vertebrate Paleontology (SVP) system outlined in the SVP Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (SVP 2010) and the Bureau of Land Management (BLM) Potential Fossil Yield Classification (PFYC) system outlined in the BLM Instruction Memorandum (IM) No. 2009-011 (BLM 2008). The BLM system allows for a finer level of classification than the more general SVP system.

The City of Eastvale General Plan does not provide any specific guidance on paleontological sensitivity; however, based on the geologic units present within the project site, the SVP classification system provides a sufficient level of detail for assessing paleontological sensitivity. Affected geologic formations are classified based on the relative abundance of vertebrate fossils and significant non-vertebrate fossils using a scale of high, undetermined, low and no paleontological sensitivity, depending upon the resource sensitivity of the impacted geologic formations. The specific criteria applied for each sensitivity category are presented below and extracted directly from the SVP Guidelines (SVP 2010):

- **High Potential:** Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rocks units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcaniclastic formations (e.g., ashes or tephras), and some low-grade metamorphic rocks which contain significant paleontological resources

anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e.g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.). Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Rock units that contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units that may contain new vertebrate deposits, traces, or trackways, are also classified as having high potential.

- **Undetermined Potential:** Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.

- **Low Potential:** Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e.g. basalt flows or Recent colluvium. Rock units with low potential typically will not require impact mitigation measures to protect fossils.

- **No Potential:** Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection or impact mitigation measures relative to paleontological resources.

In general terms, for geologic units with high sensitivity, full-time monitoring typically is recommended during any project-related ground disturbance. For geologic units with low sensitivity, protection or salvage efforts typically are not required. For geologic units with undetermined sensitivity, field surveys by a qualified paleontologist are usually recommended to specifically determine the paleontological potential of the rock units present within the study area. For geologic units with no sensitivity, a paleontological monitor is not required. Table 4.4-1 shows the mapped geologic units within the project site, their age and paleontological sensitivity.

Table 4.4-1
Geologic Units within the Project Site

Geologic Unit*	Age*	Notes	Paleontological Sensitivity (SVP)
Eolian sands of Holocene age (Qye) (mapped at surface)	Holocene and late Pleistocene	Generally considered too young to contain fossils.	Low
Alluvial sediments of Pleistocene age (Qoa, Qof, Qov, Qow) (not mapped at surface, but possibly occurs at unknown depth)	Pleistocene	Not mapped at surface, but underlie surface units at unknown depths. May contain significant fossils	High

** Sources: Morton and Miller (2003); Morton et al. (2006)*

c. Regulatory Setting.

State.

California Register of Historical Resources. The California Register of Historical Resources (California Register, or CRHR) is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The California Register helps government agencies identify, evaluate, and protect California's historical resources, and indicates which properties are to be protected from substantial adverse change (Pub. Resources Code, Section 5024.1(a)). The California Register is administered through the State Office of Historic Preservation (SHPO), which is part of the California State Parks system.

A cultural resource is evaluated under four California Register criteria to determine its historical significance. A resource must be significant at the local, state, or national level in accordance with one or more of the following criteria set forth in the *State CEQA Guidelines* at Section 15064.5(a)(3):

1) *It is associated with events that have made a significant contribution to the broad pattern of California's history and cultural heritage;*
2) *It is associated with the lives of persons important in our past;*
3) *It 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*
4) *It has yielded, or may be likely to yield, information important in prehistory or history.*

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time must have passed to allow a "scholarly perspective on the events or individuals associated with the resource." Fifty years is used as a general estimate of the time needed to understand the historical importance of a resource according to SHPO publications. The California Register also requires a resource to 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. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association." Archaeological resources can sometimes qualify as "historical resources" [*State CEQA Guidelines*, Section 15064.5(c)(1)]. In addition, Public Resources Code Section 5024

requires consultation with SHPO when a project may impact historical resources located on State-owned land.

Two other programs are administered by the state: California Historical Landmarks and California "Points of Historical Interest." California Historical Landmarks are buildings, sites, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value. California Points of Historical Interest are buildings, sites, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value.

Native American Consultation. Prior to the adoption or amendment of a general plan proposed on or after March 1, 2005, Government Code Sections 65352.3 and 65352.4 require a city or county to consult with local Native American tribes that are on the contact list maintained by the Native American Heritage Commission. The purpose is to preserve or mitigate impacts to places, features, and objects described in Public Resources Code Sections 5097.9 and 5097.993 (Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property) that are located within a city or county's jurisdiction. The proposed project does not require a General Plan amendment; therefore, no Native American consultation is required.

Human Remains. Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. *CEQA Guidelines* Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

Public Resources Code Section 5097.5. California Public Resources Code Section 5097.5 prohibits excavation or removal of any "vertebrate paleontological site…or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands." Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority or public corporation, or any agency thereof. Section 5097.5 states that any unauthorized disturbance or removal of archaeological, historical, or paleontological materials or sites located on public lands is a misdemeanor.

CEQA. The *State CEQA Guidelines* Section 15064.5 definition of a "historical resource" is presented in Section 4.4.2(a), *Methodology and Significance Thresholds* below. CEQA requires that historical resources and unique archaeological resources be taken into consideration during the CEQA review process (Public Resources Code, Section 21083.2). If feasible, adverse effects to the significance of historical resources must be avoided, or significant effects mitigated [*CEQA Guidelines* Section 15064.5(b)(4)].

If the cultural resource in question is an archaeological resource, *CEQA Guidelines* Section 15064.5(c)(1) requires that the lead agency first determine if the resource is a historical resource as defined in Section 15064.5(a). If the resource qualifies as a historical resource, potential adverse impacts must be considered in the same manner as a historical resource (California Office of Historic Preservation 2001a:5). If the archaeological resource does not qualify as a historical resource but does qualify as a "unique archaeological resource," then the archaeological resource is treated in accordance with Public Resources Code Section 21083.2 [see also *CEQA Guidelines* Section 15064.5(c)(3)]. "Unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- *Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.*
- *Has a special and particular quality such as being the oldest of its type or the best available example of its type.*
- *Is directly associated with a scientifically recognized important prehistoric or historic event or person.*

In practice, most archaeological sites that meet the definition of a unique archaeological resource will also meet the definition of a historical resource (Bass, Herson, and Bogdan, 1999).

Treatment options under Public Resources Code Section 21083.2 include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a "unique archaeological resource").

4.4.2 Impact Analysis

a. Methodology and Significance Thresholds. According to Appendix G of the *State CEQA Guidelines*, impacts related to cultural resources from the proposed project would be significant if the project would:

1. *Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5;*
2. *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;*
3. *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature of paleontological or cultural value;*

4. *Disturb any human remains, including those interred outside of formal cemeteries*

The significance of a cultural resource deposit and subsequently the significance of any impact is determined by whether or not that deposit can increase our knowledge of the past. The determining factors are site content and degree of preservation. A finding of archaeological significance follows the criteria established in the *State CEQA Guidelines*.

State CEQA Guidelines Section 15064.5 (Determining the Significance of Impacts to Archaeological Resources) states:

> *(3) […] 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.*
>
> *(4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.*
>
> *(b) A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.*

Historical resources are "significantly" affected if there is demolition, destruction, relocation, or alteration of the resource or its surroundings. Generally, impacts to historical resources can be mitigated to below a level of significance by following the Secretary of the Interior's *Guidelines for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* [13 PRC 15064.6 (b)]. In some circumstances, documentation of an historical resource by way of historic narrative photographs or architectural drawings will not mitigate the impact of demolition below the level of significance [13 PRC 15126.4 (b)(3)]. Preservation in place is the preferred form of mitigation for a "historical resource of an archaeological nature" as it retains the relationship between artifact and context, and may avoid conflicts with groups associated with the site [PRC 15126.4 (b)(3)(A)]. Historic

resources of an archaeological nature and "unique archaeological resources" can be mitigated to below a level of significance by:

- *Relocating construction areas such that the site is avoided;*
- *Incorporation of sites within parks, greenspace, or other open space;*
- *"Capping" or covering the site with a layer of chemically stable soil before building; or;*
- *Deeding the site into a permanent conservation easement. [PRC 15126.4 (b)(3)(B)].*

If an archaeological resource does not meet either the historic resource or the more specific "unique archaeological resource" definition, impacts do not need to be mitigated [13 PRC 15064.5 (e)]. Where the significance of a site is unknown, it is presumed to be significant for the purpose of the EIR investigation.

b. Project Impacts and Mitigation Measures.

Impact CR-1 Construction of the proposed project would involve ground-disturbing activities such as grading, surface excavation, and placement of imported fill, which have the potential to unearth or adversely impact previously unidentified archaeological resources. Impacts would be *significant but mitigable*.

Construction of the proposed project would involve ground-disturbing activities such as grading, surface excavation (such as trenching for utility lines), and placement of imported fill. No archaeological resources have been identified within the project site. However, ground-disturbing construction activities would still have the potential to unearth or adversely impact previously unidentified archaeological resources.

If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the county coroner (depending on the jurisdiction in which the discovery occurs) has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The NAHC would then identify the person(s) thought to be the Most Likely Descendent (MLD) of the deceased Native American, who would then help determine what course of action should be taken in dealing with the remains.

Adverse impacts would occur if construction activities damage known or unknown cultural resources. Impacts to such resources would be potentially significant.

Mitigation Measures. The following mitigation measures would reduce impacts related to previously unidentified cultural resources to a less than significant level.

CR-1(a) **Unanticipated Discovery of Cultural Remains.** If cultural resource remains are encountered during construction or land modification activities, work shall stop and the City shall be notified at once to assess the nature, extent, and potential significance of any cultural remains. The applicant shall implement a subsurface testing program (known as a Phase II site evaluation according to Cultural Resource Management best use practices) to determine the resource boundaries, assess the integrity of the resource, and evaluate the site's significance through a study of its features and artifacts. If the Phase II site evaluation concludes the site is significant, a Phase III data recovery excavation program may be implemented to exhaust the data potential of the site, if the site cannot be avoided.

If the site is determined significant, the applicant may choose to cap the resource area using culturally sterile and chemically neutral fill material and shall include open space accommodations and interpretive displays for the site to ensure its protection from development. A qualified archaeologist shall be retained to monitor the placement of fill upon the site and to make open space and interpretive recommendations. If a significant site will not be capped, the results and recommendations of the Phase II study shall determine the need for a Phase III data recovery program designed to record and remove significant cultural materials that could otherwise be tampered with. If the site is determined insignificant, no capping and or further archaeological investigation shall be required. The results and recommendations of the Phase II study shall determine the need for construction monitoring.

Significance After Mitigation. Through the evaluation of any unidentified cultural resources, implementation of mitigation measure CR-1(a) would reduce impacts to previously unidentified archaeological resources to a less than significant level.

Impact CR-2 **Construction of the proposed project would involve ground-disturbing activities such as grading, surface excavation, and placement of imported fill. Although unlikely, these activities have the potential to unearth and/or impact significant paleontological resources at depth. Impacts would be *significant but mitigable*.**

Construction of the proposed project would occur exclusively in areas mapped as Holocene aged eolian sand sediments of low paleontological sensitivity at the surface. Nevertheless, excavations exceeding 3-5 feet in depth in areas mapped as Holocene aged eolian deposits (Qye) have the potential to impact underlying early Holocene and Pleistocene aged alluvial sediments

with high paleontological sensitivity. Potential disturbance of paleontological resources within these areas is a potentially significant impact.

Mitigation Measures. The following mitigation measures are required.

CR-2(a) **Paleontological Resource Construction Monitoring.** Ground-disturbing activity in areas of low paleontological sensitivity (Holocene eolian sands) that does not exceed three feet in depth shall not require paleontological monitoring. Monitoring of excavations exceeding three feet in depth shall be monitored by a qualified paleontologist to determine if potentially fossil bearing units are present at ground disturbing depths. If no fossils are observed during the first 50 percent of excavations exceeding three feet in depth, or if the qualified paleontologist can determine that excavations are not disturbing Pleistocene (or older) aged sediments, then paleontological monitoring shall be reduced to weekly spot-checking under the discretion of the qualified paleontologist.

CR-2(b) **Fossil Salvage.** If fossils are discovered, the qualified paleontologist (or paleontological monitor) shall recover all fossils. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity, especially if they are isolated finds. In some cases larger fossils (such as complete skeletons or large mammal elements) require more extensive excavation and longer salvage periods. In this case the paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. Once salvaged, fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection, along with all pertinent field notes, photos, data, and maps.

Significance After Mitigation. By monitoring ground disturbance and salvaging any identified paleontological resources, implementation of mitigation measures CR-2(a) and CR-2(b) would reduce impacts to a less than significant level.

c. Cumulative Impacts. The proposed project, in conjunction with other nearby planned, pending, and potential future projects in the City of Eastvale as discussed in Section 3.0, *Environmental Setting,* and shown in Table 3-1, would have the potential to adversely impact additional cultural resources. Cumulative projects would add 6,082 residential units, 2,754,631 square feet of commercial and 4,452,100 square feet of industrial development to the Cities of Eastvale, Jurupa Valley and Ontario. With the proposed mitigation measures identified in this section of the EIR, such impacts to cultural resources would be less than significant at the project level, and these impacts are site-specific, not cumulative in nature. The proposed project would therefore not make a contribution to any cumulative impact on cultural resources outside the project site. Individual development proposals are reviewed separately by the City and undergo environmental review when it is determined that the potential for significant impacts exist. In the event that future cumulative development would result in impacts to

known or unknown historical resources, impacts to such resources would be addressed on a case-by-case basis in accordance with the requirements of the City's General Plan and CEQA. Therefore, cumulative impacts related to the incremental loss of cultural resources would not be significant.

4.5 GEOLOGY AND SOILS

This section describes the current geologic and soil conditions of the project site. The focus of the following analysis is related to the potential impacts from liquefaction, ground subsidence, soil erosion occurring on or off site of the proposed project. Issues associated with Alquist-Priolo fault zones, landslide risk or impacts related to mud flows, seiche, tsunami, septic tanks or alternative water disposal systems were found to be less than significant as documented in Section 4.1. The discussion of potential impacts to geology and soils is based on the Goodman Commerce Center EIR prepared for the 205-acre site adjacent to and south of the proposed project, the Phase I Environmental Site Assessment (URS, Inc. October, 2011) and the Eastvale Industrial Development Project Jurisdictional Delineation (Rincon Consultants, June 2015).

4.5.1 Setting

a. Regional Setting. The project site is generally level, with an elevation ranging from approximately 700 to 730 feet above mean sea level (AMSL) sloping gently north to south. The site is located in the Chino Basin in the northern portion of the Peninsular Range geomorphic province of California. Major structural features surrounding the site include the Cucamonga fault and the San Gabriel Mountains to the north, the Chino-Central Avenue fault and Puente/Chino Hills to the west, and the San Jacinto fault to the east. The site is within an area of large-scale crustal disturbance as the relatively northwestward-moving Peninsular Range Province collides with the Transverse Range Province (i.e. San Gabriel and San Bernardino Mountains) to the north. (Goodman Commerce Center EIR, 2014). The site is underlain by young alluvial deposits eroded from the mountains surrounding the basin and deposited in the site vicinity.

b. Seismic Setting. Earthquake risk in western Riverside County is high based on the presence of two fault systems: the San Andreas and San Jacinto Faults.

San Andreas Fault. The San Andreas Fault is widely recognized as the longest and most active earthquake fault in California. The San Andreas Fault has been mapped from Cape Mendocino in northern California to the Gulf of California near the Mexican border, a distance of about 750 miles. Earthquakes on this fault include the 1906 Magnitude 8.0 earthquake in San Francisco and the 1857 Magnitude 7.9 earthquake between Cholame and San Bernardino. Recent work indicates that large earthquakes have occurred along the San Andreas Fault at intervals averaging about 160 years, and that during these major earthquakes, the fault breaks along distinct segments. The segment of the San Andreas Fault closest to the project site is the Southern Segment, located approximately 35 miles north and northeast of the site. This segment is thought to be capable of producing a maximum credible earthquake of Magnitude 7.4 (Evaluating Earthquake Hazards in the Los Angeles Region, Paper 1360, 1985).

San Jacinto Fault. The San Jacinto Fault extends approximately 130 miles from its intersection with the San Andreas Fault near the Lytle Creek area north of San Bernardino, southeast to form the southwestern boundary of the San Jacinto Mountains and the San Timoteo Badlands, toward El Centro in Imperial County. West of the San Jacinto fault is the Lytle Creek Fault, which forms the western side of Lytle Creek Canyon, approximately 30 miles northeast of the site (Evaluating Earthquake Hazards in the Los Angeles Region, Paper 1360, 1985).

Lake Elsinore Fault. This fault runs from the mountainous Peninsular Ranges region between El Centro and San Diego approximately 111 miles, northwest to the Chino Hills range and Chino Hills. On the southern end of the fault zone is the southeastern extension of the Elsinore fault zone, the Laguna Salada Fault. At its northern end, the Elsinore fault zone splits into two segments, the Chino Fault and the Whittier Fault.

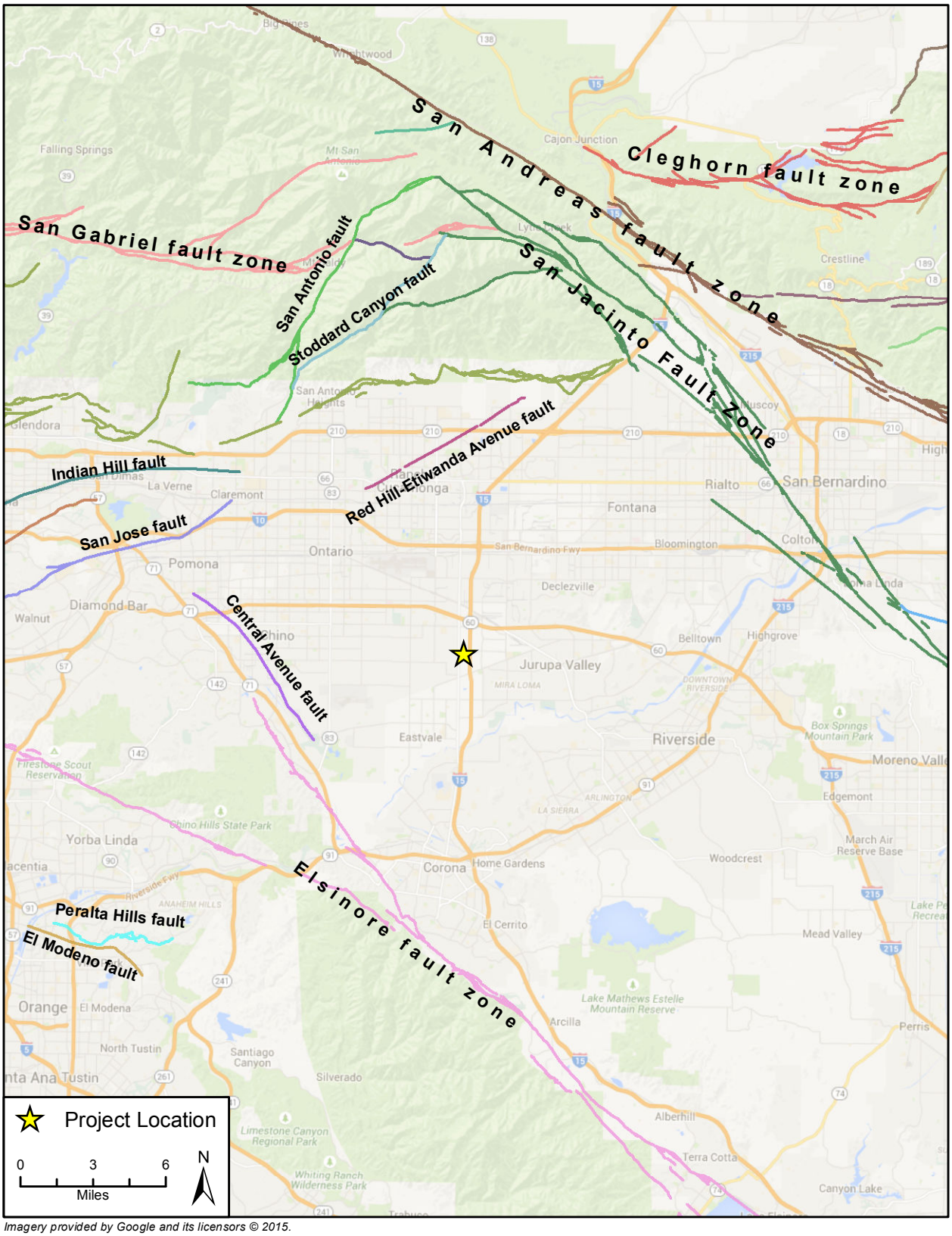
Per the Alquist-Priolo Earthquake Fault Zoning Act, Corona North Quadrangle map (2003), indicates that the project site does not cross or contain, and is not directly adjacent to, any surface faulting or ruptures. Compliance with Eastvale Municipal Code Title 110 – Building and Construction - will lessen the impact of seismic damage to structures resulting from an earthquake.

c. Seismic Hazards. Faults generally produce damage in two ways: ground shaking and surface rupture. Seismically-induced ground shaking covers a wide area and is greatly influenced by the distance of a site to the seismic source, soil conditions, and depth to groundwater. Surface rupture is limited to very near the fault. Other hazards associated with seismically-induced ground shaking include earthquake-triggered landslides, liquefaction, and settlement.

Faulting and Seismicity**.** The project area is located in a seismically active region of southern California. Several active or potentially active faults occur within the region as summarized above. The site is located approximately 11.5 miles northeast of the Chino-Central Avenue fault; the nearest mapped fault. This is a major fault zone marking the eastern flank of the Chino and Puente Hills. The Chino fault is an extension of the active Elsinore fault to the south. No known faults, either active or potentially active are currently known to occur within the project area (California Department of Conservation website, accessed August 6, 2015), see Figure 4.5-1, Regional Fault Map.

Liquefaction. Liquefaction occurs when loose, water saturated, granular soils temporarily liquefy when subjected to high intensity ground shaking. Liquefaction occurs when three general conditions exist: 1) shallow groundwater, 2) low-density silty or fine sandy soils, and 3) high intensity ground motion. Per the Eastvale General Plan Figure S-1, Generalized Liquefaction, the project site is shown completely within an area of very high liquefaction susceptibility with shallow groundwater and susceptible sediments. As referenced in Section 5.6.6 of the Goodman Commerce Center EIR, the Geotechnical Report prepared for the project adjacent to and south of the proposed project concludes that the potential for liquefaction occurring on the project site is very low. Shallow groundwater, for the purposes of determining liquefaction potential is generally considered to be groundwater that is shallower than 50 feet below the existing ground surface. Similarly, the depth within which the occurrence of liquefaction may impact surface improvements is generally identified as the upper 50 feet below the existing ground surface. Groundwater levels in the general area of the site have been recorded at depths of 120 feet below ground surface (bgs) (Goodman Commerce Center EIR, 2014). Thus, liquefaction potential is considered very low.

Ground Subsidence**.** Ground subsidence refers to the sudden shrinking or gradual downward settling and compaction of the soil and other surface material with little or no horizontal movement. It may be caused by a variety of human and natural activities including



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Regional Fault Zone Map

Figure 4.5-1

groundwater withdrawal and ground shaking resulting from earthquakes. Figure S-2 of the General Plan identifies areas susceptible to subsidence hazards based on geologic and hydrogeologic characteristics that are similar to regions of Riverside County in which subsidence is documented. Land subsidence and associated fissuring have been documented in some areas of Riverside County (Eastvale General Plan, 2012). The project site is located within an area shown as having sediments susceptible to ground subsidence (see Figure S-2, Documented Subsidence Areas, in the Eastvale General Plan). However, Figure S-7 of the General Plan shows no evidence or documentation of ground subsidence at the project site.

Landsliding. Landslides are slope failures that occur where the horizontal seismic forces induce soil and/or bedrock failures. The most common effect is reactivation or movement on a pre-existing landslide. The project site is located in a flat area – no steep slopes are located on or in proximity to the site that would be subject to landslides. Landslides are not considered a concern within the City of Eastvale (Eastvale General Plan, 2012).

d. Soil Characteristics. Based on the most recent soil survey for Riverside County (United States Department of Agriculture, natural Resources Conservation Service 2015b), the site consists primarily of three mapped soil types: Gorgonio loamy sand, deep, 2 to 8 percent slopes (GIC), Delhi fine sand, 2 to 15 percent slopes, wind-eroded (DaD2), and Hilmar loamy sand, 0 to 2 percent slopes, eroded (HhA2) (Eastvale Industrial Development Project Jurisdictional Delineation, June 2015).

- **Gorgonio loamy sand.** Gorgonio loamy sand is the dominant mapped soil type in the northcentral and eastern portion of the site. Gorgonio soils are formed in coarse textured alluvium derived from granite, granodiorite, schist, and related rocks. The soils are somewhat stratified with dominant textures being loamy sand and loamy fine sand with minor strata of loam, sandy loam, and fine sandy loam. Natural plant cover on this soil is typically comprised of annual grasses and forbs with a few scattered oak trees. Gorgonio loamy sand is not listed as a hydric soil on the NRCS Hydric Soils.

- **Hilmar loamy sand.** Hilmar loamy sand is the dominant mapped soil type in the central and southwest portion of the site. Hilmar soils formed in alluvium derived largely from granitic rock sources. Usually, the sandy upper part of the profile are wind modified. Natural plant cover on this soil is typically comprised of annual grasses and salt grass; however, these soils are more often cultivated. Hilmar loamy sand is not listed as a hydric soil on the NRCS Hydric Soils.

- **Delhi fine sand.** Delhi fine sand is the dominant mapped soil type within the two parcels. The Delhi series consists of very deep, somewhat excessively drained soils formed in wind modified alluvium derived from granitic rock sources on floodplains, alluvial fans and terraces. Natural plant cover on this soil is typically comprised of annual grasses and forbs with buckwheat (*Eriogonum*) and a few shrubs and trees. Delhi fine sand is not listed as a hydric soil on the NRCS Hydric Soils.

Soil Erosion. Soil erosion is the removal of soil by water and wind. The rate of erosion is estimated from four soil properties: texture, organic matter content, soil structure, and permeability. Other factors that influence erosion potential include the

amount of rainfall and wind, the length and steepness of the slope, and the amount and type of vegetative cover. According to the General Plan Safety Element, soil erosion is not an issue of concern in Eastvale as much of the city is developed. However, because the site is undeveloped, some soil erosion could occur under existing conditions.

e. Regulatory Setting. The International Building Code (IBC), the California Building Code (CBC), the City of Eastvale General Plan Safety Element and Conservation Element and the City of Eastvale Municipal Code incorporate policies and measures to safeguard life, health, property and public welfare from geologic hazards. Each are described below:

International Building Code. The International Building Code (IBC) is a model building code that provides the basis for the California Building Code (CBC). The IBC defines different regions of the United States and provides a ranking according to seismic hazard potential (Seismic Design Category A through E). Design Category A has the least seismic potential and Design Category E has the highest. The project site, like all of western Riverside County, the project site is located in Design Category E.

California Building Code. California law provides a minimum standard for building design through the California Building Code (CBC). Chapter 23 contains specific requirements for seismic safety. Chapter 29 regulates excavation, foundations, and retaining walls. Chapter 33 contains specific requirements pertaining to site demolition, excavation, and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials. Chapter 70 regulates grading activities, including drainage and erosion control. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in California Division of Occupational Safety and Health (Cal/OSHA) regulations (Title 8 of the California Code of Regulations [CCR]) and in Section A33 of the CBC.

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act was signed into law in 1972. The purpose of this Act is to prohibit the location of most structures for human occupancy across the traces of active faults and to thereby mitigate the hazard of fault rupture. Under the Act, the State Geologist is required to delineate "Earthquake Fault Zones" along known active faults in California. Cities and counties affected by the zones must regulate certain development projects within the zones. They must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting.

Seismic Hazards Mapping Act. The California Geologic Survey, formerly the California Department of Conservation, Division of Mines and Geology (CDMG), provides guidance with regard to seismic hazards. Under CDMG's Seismic Hazards Mapping Act (1990), seismic hazard zones are to be identified and mapped to assist local governments in land use planning. The intent of this publication is to protect the public from the effects of strong ground shaking, liquefaction, landslides, ground failure, or other hazards caused by earthquakes. In addition, CDMG's Special Publications 117, "Guidelines for Evaluating and Mitigating Seismic Hazards in California," provides guidance for the evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations.

Local Regulations.

City of Eastvale General Plan. The City of Eastvale General Plan Safety Element contains a for the following goals related to siting of structures in seismically active areas.

Goal S-2: *Reduce to the extent possible, the risk and exposure of life, property and the environment to hazardous conditions and events such as earthquakes, landslides, wildfires, floods, inundation and toxic release.*

Additionally, the City of General Plan Safety Element includes policies related to general hazards.

Policy S-2: *All new development shall be designed and constructed to conform with the Building Code and other applicable codes and other safety standards related to seismic and geologic hazards.*

Action S-2.1: *Require geological and geotechnical investigations in areas with potential for seismically induced liquefaction or settlement as part of the environmental and development review process, for any structure proposed for human occupancy, and for any structure whose damage would cause harm.*

Policy S-2 *All new development shall be designed and constructed to conform with the Building Code and other applicable codes and other safety standards related to seismic and geologic hazards.*

Action S-2.1 *Require geological and geotechnical investigations in areas with potential for seismically induced liquefaction or settlement as part of the environmental and development review process, for any structure proposed for human occupancy, and for any structure whose damage would cause harm.*

City of Eastvale Ordinance No. 457. Site preparation and project construction would be required to comply with Ordinance No. 457 (ORD 457), which includes specific provisions that apply to all grading, buildings and structures, or related elements. Compliance with this ordinance is intended to protect against damage from earthquakes, geological and soil conditions and other such potential hazards to new structures.

4.5.2 Impact Analysis

a. Methodology and Significance Thresholds. The assessment of geologic impacts is based on a review of project site information and conditions, and information contained in the City of Eastvale General Plan Safety Element. For purposes of this EIR, the proposed project would create a significant impact relative to geologic resources if it would result in any of the following conditions:

1. *Exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
    a. *Strong seismic ground shaking,*
    b. *Seismic-related ground failure, including liquefaction; and or*

2. *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- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse; and/or*
3. *Result in substantial soil erosion or the loss of topsoil.*

As referenced in *Environmental Effects Found Not to be Significant,* the following topics would have a less than significant impact or no impact:

1. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or based on other substantial evidence of a known active or potentially active fault;*
2. *Exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides*
3. *The site does not include steep slopes which could generate a mudflow. There are no large bodies of water in proximity to the project site that could produce earthquake-induced seiche. The site is inland from the Pacific Ocean and not subject to tsunamis.*
4. *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.*

b. Project Impacts and Mitigation Measures.

Impact GEO-1 Seismically-induced ground failure or ground shaking could damage structures on the project site, resulting in loss of property and risk to human health. However, the level of risk is not unusual compared to that of the region as a whole, and compliance with applicable standards would reduce risks to acceptable levels. Impacts would be *less than significant.*

Faults within the region can generate groundshaking that could adversely affect the proposed project. As noted, the site is in proximity to the San Andreas, San Jacinto and Lake Elsinore/Chino-Central Avenue faults. However, because these faults do not cross the project site, the potential for ground rupture is considered low. The proximity of active faults is such that the area has experienced strong seismically-induced ground motion and will likely experience strong seismically induced ground motion in the future. Besides the direct physical damage to structures caused by ground shaking, slopes and inadequately compacted fill material could move and cause additional damage. Gas, water, and electrical lines could be ruptured from groundshaking, or broken during movement of earth caused by the earthquake. This could jeopardize public safety.

Development of the proposed project would be subject to the requirements of the International Building Code (IBC) and the California Building Code (CBC), which would ensure that the design and construction of new structures are engineered to withstand seismic events that may occur on the project site. In addition, pursuant to Eastvale Municipal Code Section 110.60.050, a soils engineering report and engineering geology report shall be incorporated into the approved grading construction documents and approved by the designated Building Official. Adherence to state and local code requirements as well as site specific recommendations would reduce impacts to less than significant.

Mitigation Measures. None required. Mitigation beyond adherence to existing regulatory requirements is not needed.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact GEO-2 The project site is located in an area with low risk potential for liquefaction or settlement. The level of risk is reduced by complying with approved geotechnical reports and applicable building code requirements specified herein. Soil-related hazards associated with liquefaction or settlement would be a *less than significant.*

Shallow groundwater, for the purposes of determining liquefaction potential, is generally considered to be groundwater that is shallower than 50 feet below the existing ground surface. Similarly, the depth within which the occurrence of liquefaction may impact surface improvements is generally identified as the upper 50 feet below the existing ground surface. Groundwater levels in the general area of the site have been recorded at depths of 120 feet below ground surface (bgs). Thus, liquefaction potential is considered very low.

As required by the CBC and Section 110 of the Eastvale Municipal Code, the City would require preparation of a final geotechnical report prior to the issuance of building permits for the proposed project. This would provide final parameters with respect to the stability of soil and finalize the methodology (e.g., over-excavated, backfilled, compaction) to be used to implement project design requirements. Compliance with the CBC, local requirements and recommendations in the geotechnical report would reduce potential impacts related to seismic-related ground failure and liquefaction to a less than significant level.

Mitigation Measures. None required**.** Mitigation beyond adherence to existing regulatory requirements is not needed.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact GEO-3 The project could result in substantial soil erosion or the loss of topsoil during initial grading and construction. However, compliance with applicable standards and guidelines could reduce the amount of erosion or topsoil loss to acceptable levels. Impacts would be *less than significant.*

The Eastvale Building Department defines soil erosion as the process by which soil particles are removed from the land surface by wind, water, and/or gravity; soil particles removed by stormwater runoff are considered pollutants when they are deposited in local creeks, lakes, and the Pacific Ocean due to the potential negative impacts they can have on aquatic habitats. Additionally, any soil that is left exposed after clearing, grading, or excavation can easily be eroded by wind or water.

Water quality regulations are discussed in detail in Section 4.8, *Hydrology and Water Quality.* In summary, the State Water Board Construction General Permit was updated on July 1, 2010 and two new elements were included. First, a Stormwater Pollution Prevention Plan (SWPPP) must be written, amended, and certified by a *Qualified SWPPP Developer* (QSD). Second, construction projects will be assigned a *Risk Level* (Risk Level 1 – 3) based on site characteristics for erosion potential, threat to "receiving waters," and the time of year that the project activity would occur. The project Risk Level determines compliance requirements set forth in the permit. As discussed in the Preliminary WQMP prepared for this project (see Appendix F), site-specific best management practices (BMPs) would be developed and implemented during construction to minimize soil erosion and related downstream impacts to water quality as well as entrainment in the air during windy conditions. Wind blown dust would be minimized through implementation of measures required per South Coast Air Quality Management District Rule 403 for fugitive dust control (see Section 4.2, *Air Quality*). BMPs to minimize impacts to water quality would include erosion control measures to prevent erosion and keep soil particles from entering stormwater; sediment control to prevent a net increase in sediment load in stormwater discharges from the site; site management methods to manage the construction site and construction activities in a manner that prevents pollutants from entering stormwater, drainage systems or receiving waters and materials and waste management methods to manage construction materials and wastes that prevent their entry into stormwater, drainage systems, or receiving waters. These measures are addressed in more detail in Section 4.8, *Hydrology and Water Quality*.

Mitigation Measures. None required**.** Mitigation beyond adherence to existing regulatory requirements is not needed.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. As discussed in Section 3.0, *Environmental Setting*, cumulative projects would add 6,082 residential units, 2,754,631 square feet of commercial and 4,452,100 square feet of industrial development to the Cities of Eastvale, Jurupa Valley and Ontario. Cumulative impacts related to seismically induced ground shaking and other geotechnical hazards would be similar to what is described above for project-specific impacts, and would be addressed on a case-by-case basis through compliance with the CBC, local development codes as well as site-specific mitigation measures recommended for individual projects. Geologic hazards are specific to individual sites and hazards present on one particular site do not add to or compound the hazards present on another site. Compliance with, and enforcement of, applicable code requirements and the recommendations of site-specific geotechnical evaluations on a case-by-case basis would reduce cumulative impacts relating to geologic hazards to less than significant.

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4.6 GREENHOUSE GAS EMISSIONS

This section analyzes greenhouse gas (GHG) emissions associated with the proposed project and potential impacts related to climate change.

4.6.1 Environmental Setting.

a. Climate Change and Greenhouse Gases. Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Per the United Nations Intergovernmental Panel on Climate Change (IPCC, 2013), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (95% or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-20th century (IPCC, 2013).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Observations of CO_2 concentrations, globally-averaged temperature, and sea level rise are generally well within the range of the extent of the earlier IPCC projections. The recently observed increases in CH_4 and N_2O concentrations are smaller than those assumed in the scenarios in the previous assessments. Each IPCC assessment has used new projections of future climate change that have become more detailed as the models have become more advanced.

Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and sulfur hexafluoride (SF_6) (California Environmental Protection Agency [CalEPA], 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common

reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2e), and is the amount of a GHG emitted multiplied by its GWP. CO_2 has a 100-year GWP of one. By contrast, CH_4 has a GWP of 25, meaning its global warming effect is 25 times greater than CO_2 on a molecule per molecule basis (IPCC, 2007).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHGs, Earth's surface would be about 34° C cooler (CalEPA, 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. The following discusses the primary GHGs of concern.

Carbon Dioxide. The global carbon cycle is made up of large carbon flows and reservoirs. Billions of tons of carbon in the form of CO_2 are absorbed by oceans and living biomass (i.e., sinks) and are emitted to the atmosphere annually through natural processes (i.e., sources). When in equilibrium, carbon fluxes among these various reservoirs are roughly balanced (United States Environmental Protection Agency [U.S. EPA], April 2014). CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the second half of the 20th century. Concentrations of CO_2 in the atmosphere have risen approximately 40% since the industrial revolution. The global atmospheric concentration of CO_2 has increased from a pre-industrial value of about 280 parts per million (ppm) to 391 ppm in 2011 (IPCC, 2007; Oceanic and Atmospheric Administration [NOAA], 2010). The average annual CO_2 concentration growth rate was larger between 1995 and 2005 (average: 1.9 ppm per year) than it has been since the beginning of continuous direct atmospheric measurements (1960–2005 average: 1.4 ppm per year), although there is year-to-year variability in growth rates (NOAA, 2010). Currently, CO_2 represents an estimated 74% of total GHG emissions (IPCC, 2007). The largest source of CO_2 emissions, and of overall GHG emissions, is fossil fuel combustion.

Methane. CH_4 is an effective absorber of radiation, though its atmospheric concentration is less than that of CO_2 and its lifetime in the atmosphere is limited to 10 to 12 years. It has a GWP approximately 25 times that of CO_2. Over the last 250 years, the concentration of CH_4 in the atmosphere has increased by 148% (IPCC, 2007), although emissions have declined from 1990 levels. Anthropogenic sources of CH_4 include enteric fermentation associated with domestic livestock, landfills, natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, stationary and mobile combustion, and certain industrial processes (U.S. EPA, April 2014).

Nitrous Oxide. Concentrations of nitrous oxide (N_2O) began to rise at the beginning of the industrial revolution and continue to increase at a relatively uniform growth rate (NOAA, 2010). N_2O is produced by microbial processes in soil and water, including those reactions that occur in fertilizers that contain nitrogen, fossil fuel combustion, and other chemical processes. Use of these fertilizers has increased over the last century. Agricultural soil management and mobile source fossil fuel combustion are the major sources of N_2O emissions. The GWP of nitrous oxide is approximately 298 times that of CO_2 (IPCC, 2007).

Fluorinated Gases (HFCS, PFCS and SF_6). Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfurhexafluoride (SF_6), are powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are used as substitutes for ozone-depleting substances such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and halons, which have been regulated since the mid-1980s because of their ozone-destroying potential and are phased out under the Montreal Protocol (1987) and Clean Air Act Amendments of 1990. Electrical transmission and distribution systems account for most SF_6 emissions, while PFC emissions result from semiconductor manufacturing and as a by-product of primary aluminum production. Fluorinated gases are typically emitted in smaller quantities than CO_2, CH_4, and N_2O, but these compounds have much higher GWPs. SF_6 is the most potent GHG the IPCC has evaluated.

b. Greenhouse Gas Emissions Inventory. Worldwide anthropogenic emissions of GHGs were approximately 46,000 million metric tons (MMT, or gigatonne) CO_2e in 2010 (IPCC, 2014). CO_2 emissions from fossil fuel combustion and industrial processes contributed about 65% of total emissions in 2010. Of anthropogenic GHGs, carbon dioxide was the most abundant accounting for 76% of total 2010 emissions. Methane emissions accounted for 16% of the 2010 total, while nitrous oxide and fluorinated gases account for 6 and 2% respectively (IPCC, 2014).

Total U.S. GHG emissions were 6,525.6 MMT CO_2e in 2012 (U.S. EPA, April 2014). Total U.S. emissions have increased by 4.7% since 1990; emissions decreased by 3.4% from 2011 to 2012 (U.S. EPA, April 2014). The decrease from 2011 to 2012 was due to a decrease in the carbon intensity of fuels consumed to generate electricity due to a decrease in coal consumption, with increased natural gas consumption. Additionally, relatively mild winter conditions, especially in regions of the United States where electricity is important for heating, resulted in an overall decrease in electricity demand in most sectors. Since 1990, U.S. emissions have increased at an average annual rate of 0.2%. In 2012, the transportation and industrial end-use sectors accounted for 28.2% and 27.9% of CO_2 emissions (with electricity-related emissions distributed), respectively. Meanwhile, the residential and commercial end-use sectors accounted for 16.3% and 16.4% of CO_2 emissions, respectively (U.S. EPA, April 2014).

Based upon the California Air Resources Board (ARB) California Greenhouse Gas Inventory for 2000-2012 (ARB, March 2014), California produced 459 MMT CO_2e in 2012. The major source of GHG in California is transportation, contributing 36% of the state's total GHG emissions. Electric power is the second largest source, contributing 21% of the state's GHG emissions (ARB, March 2014). The industrial sector accounted for approximately 19% of the total emissions. California emissions are due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. The ARB has projected statewide unregulated GHG emissions for the year 2020 will be 507 MMT CO_2e (ARB, August 2013). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

c. Potential Effects of Climate Change. Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Long-term trends have found that each of the past three

decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The global combined land and ocean temperature data show an increase of about 0.89°C (0.69°C–1.08°C) over the period 1901–2012 and about 0.72°C (0.49°C–0.89°C) over the period 1951–2012 when described by a linear trend. Several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations are in agreement that LSAT as well as sea surface temperatures have increased. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC, 2013).

According to the CalEPA's *2010 Climate Action Team Biennial Report*, potential impacts of climate change in California may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CalEPA, April 2010). Below is a summary of some of the potential effects that could be experienced in California as a result of climate change.

Air Quality. Higher temperatures, which are conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (California Energy Commission [CEC], March, 2009).

Water Supply. Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California. However, the average early spring snowpack in the Sierra Nevada decreased by about 10% during the last century, a loss of 1.5 million acre-feet of snowpack storage. During the same period, sea level rose eight inches along California's coast. California's temperature has risen 1°F, mostly at night and during the winter, with higher elevations experiencing the highest increase. Many Southern California cities have experienced their lowest recorded annual precipitation twice within the past decade. In a span of only two years, Los Angeles experienced both its driest and wettest years on record (California Department of Water Resources [DWR], 2008; CCCC, May 2009).

This uncertainty complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The Sierra snowpack provides the majority of California's water supply by accumulating snow during the state's wet winters and releasing it slowly during the state's dry springs and summers. Based upon historical data and modeling DWR projects that the Sierra snowpack will experience a 25 to 40% reduction from its historic average by 2050. Climate

change is also anticipated to bring warmer storms that result in less snowfall at lower elevations, reducing the total snowpack (DWR, 2008).

Hydrology and Sea Level Rise. As discussed above, climate change could potentially affect: the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. According to The Impacts of Sea-Level Rise on the California Coast, prepared by the California Climate Change Center (CCCC) (May 2009), climate change has the potential to induce substantial sea level rise in the coming century. The rising sea level increases the likelihood and risk of flooding. The rate of increase of global mean sea levels over the 2001-2010 decade, as observed by satellites, ocean buoys and land gauges, was approximately 3.2 mm per year, which is double the observed 20th century trend of 1.6 mm per year (World Meteorological Organization [WMO], 2013). As a result, sea levels averaged over the last decade were about 8 inches higher than those of 1880 (WMO, 2013). Sea levels are rising faster now than in the previous two millennia, and the rise is expected to accelerate, even with robust GHG emission control measures. The most recent IPCC report (2013) predicts a mean sea–level rise of 11-38 inches by 2100. This prediction is more than 50% higher than earlier projections of 7-23 inches, when comparing the same emissions scenarios and time periods. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply due to salt water intrusion. I*n addition, i*ncreased CO_2 emissions can cause oceans to acidify due to the carbonic acid it forms. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a $30 billion annual agricultural industry that produces half of the country's fruits and vegetables. Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater air pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (CCCC, 2006).

Ecosystems and Wildlife. Climate change and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists project that the average global surface temperature could rise by 1.0-4.5°F (0.6-2.5°C) in the next 50 years, and 2.2-10°F (1.4-5.8°C) in the next century, with substantial regional variation. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes, such as carbon cycling and storage (Parmesan, August 2006).

d. Regulatory Setting. The following regulations address both climate change and GHG emissions.

International Regulations. The United States is, and has been, a participant in the United Nations Framework Convention on Climate Change (UNFCCC) since it was produced in 1992.

The UNFCCC is an international environmental treaty with the objective of, "stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." This is generally understood to be achieved by stabilizing global GHG concentrations between 350 and 400 ppm, in order to limit the global average temperature increases between 2 and 2.4°C above pre-industrial levels (IPCC, 2007). The UNFCCC itself does not set limits on GHG emissions for individual countries or enforcement mechanisms. Instead, the treaty provides for updates, called "protocols," that would identify mandatory emissions limits.

Five years later, the UNFCCC brought nations together again to draft the *Kyoto Protocol* (1997). The Kyoto Protocol established commitments for industrialized nations to reduce their collective emissions of six GHGs (CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs) to 5.2% below 1990 levels by 2012. The United States is a signatory of the Kyoto Protocol, but Congress has not ratified it and the United States has not bound itself to the Protocol's commitments (UNFCCC, 2007). The first commitment period of the Kyoto Protocol ended in 2012. Governments, including 38 industrialized countries, agreed to a second commitment period of the Kyoto Protocol beginning January 1, 2013 and ending either on December 31, 2017 or December 31, 2020, to be decided by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its seventeenth session (UNFCCC, November 2011).

In Durban (17th session of the Conference of the Parties in Durban, South Africa, December 2011), governments decided to adopt a universal legal agreement on climate change as soon as possible, but not later than 2015. Work will begin on this immediately under a new group called the Ad Hoc Working Group on the Durban Platform for Enhanced Action. Progress was also made regarding the creation of a Green Climate Fund (GCF) for which a management framework was adopted (UNFCCC, December 2011; United Nations, November 2011).

Federal Regulations. The United States Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al*. ([2007] 549 U.S. 05-1120) held that the U.S. EPA has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act.

The U.S. EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. The first annual reports for these sources were due in March 2011.

On May 13, 2010, the U.S. EPA issued a Final Rule that took effect on January 2, 2011, setting a threshold of 75,000 tons CO_2e per year for GHG emissions. New and existing industrial facilities that meet or exceed that threshold will require a permit after that date. On November 10, 2010, the U.S. EPA published the "PSD and Title V Permitting Guidance for Greenhouse Gases." The U.S. EPA's guidance document is directed at state agencies responsible for air pollution permits under the Federal Clean Air Act to help them understand how to implement GHG reduction requirements while mitigating costs for industry. It is expected that most states will use the U.S. EPA's new guidelines when processing new air pollution permits for power plants, oil refineries, cement manufacturing, and other large pollution point sources.

On January 2, 2011, the U.S. EPA implemented the first phase of the Tailoring Rule for GHG emissions Title V Permitting. Under the first phase of the Tailoring Rule, all new sources of emissions are subject to GHG Title V permitting if they are otherwise subject to Title V for another air pollutant and they emit at least 75,000 tons CO_2e per year. Under Phase 1, no sources were required to obtain a Title V permit solely due to GHG emissions. Phase 2 of the Tailoring Rule went into effect July 1, 2011. At that time new sources were subject to GHG Title V permitting if the source emits 100,000 tons CO_2e per year, or they are otherwise subject to Title V permitting for another pollutant and emit at least 75,000 tons CO_2e per year.

On July 3, 2012 the U.S. EPA issued the final rule that retains the GHG permitting thresholds that were established in Phases 1 and 2 of the GHG Tailoring Rule. These emission thresholds determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

California Regulations. California Air Resources Board (ARB) is responsible for the coordination and oversight of State and local air pollution control programs in California. California has a numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires ARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, U.S. EPA granted the waiver of Clean Air Act preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" will cover 2017 to 2025. Fleet average emission standards would reach 22% reduction from 2009 levels by 2012 and 30% by 2016. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34% fewer GHGs and 75% fewer smog-forming emissions from their model year 2016 levels (ARB, 2011).

In 2005, former Governor Schwarzenegger issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80% below 1990 levels (CalEPA, 2006). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report") (CalEPA, 2006). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These are strategies that could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, etc. In April 2015 Governor Brown issued EO B-30-15, calling for a new target of 40% below 1990 levels by 2030.

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006," signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15% reduction below 2005 emission levels; the same requirement as under S-3-05), and requires ARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires ARB to adopt regulations to require reporting and verification of statewide GHG emissions.

After completing a comprehensive review and update process, ARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO_2e. The Scoping Plan was approved by ARB on December 11, 2008, and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted over the last five years. Implementation activities are ongoing and ARB is currently in the process of updating the Scoping Plan.

On April 29, 2015, Governor Brown issued an executive order to establish a statewide mid-term GHG reduction target of 40 percent below 1990 levels by 2030. According to ARB, reducing GHG emissions by 40 percent below 1990 levels in 2030 ensures that California will continue its efforts to reduce carbon pollution and help to achieve federal health-based air quality standards. Setting clear targets beyond 2020 is also intended provide market certainty to foster investment and growth in a wide array of industries throughout the State, including clean technology and clean energy. ARB is currently working to update the Scoping Plan to provide a framework for achieving the 2030 target. The updated Scoping Plan is expected to be completed and adopted by CARB in 2016 (CARB 2015a).

In May 2014, ARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan update defines ARB's climate change priorities for the next five years and sets the groundwork to reach post-2020 goals set forth in EO S-3-05. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluates how to align the State's longer-term GHG reduction strategies with other State policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use (ARB, June 2014).

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

ARB Resolution 07-54 establishes 25,000 MT of GHG emissions as the threshold for identifying the largest stationary emission sources in California for purposes of requiring the annual reporting of emissions. This threshold is just over 0.005% of California's total inventory of GHG emissions for 2004.

Senate Bill (SB) 375, signed in August 2008, enhances the state's ability to reach AB 32 goals by directing ARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPO) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On September 23, 2010, ARB adopted final regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Southern California Association of Governments (SCAG) was assigned targets of an 8% reduction in GHGs from transportation sources by 2020 and a 13% reduction in GHGs from transportation sources by 2035. In the SCAG region, SB 375 also provides the option for the coordinated development of subregional plans by the subregional councils of governments and the county transportation commissions to meet SB 375 requirements. In April 2012, SCAG adopted the *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) to meet the assigned targets in accordance with SB 375.

In April 2011, Governor Brown signed SB 2X requiring California to generate 33% of its electricity from renewable energy by 2020.

For more information on the Senate and Assembly Bills, Executive Orders, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

California Environmental Quality Act. Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the *State CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted *CEQA Guidelines* provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, a variety of air districts have adopted quantitative significance thresholds for GHGs.

Local Regulations. The City of Eastvale has not adopted a climate action plan or other similar document in order to reduce GHG emissions. However, Eastvale is a participating member of the Western Riverside County Council of Governments (WRCOG) CAP process to reduce GHG emissions. In June 2014, WRCOG completed a Subregional Climate Action Plan for Western Riverside County that addresses statewide legislation for sustainability through the preparation of GHG inventories and strategies to reduce emissions.

The City's General Plan (2012) includes an Air Quality and Conservation Chapter with four goals, one of which is to meet or exceed all current and future state-mandated targets for reducing emissions of greenhouse gases. Relevant policies in the Chapter are:

- *Policy AQ-18: Support local, regional, and statewide efforts to reduce emissions of greenhouse gases linked to climate change.*
- *Policy AQ-19: Analyze and mitigate, to the extent feasible, potentially significant increases in greenhouse gas emissions during project review, pursuant to the California Environmental Quality Act.*

- *Policy AQ-20: Continue to support the planting and maintenance of trees in the community to increase carbon sequestration.*
- *Policy AQ-29: Undertake proper maintenance of the City's physical facilities to ensure that optimum energy conservation is achieved.*

4.6.2 Impact Analysis

a. Methodology and Significance Thresholds. Based on the environmental checklist contained in Appendix G of the *CEQA Guidelines*, impacts related to GHG emissions from the proposed project would be significant if the project would:

1. *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or*
2. *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

The significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). Although not yet adopted, the SCAQMD has a recommended quantitative threshold for all land use types of 3,000 metric tons CO_2e/year (SCAQMD, "Proposed Tier 3 Quantitative Thresholds – Option 1", September 2010).

Because no GHG emissions thresholds have been adopted in Eastvale, the proposed project is evaluated based on the SCAQMD's recommended/preferred option threshold for all land use types including residential of 3,000 metric tons CO_2E per year (SCAQMD, "Proposed Tier 3 Quantitative Thresholds – Option 1", September 2010). Therefore, the project's contribution to cumulative impacts related to GHG emissions and climate change would be cumulatively considerable if the project would produce in excess of 3,000 metric tons CO_2e/year.

<u>Study Methodology</u>. Calculations of CO_2, CH_4, and N_2O emissions are provided to identify the magnitude of potential project effects. The analysis focuses on CO_2, CH_4, and N_2O because these make up 98.9 percent of all GHG emissions by volume (IPCC, 2007) and are the GHG emissions that the project would emit in the largest quantities. Fluorinated gases, such as HFCs, PFCs, and SF_6, were also considered for the analysis. However, because the project is an industrial warehouse, the quantity of fluorinated gases would not be significant since fluorinated gases are primarily associated with industrial processes. Emissions of all GHGs are converted into their equivalent GWP in terms of CO_2 (CO_2e). Minimal amounts of other GHGs (such as chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the total calculated CO_2e amounts. Calculations are based on the methodologies discussed in the California Air Pollution Control Officers Association

(CAPCOA) *CEQA and Climate Change* white paper (January 2008) and included the use of the California Climate Action Registry (CCAR) General Reporting Protocol (January 2009).

GHG emissions associated with the proposed project were calculated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2 (see Appendix F for calculations).

Operational Emissions. CalEEMod calculates operational emissions of CO_2, N_2O, and CH_4. Emissions from energy use include electricity and natural gas. The emissions factors for natural gas combustion are based on EPA's AP-42, (*Compilation of Air Pollutant Emissions Factors*) and CCAR. Electricity emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt hour (CalEEMod User Guide, 2013). The default electricity consumption values in CalEEMod include the CEC-sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies.

Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating were calculated in CalEEMod and utilize standard emission rates from ARB, U.S. EPA, and emission factor values provided by the local air district (CalEEMod User Guide, 2013).

Emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CalEEMod User Guide, 2013). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California.

For mobile sources, CO_2 and CH_4 emissions were quantified in CalEEMod. Because CalEEMod does not calculate N_2O emissions from mobile sources, N_2O emissions were quantified using the California Climate Action Registry General Reporting Protocol (January 2009) direct emissions factors for mobile combustion (see Appendix F for calculations). The estimate of total daily trips associated with the proposed project was based on the traffic impact analysis report and was calculated and extrapolated to derive total annual mileage in CalEEMod. Emission rates for N_2O emissions were based on the vehicle mix output generated by CalEEMod and the emission factors found in the California Climate Action Registry General Reporting Protocol.

A limitation of the quantitative analysis of emissions from mobile combustion is that emission models, such as CalEEMod, evaluate aggregate emissions, meaning that all vehicle trips and related emissions assigned to a project are assumed to be new trips and emissions generated by the project itself. Such models do not demonstrate, with respect to a regional air quality impact, what proportion of these emissions are actually "new" emissions, specifically attributable to the project in question. For most projects, the main contributor to regional air quality emissions is from motor vehicles; however, the quantity of vehicle trips appropriately characterized as "new" is often uncertain as traffic associated with a project may be relocated trips from other locations. For the proposed project, vehicle trips may include trips relocated from other existing locations, as

employees and vendors use the proposed project rather than existing warehousing facilities. Because the proportion of "new" versus relocated trips is unknown, the vehicle miles traveled (VMT) estimate generated by CalEEMod is a conservative, "worst-case" estimate.

Construction Emissions. The SCAQMD (2011) has recommended amortizing construction-related emissions over a 30-year period in conjunction with the proposed project's operational emissions. Therefore, for the purpose of this analysis, construction emissions have been quantified, amortized over a 30 year period, and added to the estimated operational emissions total.

Construction of the proposed project would generate temporary GHG emissions primarily as a result of construction equipment operation on-site as well as from vehicles transporting construction workers to and from the project site and heavy trucks to deliver materials. Site preparation and grading typically generate the greatest emissions because of the size of equipment used. CalEEMod provides an estimate of emissions associated with the construction period, based on parameters such as the duration of construction activity, area of disturbance, and anticipated equipment use during construction. The 18-month construction period anticipated for the project was incorporated into CalEEMod.

b. Project Impacts and Mitigation Measures.

Impact AQ-6 **The proposed project would generate short-term as well as long-term GHG emissions. These emissions would incrementally contribute to climate change. Project emissions would exceed the 3,000 MT of CO_2e/year threshold. Impacts would therefore be *significant but mitigable*.**

Construction Emissions. For the purpose of this analysis, construction activity is assumed to occur over a period of approximately 18 months. Project grading would be minimal and is expected to be balanced on-site. Therefore, no trips associated with dirt hauling would be made. The construction emissions estimate also includes work associated with construction of the proposed secondary access road, removal of the concrete-lined drainage facility, or construction of the proposed retaining wall. As shown in Table 4.6-1, construction activity for the proposed project would generate an estimated 2,480 metric tons of CO_2e. Following the SCAQMD's recommended methodology to amortize emissions over a 30-year period (the assumed life of the project), construction of the proposed project would generate an estimated 83 metric tons of CO_2e per year.

Table 4.6-1
Estimated Construction Emissions of Greenhouse Gases

Year	Annual Emissions (CO_2e)
2016	594 MT CO_2e
2017	1,084 MT CO_2e
2018	803 MT CO_2e
Total	**2,480 MT CO_2e**
Amortized over 30 years	**83 MT CO_2e per year**

See Appendix F for CalEEMod Results.

Operational Indirect and Stationary Direct Emissions. Long-term emissions relate to area sources, energy use, solid waste, water use, and transportation. Each of these sources is discussed below.

Area Source Emissions. CalEEMod was used to calculate direct sources of air emissions located at the project site. These include consumer product use and landscape maintenance equipment. Area emissions are estimated at <0.1 metric tons of CO_2e per year based on the proposed industrial warehouse use of the site.

Energy Use. Operation of on-site development would consume both electricity and natural gas. The generation of electricity through combustion of fossil fuels emits CO_2, and to a smaller extent, N_2O and CH_4. As discussed above, annual electricity and natural gas emissions can be calculated using default values from the CEC sponsored CEUS and RASS studies which are built into CalEEMod. Overall energy use at the project site would generate an estimated 542 metric tons of CO_2e per year.

Solid Waste Emissions. Solid waste associated with the project would generate an estimated 191 metric tons of CO_2e per year.

Water Use Emissions. Based on the amount of electricity generated in order to supply and convey water for the proposed project, the project would generate an estimated 514 metric tons of CO_2e per year.

Transportation Emissions. Mobile source GHG emissions were estimated using the average daily trips for the proposed project according to the project traffic study (see Appendix J) and based on the total vehicle miles traveled (VMT) estimated in CalEEMod. Estimated daily trips include up to 398 passenger vehicle trips and 368 truck trips. The proposed project would generate about 3.3 million annual VMT. As noted above, CalEEMod does not calculate N_2O emissions related to mobile sources. As such, N_2O emissions were calculated based on the project's VMT using calculation methods provided by the California Climate Action Registry General Reporting Protocol (January 2009). The project would emit an estimated 1,759 metric tons of CO_2e per year from mobile sources.

Combined Construction, Stationary, and Mobile Source Emissions. Table 4.6-2 combines the construction, operational, and mobile GHG emissions associated with development of the proposed project. The combined annual emissions are estimated to be 3,089 metric tons of CO_2e per year. Thus, GHG emission associated with the proposed project would exceed the 3,000 metric tons CO_2e per year threshold of significance and impacts would be potentially significant.

Table 4.6-2
Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions (Metric Tons CO_2e)
Project Construction	83 MT CO_2e/year
Project Operational *Area* *Energy* *Solid Waste* *Water*	 < 0.1 MT CO_2e/year 542 MT CO_2e/year 191 MT CO_2e/year 514 MT CO_2e/year
Project Mobile *CO_2 and CH_4* *N_2O*	 1,713 MT CO_2e/year 46 MT CO_2e/year
Total Emissions from Proposed Project	**3,089 MT CO_2e/year**

Source: Tables 2.1, 2.2 and 4.2 in CalEEMod annual worksheets, see Appendix F for calculations and for GHG emission factor assumptions.

Mitigation Measures. GHG emissions associated with the proposed project would exceed the 3,000 metric tons CO_2e per year threshold of significance. The following mitigation would be required to reduce emissions below threshold.

GHG-1 **Energy Efficiency in Excess of Title 24.** Future development on the project site shall exceed adopted Title 24 energy requirements by a minimum of 15 percent through implementation of energy reduction measures, which may include (but would not be limited to):

- *Use locally made building materials for construction of the project and associated infrastructure when such materials are locally available;*
- *Use of materials which are resource efficient, recyclable, with long life cycles;*
- *Install energy-reducing shading mechanisms for windows, porches, patios, walkways, etc.;*
- *Install energy reducing day lighting systems (e.g. skylights, light shelves, transom windows);*
- *Use tankless water heaters or solar water heaters;*
- *Use low-energy parking lot lights (i.e. sodium); and*
- *Use of light colored water-based paint and roofing materials.*

The project applicant shall submit calculations and analysis from qualified Title 24 consultant that documents the 15 percent reduction below current Title 24 standards for Planning Department review and approval. Prior to issuance of building permits, the applicant shall provide site/design plans for the Planning Department staff's review and approval, which shall incorporate the above-referenced energy efficiency measures into design plans.

GHG-2 **Water-Saving Measures.** On-site development shall include low flow fixtures for all faucets, toilets, and showers. All landscaping on the project site shall utilize water-efficient irrigation systems (such as soil moisture-based irrigation controls), to achieve a minimum 6.1 percent reduction in landscaping water demand as compared to baseline water demand (without the use of water-efficient irrigation systems). In addition, all outdoor applications shall utilize reclaimed water.

Prior to issuance of building permits, the applicant shall provide site/design/landscape plans for the Planning Department staff's review and approval, which shall incorporate the above-referenced water-saving measures into design and landscape plans, and demonstrate the required 6.1 reduction in landscaping water demand.

Significance after Mitigation. As shown in Table 4.6-3, implementation of Mitigation Measures GHG-1 and GHG-2 would reduce CO_2e emissions to 2,970 pounds per day. The impact would be less than significant with mitigation incorporated.

Table 4.6-3
Combined Mitigated Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions (Metric Tons CO_2e)
Project Construction	83 MT CO_2e/year
Project Operational *Area* *Energy* *Solid Waste* *Water*	 < 0.1 MT CO_2e/year 526 MT CO_2e/year 191 MT CO_2e/year 411 MT CO_2e/year
Project Mobile *CO_2 and CH_4* *N_2O*	 1,713 MT CO_2e/year 46 MT CO_2e/year
Total Emissions from Proposed Project	**2,970 MT CO_2e/year**

Source: Tables 2.1, 2.2 and 4.2 in CalEEMod annual worksheets, see Appendix F for calculations and for GHG emission factor assumptions.

Impact AQ-7 **The proposed project is consistent with applicable plans and policies adopted for the purpose of reducing GHG emissions, including SB 375, the WRCOG Subregional Climate Action Plan, and the Eastvale General Plan. Impacts would be *less than significant*.**

The City of Eastvale's General Plan (2012) includes an Air Quality and Conservation chapter that addresses climate change and greenhouse gas emissions. Table 4.6- shows the proposed project's consistency with applicable measures. As shown, the proposed project would be

consistent with the General Plan's Air Quality and Conservation chapter and its goals and policies.

Table 4.6-4
Consistency with Applicable Air Quality and Conservation Chapter Goals

Measure	Project Consistency
• Policy AQ-18: Support local, regional, and statewide efforts to reduce emissions of greenhouse gases linked to climate change.	Consistent. With implementation of energy- and water-saving measures described in Mitigation Measures GHG-1 and GHG-2, the proposed project would not exceed the greenhouse gas emission thresholds designed to reduce GHG emissions.
• Policy AQ-19: Analyze and mitigate, to the extent feasible, potentially significant increases in greenhouse gas emissions during project review, pursuant to the California Environmental Quality Act.	Consistent. This EIR has analyzed the greenhouse gas emissions that would occur as a result of the proposed project and determined that implementation of the energy- and water-saving measures described in Mitigation Measures GHG-1 and GHG-2 would reduce GHG emissions below applicable significance thresholds.
• Policy AQ-20: Continue to support the planting and maintenance of trees in the community to increase carbon sequestration.	Consistent. The proposed project includes landscaping, such as trees, that would increase carbon sequestration.
• Policy AQ-29: Undertake proper maintenance of the City's physical facilities to ensure that optimum energy conservation is achieved.	Consistent. The proposed project includes stormwater infrastructure improvements that would increase City infrastructure and increase its efficiency.

Senate Bill 375, signed in August 2008, requires the inclusion of sustainable communities' strategies (SCS) in regional transportation plans (RTPs) for the purpose of reducing GHG emissions. SCAG's RTP/SCS includes a commitment to reduce emissions from transportation sources by promoting compact and infill development to comply with SB 375. A goal of the SCS is to "promote the development of better places to live and work through measures that encourage more compact development, varied housing options, bike and pedestrian improvements, and efficient transportation infrastructure." The proposed project would be an industrial warehouse development located adjacent to existing industrial development. It would be located adjacent to I-15, which would promote efficient transportation, as large trucks could easily access the site. Therefore, the project would be consistent with SB 375.

The SCS acknowledges the importance of warehouses in the region: "regional warehouse and distribution facilities may provide value added services. The abundance of warehousing and distribution facilities, along with the highly developed highway and rail network, serves as a competitive advantage for the SCAG region by attracting transloading activities that supply numerous local and regional jobs and revenue. Trucking access is particularly critical to warehousing and logistics businesses…" The SCS also states that "By 2035, the region may experience a shortfall of more than 228 million square feet in warehouse space relative to demand." The proposed project would help to alleviate this potential shortfall.

In June 2014, WRCOG completed a Subregional Climate Action Plan for Western Riverside County that addresses statewide legislation for sustainability through the preparation of GHG

inventories and strategies to reduce emissions. Table 4.6-5 shows the proposed project's consistency with applicable reduction measures from the Subregional Climate Action Plan. As shown, the proposed project would be consistent with applicable Subregional Climate Action Plan measures.

Table 4.6-5
Consistency with WRCOG Subregional Climate Action Plan Reduction Measures

Measure	Project Consistency
• Measure E-1: Improve municipal and community-wide energy efficiency and reduce energy consumption through the adoption of local Energy Action Plans.	Consistent. With implementation of energy- and water-saving measures described in Mitigation Measures GHG-1 and GHG-2, the proposed project would reduce the amount of energy used (including energy associated with conveyance of water) below levels required by existing state energy- and water-efficiency measures.
• Measure E-3: Strategically plant trees to reduce the urban heat island effect.	Consistent. The proposed project includes landscaping, such as trees, that would increase carbon sequestration.

The proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and would be consistent with the City of Eastvale General Plan Air Quality and Conservation Chapter, the WRCOG Subregional Climate Action Plan, and the objectives of the RTP/SCS, AB 32, SB 97, and SB 375. Impacts would be less than significant.

Mitigation Measures. None required.

Significance after Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Emissions associated with the proposed project were found to be less than significant under Impact GHG-1. Analysis of GHG-related impacts is cumulative in nature as climate change is related to the accumulation of GHGs in the global atmosphere. Although cumulative increases in atmospheric GHGs associated with planned and pending projects listed in Table 3-1 in Section 3.0, *Environmental Setting*, may be significant, the proposed project's contribution to cumulative levels of GHGs is not considered considerable since, with mitigation, emissions associated with the project would not exceed quantitative thresholds and proposed development would comply with and implement applicable plans and policies pertaining to GHG reduction.

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4.7 HAZARDS AND HAZARDOUS MATERIALS

This section analyzes potential impacts resulting from the transport, use, or disposal of hazardous materials and the potential for project development to 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. The information provided below is in part from the Phase I Environmental Site Assessment (ESA) prepared for the project site in October, 2011 (see Appendix G).

4.7.1 Setting

a. Existing Conditions. Improper use, storage, transport, and disposal of hazardous materials and waste may result in harm to humans, surface and groundwater degradation, air pollution, fire, and explosion. The risk of hazardous materials exposure can come from a range of sources. These may include institutional uses, commercial/industrial uses, hazardous materials transport, abandoned industrial sites (commonly known as brownfields) and household uses. Each potential source of hazardous material exposure within the project site is described below.

Historical Uses. Per the historical records reviewed as part of the Phase I ESA, the project site (APN 106-020-027) and adjacent properties were part of the Van Diest Dairy from the mid 1950's through the early 1980s and used for agricultural purposes. The main dairy structures were located on the western portion of the dairy, on the current W.W. Grainger, Inc. warehouse property adjacent to Hamner Avenue west of the project site. A series of three ponds were located along the western property boundary. One pond was located in the general vicinity of the off-site detention basin constructed for the W.W. Grainger project on an adjacent parcel near the southwest corner of the site. The Phase I ESA found no evidence of recognized environmental conditions (RECs), historical RECs (HRECs), or *de minimis* conditions in connection with the project site and recommends no further environmental investigation at the site at this time (URS Corporation, 2011).

Summary of Previous Studies. In December 1995, Hygienetics Environmental Services, Inc. (HES) prepared a Phase I ESA, Phase II soil and groundwater investigation, and geophysical survey for the former dairy farm (67-acre property) located at 4680 and 4740 Hamner Avenue, which included the project site and the adjacent W.W. Grainger facility (4700 Hamner Avenue) located to the west. Data in the 1995 reports was summarized in the 2011 Phase I ESA.

The project site was formerly occupied by two man-made ponds (located along the western and southern boundaries of the former dairy farm) and a field at the time the dairy farm was in operation. At the time that the HES studies were conducted in 1995, the entire 67-acre former dairy farm property was developed with a residential structure and an abandoned milking barn along Hamner Road on the west side of the 67-acre property. Two water wells and two aboveground storage tanks (ASTs) (presumed to store water) were also located adjacent to the milking barn. These structures were removed as part of the W.W. Grainger warehouse development in 2001. The remainder of the dairy, including the project site, consisted of loose soil and weeds.

As part of the 1995 Phase II investigation, HES advanced 23 soil borings to depths ranging from 20 to 95 feet below ground surface (bgs) on the former dairy property. Fourteen of the 23 borings were advanced on the project site, which included borings BH 1, 2, 3, 4, 7, 8, 9, 14, 15, 16, 17, 21, 23, and 24. Semi-volatile organic compounds (SVOCs), polychlorinated biphenyl (PCBs), and pesticides were not detected in the soil samples collected onsite. Four volatile organic compounds (VOCs) (acetone, methylene chloride, toluene, and total xylenes), metals, and cyanide were detected in various soil samples collected onsite. HES calculated attenuation factors for each of the compounds detected. Based on these calculations, HES concluded that the concentrations of VOCs, metals, and cyanide were below the Regional Water Quality Control Board (RWQCB) attenuation standards; and therefore, were not an environmental concern. Upon review of the data, URS concluded that the VOCs detected represent laboratory or equipment contaminants as the VOCs were detected in almost every sample and the presence of VOCs throughout the dairy farm is highly unlikely. The metals detected represent commonly found metals in California soils. One of the borings was drilled to approximately 95 feet in an attempt to sample groundwater; however, no groundwater was encountered and, as a result, no groundwater samples were collected at this location.

Because an active water well was drawing water from the first encountered aquifer beneath the former dairy farm, HES sampled the agricultural well (located adjacent to the project site). The water was sampled and analyzed for VOCs, SVOCs, California Code of Regulations (CCR Title 22 Metals, PCBs, pesticides, cyanide, and nitrates. Pollutants were not detected above drinking water standards, with the exception of nitrate at 17 parts per million (ppm).

The 1995 HES studies did not recommend further study of the property. URS concurred with this recommendation in its 2011 Phase I ESA. The property containing the well was developed in 2001 with the W.W. Grainger warehouse facility. The project site does not contain wells and is supplied with water from the public water supply, which meets all federal and local drinking water standards.

b. Regulatory Setting. Federal, state, and/or local government laws define hazardous materials as substances that are toxic, flammable/ignitable, reactive, or corrosive. Extremely hazardous materials are substances that show high or chronic toxicity, carcinogenic or bio-accumulative properties, and/or persistence in the environment, or that are water reactive. Hazardous materials impacts are normally a result of project-related activities disturbing or otherwise encountering such materials in subsurface soils or groundwater during site grading or dewatering.

Federal Regulations. Several federal agencies regulate hazardous materials. These include the United States Environmental Protection Agency (USEPA), the Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Applicable federal regulations are contained primarily in Titles 10, 29, 40, and 49 of the Code of Federal Regulations (CFR). In particular, Title 49 of the CFR governs the manufacture of packaging and transport containers, packing and repacking, labeling, and the marking of hazardous material for transport. Federal laws are as follows:

- *Resource Conservation and Recovery Act (RCRA) – hazardous waste management*
- *Hazardous and Solid Waste Amendments Act (HSWA) – hazardous waste management*

- *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – cleanup of contamination*
- *Superfund Amendments and Reauthorization Act (SARA) – cleanup of contamination*
- *Emergency Planning and Community Right-to-Know (SARA Title III) – business inventories and emergency response planning*

The USEPA is the federal agency primarily responsible for implementation and enforcement of federal hazardous materials regulations. In many cases, enforcement of environmental laws and regulations established at the federal level is delegated to state and local environmental regulatory agencies.

State Regulations. Primary state agencies with jurisdiction over hazardous chemical materials management are the Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). The enforcement agencies for hazardous materials transportation regulations are the California Highway Patrol (CHP) and Caltrans. Hazardous materials and waste transporters are responsible for complying with all applicable packaging, labeling, and shipping regulations. Hazardous chemical and biohazardous materials management laws in California include the following statutes:

- *Hazardous Materials Management Act – business plan reporting*
- *Hazardous Waste Control Act – hazardous waste management*
- *Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop 65) – releases of and exposure to carcinogenic chemicals*
- *Hazardous Substances Act – cleanup of contamination*
- *Hazardous Waste Management Planning and Facility Siting (Tanner Act)*
- *Hazardous Materials Storage and Emergency Response*
- *California Medical Waste Management Act – medical and biohazardous wastes*

State regulations and agencies related to hazardous materials management and worker safety are described below.

California Environmental Protection Agency. The California EPA (Cal EPA) has broad jurisdiction over hazardous materials management in the state. Within Cal EPA, the DTSC has primary regulatory responsibility for hazardous waste management and cleanup. The enforcement of regulations has been delegated to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law.

Along with the DTSC, the RWQCB is responsible for implementing regulations pertaining to management of soil and groundwater investigation and cleanup. RWQCB regulations are contained in Title 27 of the California Code of Regulations (CCR). Additional state regulations applicable to hazardous materials are contained in Title 22 of the CCR. Title 26 of the CCR is a compilation of those sections or titles of the CCR that are applicable to hazardous materials.

California Fire Code. The California Fire Code (CFC) is contained in CCR Title 24, Chapter 9. It was created by the California Building Standards Commission based on the International Fire Code created by the International Code Council. The CFC is the primary means for

authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The CFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code (CBC) use a hazard classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separation from property lines, and specialized equipment. To ensure that these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every three years.

California's Hazardous Materials Release Response Plans and Inventory Law. California's Hazardous Materials Release Response Plans and Inventory Law, sometimes called the "Business Plan Act," is intended to minimize the potential for accidents involving hazardous materials and facilitate an appropriate response to possible hazardous materials emergencies. The State requires businesses that use hazardous materials to provide inventories of those materials to designated emergency response agencies. Further, the user must provide an illustration showing where the materials are stored on site, prepare an emergency response plan and train employees to use the materials safely. The law requires the owner or operator of any business that handles hazardous materials in quantities equal to or greater than 55 gallons, 500 pounds, or 200 cubic feet of gas at standard temperature and pressure to submit a business plan.

City of Eastvale General Plan. Chapter 12 of the General Plan contains policies related to hazards and hazardous materials applicable to the proposed project. It is unknown whether hazardous materials would be stored at the site; however, the proposed project would be required to meet the intent of each policy.

Policy S-8 Development using, storing, or otherwise involved with substantial quantities of onsite hazardous materials shall not be permitted, unless all standards for evaluation, anchoring, and flood-proofing have been satisfied, and hazardous materials are stored in watertight containers, not capable of floating, to the extent required by state and federal laws and regulations.

Action S-8.1 Enforce provisions of the Building Code as it relates to flooding and hazardous materials. Specific flood-proofing measures may require use of paints, membranes, or mortar to reduce water seepage through walls; installation of watertight doors, bulkheads, and shutters; installation of floodwater pumps in structures; and proper modification and protection of all electrical equipment, circuits, and appliances so that the risk of electrocution or fire is eliminated. However, fully enclosed areas that are below finished floors shall require openings to equalize the forces on both sides of the walls.

Policy S-12 The City will work with responsible agencies to identify and prevent potential hazardous waste releases.

Policy S-13 The City will regulate the storage of hazardous materials consistent with state and federal law. The City shall not permit above- or below-ground

tanks without considering the potential hazards that would result from the release of stored liquids *caused by rupture, collapse, or leaks, and may request applicants to have an emergency response plan.*

Policy S-14 The City will work with responsible agencies to ensure that all industrial facilities are constructed and operated in accordance with the most current safety and environmental protection standards.

Action S-14.1 The City shall require commercial businesses, utilities, and industrial facilities that handle hazardous materials to:

- *Install automatic fire and hazardous materials detection, reporting, and shut-off devices; and*
- *Install an alternative communication system in the event power is out or telephone service is saturated following an earthquake.*

Policy S-15 The City will coordinate with all appropriate local, county, state, and federal agencies in hazardous materials route planning, notifications, and incident response to ensure appropriate first response to hazardous material incidents.

Riverside County Certified Unified Program Agency. Pursuant to SB 1082 (1993), the State of California has adopted regulations to consolidate six hazardous materials management programs under a single, local agency. As the Riverside County Certified Unified Program Agency (CUPA), the Riverside County Department of Environmental Health (DEH) has jurisdiction in the City of Eastvale. Serving as the CUPA, the DEH conducts inspections of businesses that handle hazardous materials, generate hazardous waste, treat hazardous waste and/or maintain underground storage tanks. The CUPA administers the following programs:

- *Above Ground Storage Tanks Program*
- *Hazardous Materials Disclosure Program*
- *California Accidental Release Prevention Program (Cal-ARP)*
- *Emergency Response Team*
- *Underground Storage Tanks Program*
- *Hazardous Waste Generator Program*
- *Hazardous Waste Tiered Permitting*

The Riverside County DEH also provides emergency response services for hazardous materials incidents within Eastvale. However, depending on the situation and location of a hazardous waste incident, agencies including Riverside County Fire Department would also help provide emergency response.

4.7.2 Impact Analysis

a. Methodology and Thresholds of Significance. This analysis is based on review of the Phase I ESA (October 2011) conducted for the main project site to assess the potential presence

of hazardous materials and contamination sources within the project site. For the purpose of this analysis, a significant impact would occur if the proposed project would:

1. *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;*
2. *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;*
3. *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school;*

As referenced in *Environmental Effects Found Not to be Significant*, the proposed project would not be located on a site included on a list of hazardous material sites pursuant to Government Code Section 65962.5. Further, the project , be located within ¼ mile of a school, result in a hazard from a public airport or private airstrip within two miles of the project site, conflict with an adopted emergency response plan, or expose people or structures to a significant risk involving wildfire. Potential impacts under these criteria are determined to be less than significant; and thus, are not discussed herein. The analysis that follows focuses on the remaining impact criteria listed above.

b. Project Impacts and Mitigation Measures.

Impact HAZ-1 Operation of the proposed warehouse may involve the routine storage, transport, use or disposal of hazardous materials. Compliance with existing regulations would reduce potential impacts to *less than significant.*

Specific users of the proposed warehouse have not been identified; however, it is possible that the warehouse may store and/or transport hazardous materials. These materials would not be used or disposed of onsite except for small amounts required for cleaning and landscaping. Because specific users are unknown at this time, estimating the type and quantity of material(s) would be speculative.

If hazardous materials were stored onsite, compliance with federal, state and local regulations, standards, and guidelines related to storage, use, and disposal of hazardous materials would be required. Both the federal and state governments require all businesses that handle more than a specified amount of hazardous materials to submit a hazardous material business plan (HMBP) to a regulating agency. In this case, the Riverside County Department of Environmental Health would be the regulating agency.

Specifically, the State requires an owner or operator of a facility to complete and submit a HMBP if the facility handles a hazardous material or mixture containing a hazardous material that has a quantity at any one time during the reporting year equal or greater than:

- *55 gallons, 500 pounds, or 200 cubic feet at standard temperature and pressure for a compressed gas.*
- *The applicable federal threshold planning quantity (TPQ) for an extremely hazardous substance (EHS) listed in Appendix A, Part 355, Title 40, of the Code of Federal Regulations.*

- *Amounts of radioactive materials requiring an emergency plan pursuant to Parts 30, 40, or 70 of Chapter 1 of Title 10 of the Code of Federal Regulations.*

The federal government requires owners and operators of a facility to complete and submit an emergency and hazardous chemical inventory form annually, known as the Tier II form, if the facility has at a minimum of:

- *500 pounds (or 227 kilograms --- approximately 55 gallons) or applicable federal threshold quantities for extremely hazardous substances listed in 40 CFR Part 355, Appendix A and B and hazardous chemicals, whichever is lower*
- *10,000 pounds of a hazardous chemical that is not an extremely hazardous substance*
- *75,000 gallons of gasoline*
- *100,000 gallons of diesel. (Goodman Commerce Center EIR, 2013)*

If future project occupants were to store hazardous materials and meet the criteria specified above, the owner/tenant would be required to submit a full hazardous materials disclosure report that includes an inventory of the hazardous materials generated, used, stored, handled, or emitted. In addition, an emergency response plan containing procedures to be implemented in the event of a significant or threatened significant release of a hazardous material would be required. The emergency response plan would need to include the following: procedures to follow for immediate notification to all appropriate agencies and personnel in the event of a release, identification of local emergency medical assistance appropriate for potential accident scenarios, contact information for all company emergency coordinators for the business, a listing and location of emergency equipment at the business, an evacuation plan and a training program for business personnel.

The project site is in an industrial warehousing area. No uses such as residences or schools normally considered sensitive the hazardous material concerns occur in proximity to the site. Compliance with applicable federal, state, and local regulations related to the handling and storage of hazardous materials, the risk of impact to the public associated with the transport, storage and use of hazardous materials at the proposed project site, would be less than significant.

Mitigation Measures. None required. Mitigation beyond adherence to existing regulatory requirements is not needed.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact HAZ-2 Operation of the project may involve the routine transport of hazardous materials that could cause a hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. However, compliance with existing regulations would reduce potential impacts to *less than significant*.

The transport of hazardous materials can result in accidental spills, leaks, toxic releases, fire, or explosion. It is possible that licensed vendors could transport hazardous materials to and from the warehouse as a result of the proposed project. However, appropriate documentation for all hazardous waste that is transported would be provided as required for compliance with existing hazardous materials regulations codified in Titles 8, 22, and 26 of the CCR, and their enabling legislation set forth in Chapter 6.95 of the CHSC. Further, warehouse owners/tenants would be required to comply with all applicable Federal, State, and local laws and regulations pertaining to the transport, use, disposal, handling, and storage of hazardous waste. These include, but are not limited to, the United States Department of Transportation (DOT) Office of Hazardous Materials Safety Title 49 of the CFR, as implemented by Title 13 of the CCR, which prescribes strict regulations for the safe transport of hazardous materials. Compliance with the applicable federal and state laws related to the transportation of hazardous materials, would reduce the likelihood and severity of accidents during transit; therefore, impacts would be less that significant.

As referenced above, hazardous materials must be stored in designated areas designed to prevent accidental release to the environment. The California Fire Code (CFC) requirements prescribe storage requirements for materials that present a moderate explosion hazard, high fire or physical hazard, or health hazards. Compliance with applicable federal and state laws related to the storage of hazardous materials would maximize containment and facilitate clean-up should an accidental release occur. Impacts would be less than significant.

Mitigation Measures. None required. Mitigation beyond adherence to existing regulatory requirements is not needed.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Cumulative development in Eastvale and in proximity to the study area, as discussed in Section 3.0, *Environmental Setting.* Cumulative projects would add 6,082 residential units, 2,754,631 square feet of commercial and 4,452,100 square feet of industrial development to the Cities of Eastvale, Jurupa Valley and Ontario. The projects could have the potential to place people in areas with risk of accidents involving hazardous materials and health hazards associated with hazardous materials by developing and/or redeveloping areas that may have previously been contaminated. However, as analyzed in this section of the EIR, implementation of the proposed project would not result in significant impacts related to human exposure to hazardous materials. Further, the projects listed in Table 3-1, *Location and Description of Cumulative Projects,* do not include any nearby projects that would have the potential to produce significant hazards or hazardous materials impacts that would directly interact with those of the proposed project in a way that would produce a cumulatively significant impact. Hazard evaluations for all projects would need to be completed on a case-by-case basis. If lead or asbestos are found to be present in buildings planned for demolition or renovation, or in the case that soil and groundwater contamination were found to be present on sites of planned and future development, these conditions would require appropriate mitigation consistent with applicable local, state and federal regulations. Compliance with applicable regulations and implementation of appropriate remedial action on contaminated sites would reduce cumulative impacts to a less than significant level.

4.8 HYDROLOGY AND WATER QUALITY

This section analyzes the potential for the proposed project to adversely affect hydrology and water quality. This section is partially based on a Preliminary Water Quality Management Plan prepared for the project by Albert A. Webb Associates, October 13, 2104 (Appendix H).

4.8.1 Setting

a. Project Site Hydrology and Water Quality. The project site is located in the Chino Basin, which is within the Santa Ana River Watershed. Surface water on the project site naturally drains to the southwest toward the Santa Ana River upstream of the Prado Basin via the County Line Channel and Cucamonga Creek. Once discharged from the Prado Basin, water flows through the lower reaches of the Santa Ana River and ultimately into the Pacific Ocean. Surface water from upstream sources is detained in an existing Eastvale Master Drainage Plan (MDP) Line E-1 Detention Basin (Line E Basin) located adjacent to and north of the project site and SCE easement. Stormwater is then conveyed through the project site via an open channel to an outlet structure located at the southwest corner of the site. Existing stormwater infrastructure is part of the Eastvale MDP, and is tributary to Eastvale MDP Line E-1 (Line E-1) located within Bellegrave Avenue, approximately ½ mile south of the site. On-site flows currently percolate into the ground or are conveyed to an off-site detention basin located along the western site boundary on an adjacent parcel.

Surface Water Resources. The Santa Ana River is the primary surface water body within the Santa Ana Watershed and is regulated by the Santa Ana Regional Water Quality Control Board (SARWQCB). It conveys water approximately 69 miles from the San Bernardino Mountains to the Pacific Ocean through San Bernardino, Riverside, and Orange counties where it flows through the coastal plain to the Pacific Ocean, located approximately 40 miles southwest of the proposed project site. The SARWQCB has divided the Santa Ana River geographically into six reaches which vary in width, level of disturbance and reliability of water source. The project site is located approximately three miles north of Reach 3. No tributaries to the Santa Ana River are located on or in proximity to the project site.

The project site is located approximately 3.5 miles northeast of the Prado Basin, which is the largest wetland in southern California. The Prado Basin was formed as a result of the construction of the Prado Dam which provides water storage, conservation, groundwater recharge and flood control along the Santa Ana River corridor for Orange County. Within the Prado Basin, Orange County Water District manages approximately 465 acres of constructed wetlands.

Groundwater Resources. The project site is located over the Chino II Groundwater Subbasin which is part of the Upper Santa Ana River Valley Groundwater Basin, Chino Subbasin (Groundwater Basin Number: 8-2.01). This basin covers 240 square miles in the Upper Santa Ana River Watershed (Department of Water Resources, p. 1, January 2006). Groundwater in this zone predominantly flows in a southerly direction. Groundwater recharge occurs through direct percolation of precipitation, irrigation returns and subsurface inflows. Extraction primarily occurs through groundwater withdrawal and subsurface discharge into the Santa Ana River. The Chino Basin is one of the largest groundwater basins in southern California with

a storage capacity of 5,000,000 acre-feet of water and an unused storage capacity of about 1,000,000 acre-feet. Cities and other water supply entities produce groundwater for all or part of their municipal and industrial supplies and about 300 to 400 agricultural users extract groundwater from the Chino Basin.

Groundwater in portions of the Chino Basin exceeds California Environmental Protection Agency (Cal EPA) drinking water standards for nitrates and TDS and exceeds water quality objectives listed in the SARWQCB Basin Plan for these constituents. In particular, the Chino Groundwater Subbasin south of State Route 60 has elevated concentrations of Total Dissolved Solids (TDS) and nitrates (Chino Basin Watermaster, pp. 4-6 and 4-7, 2008). These contaminants are primarily the result of dairy farming that has historically occurred throughout the Chino Basin. Although the waste loading from dairy operations has decreased significantly, ground application of manure and processed wastewater to the ground in the Chino Basin has resulted in significant groundwater pollution, specifically TDS and nitrates as referenced above. (Santa Ana Regional Water Quality Control Board, p. D-4, 2007). Approximately 27,100 acre-feet per year of the Chino Basin groundwater containing elevated concentrations of nitrate and TDS are treated by ion exchange and reverse osmosis at the Chino I and Chino II Desalter to remove salts. These facilities are operated by the Chino Basin Desalter Authority (Jurupa Community Services District, Urban Water Management Plan, p. 49,). Treated groundwater from the Chino Basin is the primary source of potable water for the Jurupa Community Services District (see Section 4.14, *Utilities and Service Systems*), the water purveyor for the City of Eastvale.

b. Surface Drainage. The site gradually slopes and drains to the south toward Cantu Galleano Rancho Road. As referenced, an existing open channel conveys stormwater across the site from the detention basin to the north to an off-site basin located southwest of the site where it is conveyed under Cantu-Galleano Ranch Road. On-site surface flows are conveyed off-site to the existing basin and an existing MS4 facility and Eastvale MDP Line E-1 Bellegrave Avenue eventually reaching the Prado Basin.

c. Flood Hazard Zones and Dam Inundation. Potential flood hazards may result from overflow of natural watercourses and man-made drainage systems due to excessive and unusual storm run-off. Per the Federal Emergency Management Agency (FEMA) Map 06065C0018G, the site is located in Zone X , which is an area with a 0.2 percent annual chance of flood, and is not within the 100-year flood zone. As noted above, the site is upstream of the Prado Basin flood control facility**.** There are no dams or reservoirs in proximity to the project site.

d. Regulatory Setting.

Federal.

Clean Water Act. The federal Water Pollution Control Act, also known as the Clean Water Act (CWA), is the principle statute governing water quality. The statute's goal is to end all discharges entirely and to restore, maintain, and preserve the integrity of the nation's waters. It mandates permits for wastewater and stormwater discharges, requires states to establish site-specific water quality standards for navigable bodies of water, and regulates other activities that affect water quality, such as dredging and filling wetlands.

Water quality standards mandated by the CWA consist of four basic elements:

- *Designated uses of the water body (e.g., recreation, water supply, aquatic life, agriculture);*
- *Water quality criteria to protect designated uses (numeric pollutant concentrations and narrative requirements);*
- *An anti-degradation policy to maintain and protect existing uses and high quality waters; and*
- *General policies addressing implementation issues (e.g., low flows, variances, mixing zones).*

Water quality regulation requires states and tribes to establish a three-tiered anti-degradation program. Anti-degradation implementation procedures identify the steps and questions that must be addressed when regulated activities are proposed that may affect water quality. The specific steps to be followed depend upon which tier or tiers of the anti-degradation program apply.

For stormwater discharges into an existing waterway, water quality control is governed by a National Pollutant Discharge Elimination System (NPDES) Permit. The major CWA section that applies to activities potentially occurring as part of onsite development is NPDES Section 402. Section 402 (33 U.S.C. 1342 and 40 CFR 122) establishes a permitting system for the discharge of any pollutant (except dredge and fill material) into waters of the United States. An NPDES permit is required for all point source discharges of pollutants to surface waters. A point source is a discernible, confined, and discrete conveyance, such as a pipe, ditch, or channel.

The major purpose of the NPDES program is to protect human health and the environment by protecting the quality of water. California's primary statute governing water quality and water pollution is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) broad powers to protect water quality and is the primary vehicle for implementation of California's responsibility under the federal CWA. The Porter- Cologne Act grants the SWRCB and RWQCBs the authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. Each regional board is required to adopt a water quality control plan or basin plan that reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water quality conditions and problems. The boards implement the permit provisions (Section 402) and certain planning provisions (Sections 205, 208, and 303) of the CWA. This means that the state issues one discharge permit for purposes of both state and federal law. Under state law, the permit is officially called Waste Discharge Requirement. Under federal law, the permit is officially called an NPDES General Permit.

As the basic federal regulatory and enforcement tool under the CWA, the NPDES program incorporates specific discharge limitations to ensure that water quality standards are met for stormwater discharges from municipal storm sewer systems (MS4s) and industrial sites. The NPDES program was established by the Environmental Protection Agency (EPA). Congress amended the CWA in 1987 to require the implementation of a two-phased program to address other stormwater discharges. Phase I, established by EPA in November 1990, requires NPDES permits for stormwater discharges from construction sites disturbing greater than five acres of land. Subsequently, the EPA instituted NPDES Phase II in December 1999 with the regulations

becoming effective in February 2000. Phase II requires NPDES permits for stormwater discharges from construction sites disturbing between one and five acres of land.

The Phase II NPDES Program is intended to reduce adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation. Stormwater discharges from urbanized areas are a concern because of the high concentration of pollutants found in these discharges.

The Construction General Permit was updated on July 1, 2010. Two new elements were included in the new CGP. First, a Stormwater Pollution Prevention Plan (SWPPP) must be written, amended, and certified by a *Qualified SWPPP Developer* (QSD). Second, construction projects will be assigned a *Risk Level* (Risk Level 1 – 3) based on site characteristics for erosion potential, threat to "receiving waters," and the time of year that the project activity would occur. The project Risk Level determines compliance requirements set forth in the permit.

Concentrated development in urbanized areas substantially increases impervious surfaces, such as city streets, driveways, parking lots, and sidewalks, on which pollutants from human activities settle and remain until a storm event washes them into nearby storm drains. Common pollutants may include sediment, nutrients, bacteria and viruses, oil and grease, organic compounds, and gross pollutants such as trash. Stormwater runoff picks up, transports, and discharges these pollutants, untreated, to waterways via storm drain systems. These discharges can result in the loss of wildlife habitat, reduced aesthetic value, and contamination of recreational waterways that can threaten public health.

The CWA requires that states submit plans to the EPA, defining water quality standards in order to achieve designated beneficial uses. States designate uses for all water body segments and then set water quality criteria necessary to protect these uses. In addition, each state identifies waters failing to meet standards for specific pollutants. If the state determines that waters are impaired for one or more constituents, and the standards cannot be met through point source controls, the CWA requires establishing Total Maximum Daily Loads (TMDLs) that will achieve applicable standards. TMDLs represent the allowable pollutant load from all sources (point, non-point, and natural) for a given watershed.

The Safe Drinking Water Act (SDWA) was established in 1974 to protect the quality of drinking water in the U.S. This law focuses on all waters actually or potentially designated for drinking use, whether from above ground or underground sources. It establishes maximum contaminant levels (MCLs) for a broad range of chemical compounds and other constituents (approximately 86 constituents in water) deemed hazardous to human health. Primary MCLs are health-based and Secondary MCLs are related to aesthetic qualities of water, such as taste and appearance. As such, MCLs form the basis of drinking water quality regulations.

State.

Porter Cologne Act. In addition to standards and regulations established by the federal program, California adopted other more stringent legislative acts to further strengthen state water quality standards. These acts include the Porter-Cologne Water Quality Act, California

Water Code, Title 23 of the California Code of Regulations, and the California Oceans Plan. Within California, the State Water Resources Control Board (SWRCB) is responsible for developing and implementing water quality control policy. SWRCB is the agency designated by the EPA for administering applicable Federal CWA program, which include adopting water quality standards for state waters. Nine Regional Water Quality Control Boards (RWQCBs) administer these federal programs, including NPDES compliance. The Santa Ana Regional Water Quality Control Board (SARWQCB) oversees water quality permitting in the City of Eastvale. While federal regulations allow two permitting options for stormwater discharges (individual permits and General Permits), the SWRCB has elected to adopt only one statewide General Permit that applies to all stormwater discharges associated with construction activity, except from those on Tribal Lands, in the Lake Tahoe Hydrologic Unit, and those performed by the California Department of Transportation (Caltrans). This General Permit requires all dischargers where construction activity disturbs one acre or more to:

1. *Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off-site into receiving waters.*
2. *Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation.*
3. *Perform inspections of all BMPs.*

<u>Regional</u>.

Santa Ana Regional Water Quality Control Board. Water quality in this region is regulated under the jurisdiction of the Santa Ana Regional Water Quality Control Board (SARWQCB) Region 8. The SARWQCB Basin Plan (Basin Plan) establishes water quality standards for all the ground and surface waters of the region. The Santa Ana Region includes the upper and lower Santa Ana River watersheds, the San Jacinto River watershed, and several other small drainages. The Basin Plan sets forth water quality objectives for constituents that could potentially cause an adverse effect or impact on the beneficial uses of water. Specifically, the Basin Plan is designed to accomplish the following:

- *Designate beneficial uses for surface and groundwaters;*
- *Set the narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy;*
- *Describe implementation programs to protect the beneficial uses of all waters within the region; and*
- *Describe surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan.*

The Basin Plan incorporates by reference all applicable SWRCB and RWQCB plans and policies.

Water Quality Management Plan. Water Quality Management Plans (WQMP) are required to address the quality of storm water or urban runoff that flows from a developed site after construction is completed and the facilities or structures are occupied and/or operational. A project-specific WQMP describes the BMPs that would be implemented and maintained throughout the life of a project and is used by property owners, facility operators, tenants,

facility employees, maintenance contractors, etc. to prevent and minimize water pollution that can be caused by storm water or urban runoff. The City requires WQMP's be prepared and implemented as part of a federal and state regulatory program to reduce and eliminate water pollution caused by runoff flowing from storm water drainage systems into receiving waters for projects that disturb more than one acre. The applicant has prepared a Preliminary WQMP (October, 2014) which was submitted with the development application. Approval of a final WQMP would be required prior to issuance of building and grading permits for the project.

Local.

City of Eastvale General Plan. Policies related to hydrology/water quality that are applicable to land development projects are provided in Chapters 7 and 12 of the General Plan. The proposed project meets each of the following policies applicable to the proposed project as identified in Section 4.9, Table 4.9-1, Project Consistency with General Plan Policies:

Policy AQ-22: The City encourages the decrease of stormwater runoff by reducing pavement in development areas, and by design practices such as permeable parking bays and porous parking lots with bermed storage areas for rainwater detention.

Policy AQ-23: The City encourages native, drought-resistant landscape planting.

Policy AQ-24 Support and engage in educational outreach programs with other agencies that promote water conservation and widespread use of water-saving technologies.

Policy AQ-25 Minimize pollutant discharge into storm drainage systems, natural drainages, and aquifers.

4.8.2 Impact Analysis.

a. Methodology and Significance Thresholds. To analyze hydrological conditions on the project site, hydrological information was collected from the Eastvale General Plan, the Gooman Commerce Center EIR, hydrology and water quality maps, the Santa Ana Regional Water Quality Control Board, and the October 2014 Preliminary WQMP prepared for the project. Information was compared to CEQA thresholds to determine impacts related to flooding, surface water quantity and quality, and ground water quantity and quality.

In accordance with Appendix G of the *CEQA Guidelines*, on-site development would have a significant hydrology/water quality impact if it would cause any of the following:

1. *Violate any water quality standards or waste discharge requirements*
2. *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering or the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)*

3. *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 or siltation on- or off-site*
4. *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 in a manner which would result in flooding on- or off-site*
5. *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff*
6. *Otherwise substantially degrade water quality*

The following topics were determined to have no impact or a less than significant impact as discussed in *Environmental Effects Found Not to Be Significant*. These topics are not further discussed in this EIR.

1. *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*
2. *Place within a 100-year flood hazard area structures which would impede or redirect flood flows*
3. *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*
4. *Result in inundation by seiche, tsunami, or mudflow*

The project would not develop housing; thus, no housing would be placed in a 100-year flood hazard area. Further, the site is not located in a 100-year flood hazard area; thus, the project would not impede or redirect flood flows or expose people or structures to flooding. The site is not located within a dam inundation zone or in an area protected by a levee (City of Eastvale General Plan EIR, 2012). There are no bodies of water in proximity to the site that could impact the site through a seiche. Similarly, conditions favorable to a tsunami or mudflow do not occur on or in proximity to the site.

b. Project Impacts and Mitigation Measures.

Impact HWQ-1 During project grading and construction and long-term operation of the project, the soil surface would be subject to erosion and the downstream watershed could be subject to temporary sedimentation and discharges of various pollutants. However, features have been incorporated into the project to minimize these effects and the project would be required to comply with the NPDES General Construction Permit, which would result in a *less than significant impact*.

Grading during construction of the project would alter existing drainage conditions and alter existing patterns of surface flow within the grading envelope. Grading and other construction activities have the potential to generate soil erosion and increase sediment loads in stormwater

runoff. Also, spills, leakage, or improper handling and storage of substances, such as oils, fuels, chemicals, metals, and other substances from vehicles, equipment, and materials used during the construction could cause pollutants to be present in stormwater runoff and impact downstream water bodies.

Dischargers disturbing one acre or more are required to develop and implement a Stormwater Pollution Prevention Plan (SWPPP) under the Construction General Permit, 2009-0009-DWQ Permit, adopted by the State Water Resources Control Board (SWRCB), effective July 1, 2010. The SWPPP specifies BMPs that would prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off-site into receiving waters; eliminate or reduce non stormwater discharges to storm sewer systems and other waters of the nation; and implement a monitoring program that incorporates procedures to determine whether BMPs are effectively protecting on and off-site water quality.

Further, the City would be required to complete and submit a SWPPP to the Santa Ana RWQCB in addition to a providing a Notice of Intent (NOI) to comply with the state construction activity storm water permit. Determination of compliance requirements is made by a Qualified SWPPP Developer (QSD). The QSD must be a:

- *Licensed Engineer, Geologist, or Landscape Architect with the State of California,*
- *Certified Hydrologist,*
- *Professional in Storm Water Quality (CPSWQ), or*
- *Certified Professional in Erosion and Sediment Control (CPESC).*

The QSD would evaluate the project and assign a Risk Level (Risk Level 1 – 3) based on site characteristics for erosion potential, threat to "receiving waters," and the time of year that the project activity would occur. The project Risk Level determines compliance requirements set forth in the permit. BMPs would be applied based on the Risk Level of the project and the site characteristics. Strategies to control the quality of runoff may include the following methods, depending on the site characteristics and the scope of the project.

- ***Erosion Control:*** *Measures that prevent erosion and keep soil particles from entering stormwater, lessening the eroded sediment that must be trapped, both during and at completion of construction. Feasible methods might include hydroseeding or using non-toxic soil binders.*
- ***Sediment Control:*** *Feasible methods of trapping eroded sediments so as to prevent a net increase in sediment load in stormwater discharges from the site. Strategies to reduce sediment loading might include the use of silt fences, hay bales, or sand bags around storm drain inlets.*
- ***Site Management:*** *Methods to manage the construction site and construction activities in a manner that prevents pollutants from entering stormwater, drainage systems or receiving waters. Strategies to maintain the construction site may include watering active construction areas two or more times per day to reduce airborne soil particles, sweeping adjacent streets to reduce soil tracked onto streets by construction vehicles, anti-tracking pads at site exits to prevent the offsite transport of materials, and pollutant containment areas for construction related equipment and processes that generate pollutants, such as construction staging areas.*
- ***Materials and Waste Management:*** *Methods to manage construction materials and wastes that prevent their entry into stormwater, drainage systems, or receiving waters. Feasible methods to manage materials and waste may include provision of designated recycling and disposal areas*

for general waste, construction waste and industrial wastes such as concrete dust, cutting slurry, motor oil and lubricants.

Proof of compliance with the General Permit, including the SWPPP and WQMP, would be required prior to the issuance of grading, building, or occupancy permits. Compliance with applicable requirements would reduce impacts related to stormwater quality during construction and long-term operation of the project to a less than significant level.

Mitigation Measures. None required. Mitigation beyond adherence to existing regulatory requirements is not needed.

Significance After Mitigation. Impacts would be less than significant with implementation of standard water quality control requirements.

Impact HWQ-2 The proposed project would modify the existing drainage pattern on the project site. Runoff would be captured and retained on-site rather than conveyed off-site. Stormwater runoff would not exceed the capacity of the off-site storm drain system. Therefore, impacts would be *less than significant.*

The proposed grading and storm drain system would alter surface flows within the development footprint. Stormwater within the project site would be collected and conveyed into either an above ground infiltration basin located near the southwest corner of the site (BMP A as referenced in the Preliminary WQMP) or an underground infiltration basin located near the northeast corner of the parking lot on the east side of the building near the northeast corner of the site (BMP B). BMP A has been designed to capture 32,151 cubic feet of runoff; BMP B has been designed to capture 39,970 cubic feet of runoff. As referenced in the Preliminary WQMP, the infiltration basins have been designed to retain runoff from 25.2 acres of impervious surface and 3.6 acres of landscaped area. These design volumes are based on capturing the 85th percentile of the 24-hour rainfall depth (0.87 inches) (Preliminary WQMP, 2014). Stormwater currently conveyed through the site from upstream sources would not be affected by the proposed project. Impacts related to stormwater quality during long-term operation of the project would be less than significant.

Mitigation Measures. None required. No significant impacts would be caused by stormwater flows generated on-site.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact HWQ-3 The proposed project would increase impervious surfaces on the site; however, all stormwater would captured and conveyed into on-site infiltration basins. Impacts would be *less than significant*.

The project site is unpaved and stormwater currently percolates into the soil or is conveyed to an off-site detention basin. In either case, groundwater recharge is not adversely affected by existing conditions. The proposed project would create 25.2 acres of impervious surface area

and 3.6 acres of landscaped area. Two stormwater infiltration basins would be constructed to retain all on-site flows allowing the water to percolate into the ground. With the exception of water absorbed by landscaping, the overall volume of water recharged through the infiltration basins would be similar to existing conditions. Any water conveyed off-site would enter the City of Eastvale MS4 system and eventually reach the Prado Basin located approximately 3.5 miles southwest of the site. The Prado Basin system is designed to recharge groundwater; thus, runoff from the project site would contribute to groundwater recharge. The project would not substantially interfere with groundwater recharge.

The project would be required to connect to the City of Eastvale system for potable water service. No groundwater would be directly withdrawn to support project requirements. Therefore, the project would not substantially deplete groundwater resources from groundwater withdrawals. Impacts would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. The project site is located within an urbanizing area. As shown in Table 3-1 in Section 3.0, *Environmental Setting*, Cumulative projects would add 6,082 residential units, 2,754,631 square feet of commercial and 4,452,100 square feet of industrial development to the Cities of Eastvale, Jurupa Valley and Ontario. All new development within the surrounding area could potentially increase the amount of surface water entering area drainages thereby increasing the potential for increased flood hazard risks to life and property, as well as increasing the potential for increased environmental and habitat impact. However, all new development that meet or exceeds the Stormwater Permit thresholds will be required to comply with current NPDES and MS4 requirements, which will help to reduce and slow the amount of stormwater runoff as a result of new development. Implementation of project-specific WQMPs and related BMPs will also help reduce the amount of pollution resulting from stormwater runoff for all new development and redevelopment projects. Hydrology and water quality issues affect individual sites and the region as a whole, and hazards present on one particular site could potentially add to or compound the hazards present on another site. However, compliance with, and enforcement of, applicable code requirements and the recommendations of site-specific hydrological evaluations performed for each project would help reduce the cumulative impacts relating to hydrological and water quality hazards to a less than significant level.

4.9 LAND USE AND PLANNING

This section analyzes the proposed project's consistency with relevant policies of applicable local and regional plans, including the City of Eastvale General Plan and Municipal Code, as well as a general land use compatibility discussion.

4.9.1 Setting

a. Citywide Land Use Patterns. The project site is located in the City of Eastvale, in northwestern Riverside County (refer to Figure 2-1, *Regional Location*, and Figure 2-2, *Aerial View of Project Site and Surrounding Uses*, both of which can be found in Section 2.0, *Project Description*). Eastvale is located adjacent to and west of the Interstate 15 corridor approximately 10 miles west of the City of Riverside and abuts the City of Ontario to the north, the City of Jurupa Valley to the east, the City of Norco to the south and the City of Chino to the west. The total area of the City is approximately 13.1 square miles. Developed or developable land comprises approximately 86%; 10% is set aside for conservation and 4% is designated as water use (City of Eastvale General Plan, 2012). The site is located within the Industrial Park zone; the overflow parking and secondary access would be located on the parcel to the north which is zoned Manufacturing Service-Commercial. The area located north of Cantu-Galleano Ranch Road between Hamner Avenue to the west and Interstate 5 to the east is designated for warehouse and manufacturing uses per the City of Eastvale General Plan and zoning code.

b. Site and Surrounding Land Uses. The project site is bordered by Cantu-Galleano Ranch Road to the south, I-15 to the east, the W.W. Grainger warehouse complex to the west and an existing Eastvale Master Drainage Plan Line E-1 Basin, SCE transmission line easement and warehouse development to the north and northwest. The majority of all project improvements would be focused on APN 160-020-033 (23.5 acres). The parcel is vacant with the exception of Riverside County Flood Control improvements located generally near the center of the site and extending to the southern boundary adjacent to California Department of Transportation right of way (ROW) to the terminus at an outflow structure located at the southwest corner of the site. The parcel located north/northwest of the project site (APN 156-050-025) is approximately 17.6 acres and partially developed with an existing warehouse and truck parking. An SCE transmission line easement is located on this parcel and generally parallels the boundary between the project site and APN 156-050-025. A 5.3-acre area on and in proximity to the SCE easement would accommodate overflow truck parking and a secondary site access roadway. A Riverside County Flood Control Line E-1 detention basin is located immediately north of the project site and would not be affected by project improvements. An existing off-site detention basin is located generally along the western site boundary on an adjacent parcel. This basin drains surface flows from the project site and surrounding property (see Figure 4.9-1, Aerial Site Map).

Uses immediately surrounding the site are light industrial. The I-15 freeway corridor borders the site to the east. The Goodman Commerce Center at Eastvale Specific Plan (Goodman Commerce Center) is proposed for a 205-acre site adjacent to project site on the south side of Cantu-Galleano Ranch Road. Residential uses are located approximately ½ mile south of the site south of Bellegrave Avenue. Commercial and light industrial uses are located west of Milliken Avenue west of the site. A stormwater

detention basin is located south of the site, south of Cantu-Galleano Road at the north end of the proposed Goodman Commerce Center site.

c. Regulatory Setting. The City of Eastvale regulates land use within the incorporated City boundaries through its General Plan and Municipal Code. These regulatory documents establish policies that apply citywide and to specific subareas within the City. The General Plan designates the project area as Light Industrial-Business Park. The site is currently zoned Business Park. The portions of the City of Eastvale Zoning Map covering the project site and its surroundings are shown in Figure 2-6, Section 2.0, *Project Description*.

General Plan. California requires that every city and county prepare a comprehensive General Plan that guides decision making and implementation related to land use, zoning, redevelopment, environmental justice, planning, and general decision making of the jurisdiction into the future. Future development of all land within the City is guided by the City of Eastvale General Plan, which was adopted on June 13, 2012. The General Plan provides the vision for the long-term development of Eastvale and is the official policy statement of the City for use by the City Council to guide private and public development in the City, as well as the City's own operations and decisions. The General Plan outlines comprehensive, long-term land use policies to guide development within the City. The General Plan was developed in accordance with State law and is comprised of the following chapters: Community Vision, Land Use, Circulation and Infrastructure, Design, Economic Development, Air Quality and Conservation, Healthy Community, Housing, Noise, Parks, Recreation and Open Space, Safety, and Sustainability. The General Plan designates the project site and surrounding properties Business Park. This designation is part of the overall Industrial designation and is defined as follows:

> *"The Business Park land use designation allows for employee-intensive uses, including research and development, technology centers, corporate and support office uses, "clean" industry, and supporting retail uses. Accessory uses also include day-care, public meeting rooms, and other community-oriented facilities."*

General Plan policies pertaining to the Industrial land use designation are as follows:

Policy LU-33: *The City shall protect lands designated for industrial development from encroachment of incompatible or sensitive uses, such as residences or schools that could be adversely impacted by industrial activity.*

Policy LU-34: *Industrial and business park uses should be located near transportation facilities and utilities, and near transit opportunities.*

Policy LU-35: *The City will carefully review proposed industrial uses that use, store, produce, or transport hazardous materials or wastes, generate unacceptable levels of noise or air pollution, or result in other impacts.*

Zoning Code. Development of the Project site is regulated by the City of Eastvale Zoning Code, which is Title 120 of the Municipal Code. The zoning code implements the policies of the General Plan. Many of the goals, policies, and actions in the Eastvale General Plan are achieved through zoning, which regulates public and private development. The zoning code contains

regulatory framework specifying allowable uses for real property and development intensities including the technical standards such as site layout, building setbacks, heights, lot coverage, parking and related development requirements.

4.9.2 Impact Analysis

a. Methodology and Significance Thresholds. According to the City's adopted CEQA checklist, which corresponds to Appendix G of the *State CEQA Guidelines*, impacts would be significant if implementation of the proposed project would:

1. *Physically divide an established community*
2. *Conflict with any applicable land use plan, policy, or regulation of any agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect*
3. *Conflict with any applicable habitat conservation plan or natural community conservation plan*

As discussed *Environmental Effects Found Not to Be Significant* in Section 4.0, *Environmental Impact Analysis*, of this EIR, the proposed project site is vacant and located within a light industrial area. The project would have no impact related to division of an established community because no residences are located on or in proximity to the site. As such, this issue does not warrant further discussion in this EIR. This section therefore focuses on assessing the proposed project's consistency with applicable land use policies and regulations, impacts related to diminishment of the Mira Loma Agricultural Preserve and the Western Riverside Multi-Species Habitat Conservation Plan that have been adopted by the City for the purpose of avoiding or mitigating an environmental effect.

b. Project Impacts and Mitigation Measures.

Impact LU-1 The proposed project would be consistent with the City's adopted General Plan. This is a *less than significant,* impact.

<u>City of Eastvale General Plan Consistency Review.</u> Table 4.9-1 contains a discussion of the proposed project's potential consistency with applicable goals and policies of the Eastvale General Plan. No General Plan amendment or zone change is required for the project and the project is presumed to be consistent with the General Plan and zoning code. This discussion primarily focuses on those General Plan goals and policies that relate to avoiding or mitigating environmental impacts, and an assessment of whether any inconsistency with these standards creates a significant physical impact on the environment. The ultimate determination of whether the proposed project is consistent with the General Plan lies with the decision-making bodies (Planning Commission and City Council); therefore, goals and policies in Table 4.9-1 are defined as either "potentially consistent" or "potentially inconsistent". Only policies relevant and applicable to the proposed project are included. Policies that are redundant between elements are omitted, as are policies that call for City actions that are independent of review and approval or denial of the proposed project.

Table 4.9-1
City of Eastvale General Plan Policy Consistency

General Plan Goal or Policy	Discussion
AESTHETICS	
Goal DE-1: High quality urban design throughout Eastvale. Policy DE-1: The City of Eastvale will require that all new development is well-planned and of high quality. Design will be used to reinforce Eastvale's image as a contemporary community with vibrant, livable neighborhoods and walkable pedestrian- and bicycle-oriented development. Policy DE-2: All new development shall adhere to the basic principles of high-quality urban design, architecture, and landscape architecture including, but not limited to, human-scaled design, pedestrian orientation, interconnectivity of street layout, and siting major buildings to hold corners and readily define entryways, gathering points, and landmarks.	Potentially Consistent. The proposed project would incorporate contemporary architecture and landscaping to ensure consistency with the goal of creating high quality urban design. The proposed project would change the visual character of the project site, but would improve the visual character of the site by providing a new building constructed with contemporary architectural features and landscaping that is visually consistent with surrounding land uses.
AIR QUALITY	
Goal AQ-1: Air quality that meets or exceeds all state and federal standards.	Potentially Consistent. Project construction would generate temporary air pollutant emissions. However, as discussed in Section 4.2, *Air Quality*, with Mitigation Measures AQ-1 and AQ-2, particulate emissions would be below thresholds. The proposed project would adhere to SCAQMD Rule 403 regarding control of fugitive dust during construction.
Policy AQ-3: Reduce vehicle miles traveled and motor vehicle emissions through local job creation.	Potentially Consistent. The project would be constructed adjacent to Interstate 15 to provide efficient freeway access. Additionally, local jobs would be created, which may reduce commute times and vehicle miles traveled for local residents.
Policy AQ-7: The City encourages the use of pollution control measures such as landscaping, vegetation, and other materials, which trap particulate matter or control pollution. Policy AQ-8: The City encourages the planting of urban trees to remove pollutants from the air, provide shade, and decrease the negative impacts of heat on the air.	Potentially Consistent. The project would be landscaped with trees and shrubs consistent with Policy AQ-7 and AQ-8.

Table 4.9-1
City of Eastvale General Plan Policy Consistency

General Plan Goal or Policy	Discussion
BIOLOGICAL RESOURCES/SUSTAINABILITY	
Goal SUS-1: Environment: Effectively manage and enhance the natural environment of Eastvale, protecting natural resources and systems in coordination with growth and development.	Potentially Consistent. The project site was evaluated for potential impacts to plant and animal species as well as natural resources such as wetlands. All resource impacts would be mitigated to less than significant through implementation of mitigation measures BIO-1(a), BIO-1(b) and BIO-1(c) as well as BIO-2(a) and BIO-2(b) (see Section 4.3, *Biological Resources)*.
GEOLOGY AND SOILS	
Goal S-2: Reduce, to the extent possible, the risk and exposure of life, property and the environment to hazardous conditions and events such as earthquakes, landslides, wildfires, floods, inundation, emergencies and toxic releases.	Potentially Consistent. As discussed in Section 4.6, *Geology and Soils*, the project site is located in an area with the potential for soil liquefaction or settlement. However, compliance with existing regulations and building codes would minimize the potential for property damage and public safety issues associated with seismic hazards.
Policy S-2: All new development shall be designed and constructed to conform with the Building Code and other applicable codes and other safety standards related to seismic and geologic hazards. ACTION S-2.1: Require geological and geotechnical investigations in areas with potential for seismically induced liquefaction or settlement as part of the environmental and development review process, for any structure proposed for human occupancy, and for any structure whose damage would cause harm.	Potentially Consistent. The project would be designed and constructed to conform to applicable building codes and related safety standards addressing geologic hazards. The project applicant would be required to submit final geotechnical information for the site for use in evaluating environmental and construction-related issues.
HAZARDS AND HAZARDOUS MATERIALS	
ACTION S-14.1: The City shall require commercial businesses, utilities, and industrial facilities that handle hazardous materials to: • Install automatic fire and hazardous materials detection, reporting, and shut-off devices; and • Install an alternative communication system in the event power is out or telephone service is saturated following an earthquake.	Potentially Consistent. As discussed in Section 4.7, *Hazards and Hazardous Materials*, the proposed project would comply with federal, state and local regulations addressing the transport and storage of these materials if applicable to the project. These requirements may at the City's discretion, include the installation of automatic detection, reporting and shut off systems and alternative communication systems.
HYDROLOGY AND WATER QUALITY	
Policy AQ-25: Minimize pollutant discharge into storm drainage systems, natural drainages, and aquifers.	Potentially Consistent. As discussed in Section 4.8, *Hydrology and Water Quality*, the project would incorporate on-site stormwater conveyance and treatment to treat runoff to state standards prior to discharge off-site to minimize pollutant discharge into the storm drainage system.

Table 4.9-1
City of Eastvale General Plan Policy Consistency

General Plan Goal or Policy	Discussion
LAND USE AND PLANNING	
Goal LU-6: Maintaining and improving the quality of Eastvale's residential, commercial and industrial areas over the lifetime of this General Plan.	Potentially Consistent. The proposed project involves development of a new industrial warehouse project consistent with the goals, policies and objectives within the General Plan and applicable building codes.
Policy LU-23: Provide sufficient commercial and industrial opportunities to increase local employment levels and reduce vehicle trips.	Potentially Consistent. The proposed project would provide approximately 100 jobs for Eastvale residents. This may reduce vehicle trips or trip lengths.
NOISE	
Goal N-2: Locate noise-tolerant land uses within areas irrevocably committed to land uses that are noise producing, such as transportation corridors.	Potentially Consistent. The proposed project would be located in the northwest quadrant of the Interstate 15/Cantu-Galleano Ranch Road interchange. The proposed warehouse use is not noise-sensitive so is an appropriate use for the area.
Policy N-14: Ensure compatibility between industrial and commercial development and adjacent land uses. To achieve compatibility, industrial and commercial development projects may be required to include noise mitigation measures to avoid or minimize project impacts on adjacent uses.	Potentially Consistent. The proposed project would be located on the north side of Cantu-Galleano Ranch Road. Similar uses are planned on the south side of Cantu-Galleano Ranch Road as part of the Goodman Commerce Center Specific Plan.
Policy N-15: Encourage noise-tolerant land uses such as commercial or industrial development, to locate in areas already committed to land uses that are noise-producing.	Potentially Consistent. The proposed project would be located in the northwest quadrant of the Interstate 15/Cantu-Galleano Ranch Road interchange. Both roadways are existing noise sources and the proposed use is not noise-sensitive.
Policy N-22: Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.	Potentially Consistent. The project would be constructed consistent with the City's noise ordinance addressed in Section 4.10, *Noise*. The site is not located in proximity to noise sensitive uses.
PUBLIC SERVICES	
Fire Services	
Policy S-10: All proposed construction shall meet minimum standards for fire safety as defined in the City's Building or Fire codes, based on building type, design, occupancy, and use.	Potentially Consistent. The project would be constructed consistent with applicable standards for fire safety as mandated by the City of Eastvale, California Building Code and California Fire Code. See Section 4.12, *Public Services*.
Policy S-11: Development in hazardous fire areas shall include secondary public access, unless determined otherwise by the Fire Chief.	Potentially Consistent. Secondary access would be provided to the north of the proposed project across the SCE easement and adjacent parcel to Micro Drive.
Policy S-20: The City shall work with the Riverside County Fire Department to ensure the safety and protection of Eastvale and its community	Potentially Consistent. The City would coordinate with the Riverside County Fire Department as part of the project design process to address all fire code requirements.

Table 4.9-1
City of Eastvale General Plan Policy Consistency

General Plan Goal or Policy	Discussion
members. Action S-20.1: The City will work with the County Fire Department through the review of proposed development projects to ensure that fire safety issues are considered.	
Police Services Action S-21.2**:** The City will work with the Police Department through the review of proposed development projects to ensure that public safety issues are considered prior to construction and occupancy. Policy S-23: The City encourages the design of neighborhoods and buildings in a manner that discourages crime and promotes security and safety for people and property.	 Potentially Consistent. The City of Eastvale Planning Department would work with the applicant on design elements of the project that promote security and safety for people and property. See Section 4.12, *Public Services.* Potentially Consistent. The project has been designed to incorporate security fencing, a guarded gate shack and security lighting. The building would also be equipped with alarm systems. These features would discourage crime on the property and promote safety and security consistent with this policy.
TRANSPORTATION AND TRAFFIC	
Policy C-3: The cumulative and indirect traffic impacts of development may be mitigated through the payment of impact mitigation fees Policy C-9: Private developers are responsible for the construction of new streets and providing access to highways for developing commercial, industrial, and residential areas. Policy C-10: Seek to maintain the following target levels of service: “C” along all City-maintained roads. A peak hour level of service of “D” may be allowed in commercial and employment areas, and at intersections of any combination of major highways, urban arterials, secondary highways, or freeway ramp intersections. Policy C-12: Limit access points, parking, turn lanes, and intersections of streets and highways based upon the road’s classification and function. Access points must be located a sufficient distance away from major intersections to allow for safe, efficient operation. Policy C-13: Construct and improve traffic signals at appropriate intersections. Traffic signals should be spaced and operated as part of coordinated systems to optimize traffic operation.	Potentially Consistent. The applicant would be required to pay fair share mitigation fees for cumulative project impacts. Potentially Consistent. The applicant would construct improvements to the primary access point along Cantu-Galleano Ranch Road as well as secondary truck access north from the site to Micro Drive. See Section 4.13, *Transportation and Traffic*. Potentially Consistent. The intersection at Hamner Avenue and Riverside Drive operates at LOS F during the PM peak hour and would continue to operate at LOS F with the project in 2019.Mitigaiton measures T1(a) and T1(b) would reduce this impact to less than significant. Potentially Consistent. The access point to the project would be redesigned to allow shared use by the adjacent W.W. Grainger facility. The new access point would be in the same location as the existing; thus, it is presumed the location meets provisions of this policy and allows for safe and efficient operation. Potentially Consistent. The applicant would be required to contribute to the cost of a new traffic signal constructed at the site entrance and Cantu-Galleano Ranch Road.

Table 4.9-1
City of Eastvale General Plan Policy Consistency

General Plan Goal or Policy	Discussion
UTILITIES AND SERVICE SYSTEMS	
Policy AQ-23: The City encourages native, drought-resistant landscape planting.	Potentially Consistent. Landscaping installed on the project site would be comprised of native, drought and heat tolerant species as specified in the conceptual landscape plan prepared by the applicant. See Figure 4.1-3, *Preliminary Landscape Plan*.

Mitigation Measures. None required. Mitigation beyond adherence to existing regulatory requirements is not needed.

Significance After Mitigation. With adherence to existing regulations as well as the mitigation measures identified in this EIR, impacts would be less than significant without additional mitigation.

Impact LU-2 The proposed project would require a diminishment of the Mira Loma Agricultural Preserve No. 1. This is a *less than significant,* impact.

The proposed project is located within the Mira Loma Agricultural Preserve No. 1 and designated Farmland of Local Importance by the California Department of Conservation Farmland Mapping and Monitoring Program. The purpose of the agricultural preserve program is to encourage property owners to continue the agricultural use of land instead of converting it to nonagricultural uses. This is achieved by giving property owners a reduction in property taxes for agricultural land in exchange for long term commitments to retain the land in agriculture. This is accomplished through provisions of the Williamson Act also referred to as the Land Conservation Action of 1965 (Section 51200, et. seq.). The Williamson Act allows the tax assessment on properties based on agricultural production rather than current market value.

The project site was included as part of the Mira Loam Agricultural Preserve No. 1 in 1965. However, the Williamson Act contract on this site was terminated. The project site is not actively used for agricultural purposes and is zoned Industrial Park to accommodate project development consistent with the surrounding parcels.

Removal of the project site from the Mira Loma Agricultural Preserve No. 1 is one of the entitlements necessary to approve the overall project. Because the site is not used for agricultural purposes and is no longer under a Williamson Act contract, removal of the site from the Mira Loma Agricultural Preserve No. 1 would be a less than significant impact.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact LU-3 The proposed project would impact existing natural resources on the site; however, it would be consistent with the Urban/Wildland Interface Guidelines in the Western Riverside Multiple Species Habitat Conservation Plan. This is a *less than significant,* impact.

The Western Riverside County Multiple Species Habitat Conservation Plan is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their associated habitats in Western Riverside County. As described in Section 4.3, *Biological Resources,* the proposed project site is located within MSHCP-Jurupa Area Plan, within Cell Group A, Sub Unit 3, Criteria Cells 118 and 168. Thus, the proposed project is evaluated for applicability and consistency with requirements set forth in the MSHCP.

Consistency review focuses on evaluating project applicability to the Urban/Wildlands Interface Guidelines per Section 6.1.4 of the MSHCP. The guidelines are intended to address indirect effects associated with locating development in proximity to MSHCP Conservation Areas and reduce the indirect effects of development on areas identified for conservation. Consistency with these guidelines must be considered for projects within or near the MSHCP Conservation Area, or other special-status habitats, such as Public/Quasi-Public (PQP) Reserves or other areas set aside for conservation purposes. As noted, the project site is located within Criteria Cells 118 and 168. However, the site is not located with an MSHCP Conservation Area or other special-status habitats. The project site is primarily disturbed and/or developed and is bounded by industrial development to the north, west, and southeast; I-15 to the east; and developing properties to the south across Cantu-Galleano Ranch Road. Impacts to Conservation Areas and Urban/Wildlands Interface Guidelines contained within the MSHCP would be less than significant.

Per Municipal Code Chapter 4.62, the City of Eastvale has implemented a MSHCP Mitigation Fee. Payment of the MSHCP Mitigation Fee would be required to maintain consistency with the MSCHP and reduce impacts to less than significant.

Mitigation Measures. None required. Mitigation beyond adherence to existing regulatory requirements is not needed.

Significance After Mitigation. No mitigation is required in addition to payment of the MSHCP mitigation fee. Impacts would be less than significant.

c. Cumulative Impacts. Implementation of the proposed project would change the existing land use and cumulatively contribute to an overall intensification of development within the City of Eastvale. As shown in Table 3-1 in Section 3.0, *Environmental Setting*, cumulative projects would add 6,082 residential units, 2,754,631 square feet of commercial and 4,452,100 square feet of industrial development to the Cities of Eastvale, Jurupa Valley and Ontario. Although some of the projects considered in the cumulative impact scenario may require discretionary land use actions, the merits of each project and their relationship to applicable policy documents analyzing cumulative impacts of anticipated development (such as the Ontario, Jurupa Valley and Eastvale General Plans) would be considered on a case-by-case

basis. These projects may not be approved if they are found inconsistent with the General Plan or require amendments to planning documents to ensure project consistency. Increased development densities from these projects would generate secondary cumulative impacts with respect to traffic, air quality, noise, and public services. These impacts are discussed in their respective sections of this EIR.

4.10 NOISE

This section addresses the impact of the noise generated by the proposed project on nearby noise-sensitive land uses, as well as the effect of current and future noise levels on the proposed project land uses.

4.10.1 Setting

a. Overview of Sound Measurement. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound power levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Sound pressure level is measured on a logarithmic scale with the 0 dB level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dB, and a sound that is 10 dB less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dB greater than the reference sound to be judged as twice as loud. In general, a 3 dB change in community noise levels is noticeable, while 1-2 dB changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while those along arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources such as industrial machinery. Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance.

In addition to the instantaneous measurement of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, Leq is summed over a one-hour period.

The time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the daytime. Two commonly used noise metrics – the Day-Night average level (Ldn) and the Community Noise Equivalent Level (CNEL) - recognize this fact by weighting hourly Leqs over a 24-hour period. The Ldn is a 24-hour average noise level that adds 10 dBA to actual nighttime (10 PM to 7 AM) noise levels to account for the greater sensitivity to noise during that time period. The CNEL is identical to the Ldn, except it also adds a 5 dBA penalty for noise occurring during the evening (7 PM to 10 PM).

b. Vibration. Vibration is a unique form of noise because its energy is carried through buildings, structures, and the ground, whereas noise is simply carried through the air. Thus, vibration is generally felt rather than heard. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB).

The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people (Federal Transit Administration, May 2006). The vibration thresholds established by the Federal Transit Administration (FTA) are 65 VdB for buildings where low ambient vibration is essential for interior operations (such as hospitals and recording studios), 72 VdB for residences and buildings where people normally sleep, including hotels, and 75 VdB for institutional land uses with primary daytime use (such as churches and schools). No such uses occur in proximity to the project; however, 72 VdB is used as a reference standard herein. In terms of ground-borne vibration impacts on structures, the FTA states that ground-borne vibration levels in excess of 100 VdB would damage fragile buildings and levels in excess of 95 VdB would damage extremely fragile historic buildings. No fragile buildings or historic structures occur in proximity to the study area.

c. Sensitive Receptors. Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. Residences, hospitals, schools, hotels and libraries are most sensitive to noise intrusion; and therefore, have more stringent noise exposure targets than manufacturing or agricultural uses that are not subject to effects such as sleep disturbance. Noise sensitive land uses nearest the project area are residences directly south of Bellegrave Avenue approximately one-half mile south of the project site. There are no sensitive receptors adjacent to or in proximity to the site.

d. Regulatory Setting.

State Regulations

*California Government Code***.** California Government Code Section 65302 mandates the legislative body of each county and city in California adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines published by the Department of Health Services. The guidelines rank noise land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable. The General Plan contains a noise element that ranks land use compatibility as required by the California Government Code. The City's General Plan Noise Element is discussed below.

Regional Regulations

*Non-Transportation Noise Impacts to Residential Properties***.** According to the document titled, "Requirements for Determining and Mitigating Non-Transportation Noise Source Impacts to Residential Properties," dated November 23, 2009, published by the County of Riverside Department of Public Health (COR DPH) and adopted by the City of Eastvale upon incorporation in October 2010, "[f]acility related noise, as projected to any portion of any surrounding property containing a 'habitable dwelling, hospital, school, library or nursing home,' must not exceed the worst-case noise levels: A) 45 dB(A) – 10-minute noise equivalent

level ('Leq'), between the hours of 10:00 p.m. to 7:00 a.m. (nighttime standard); B) 65 dB(A) – 10-minute Leq, between 7:00 a.m. and 10:00 p.m. (daytime standard)." No such sensitive facilities are located in proximity to the project site.

Local Regulations

City of Eastvale General Plan. Chapter 10 of the General Plan establishes goals and policies addressing noise. In compliance with California Government Code Section 65302, the City's General Plan Noise Element identifies noise and land use compatibility guidelines that identify "Completely Compatible," "Tentatively Compatible," "Normally Incompatible," and "Completely Incompatible" noise exposure ranges for various land uses as shown in the General Plan Table N-3 – Noise Compatibility By Land Use Designation (provided below). These guidelines are primarily used for planning purposes such as determining a project's compatibility with a proposed site with regard to existing and future acoustical impacts upon a project site sourced from the surrounding environment.

According to the data provided in General Plan Table N-3, exterior noise impacts upon all non-residential land uses (commercial, industrial and institutional) are completely compatible up to 70 dBA Ldn/CNEL and tentatively compatible up to 75 dBA Ldn/CNEL. All residential land uses are completely compatible up to 60 dBA Ldn/CNEL and tentatively compatible up to 70 Ldn/CNEL. Finally, all public park uses are completely compatible up to 65 dBA Ldn/CNEL and tentatively compatible up to 75 dBA Ldn/CNEL.

The Eastvale General Plan Noise Element contains the following goal related to general noise sources.

Goal N-1: *Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Eastvale.*

Goal N-2: *Locate noise-tolerant land uses within areas irrevocably committed to land uses that are noise producing, such as transportation corridors.*

Goal N-3: *Ensure that noise sensitive uses do not encroach into areas needed by noise generating uses.*

Goal N-4: *Locate noise sources away from existing noise sensitive land uses unless appropriate noise control measures are provided.*

Policy N-5: *Require that exterior noise forecasts use the appropriate Level of Service for the adjacent roadways, or a 20-year projection of traffic volumes (whichever is greater) for future noise forecasts.*

Policy N -6: *Mitigate exterior noise to the levels shown in Table N-3 of the General Plan to the extent feasible (Table N-3 is provided as Table 4.10-1 below):*

Table 4.10-1
Eastvale General Plan Noise Compatibility by Land Use Designation

Land Use Designations	Completely Compatible	Tentatively Compatible	Normally Incompatible	Completely Incompatible
Residential	>60 dBA	60-70 dBA	70-75 dBA	<75 dBA
Non-Residential (commercial, Industrial and institutional)	>70 dBA	70-75 dBA	>75 dBA	See Note 2
Public Parks (lands on which parks are located or planned)	>65 dBA	65-70 dBA	70-75 dBA	<75 dBA

Notes:

1. All noise levels shown in this table are designated CNEL. Leq is typically higher than CNEL and provides a conservative estimate of noise levels relative to the CNEL metric.

2. To be determined as part of the Project review process.

General Plan policies related to noise sources located within the industrial and commercial areas are summarized below.

Policy N-14: *Ensure compatibility between industrial and commercial development and adjacent land uses. To achieve compatibility, industrial and commercial development projects may be required to include noise mitigation measures to avoid or minimize project impacts on adjacent uses.*

Policy N-15: *Encourage noise-tolerant land uses such as commercial or industrial development, to locate in areas already committed to land uses that are noise-producing.*

Policy N-16: *Require that parking structures, terminals, and loading docks of commercial or industrial land uses be designed to minimize potential noise impacts on adjacent noise sensitive land uses.*

City of Eastvale Municipal Code. Section 8.52.020 exempts private construction from regulation provided it occurs greater than one-quarter mile or more from an inhabited dwelling. The nearest dwelling is approximately one-half mile from the project site; thus, construction noise would not be regulated under this project. Section 8.52.040 allows a maximum noise level of 55 dBA from 7:00 AM to 10:00 PM and 45 dBA from 10:00 PM to 7:00 AM within areas zoned for residential use. No such areas occur within proximity to the site.

e. Existing Noise Sources. The most common sources of noise in the project site vicinity are vehicles operating on I-15 and Cantu-Galleano Ranch Road. Chino Airport is located approximately 4 miles to the west of the site. Occasional aircraft overflights from airport operations are audible. To determine ambient noise levels at the project site, two 15-minute noise measurements were taken between 7:00 a.m. and 9:00 a.m. (peak hour) on June 23, 2015, using an ANSI Type II integrating sound level meter. Table 4.10-2 lists the ambient noise levels measured at the locations shown on Figure 4.10-1.

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Noise Measurement Locations Figure 4.10-1

Table 4.10-2
Noise Measurements

Measurement Number	Measurement Location	Distance to Nearest Sensitive Receptor	Distance from Centerline of Roadway	Sample Time	Leq (dBA)
1	Secondary truck access location adjacent to Micro Drive	~3,000 feet	~1,200 feet west of I-15	7:18 a.m. – 7:33 a.m.	60.7
2	SW corner of project site adjacent to Cantu-Galleano Ranch Road	~2,200 feet	20 feet north of Cantu-Galleano Ranch Road	8:13 a.m. – 8:28 a.m.	63.3

Source: Measurements were taken on June 23, 2015.
All measurements were taken using ANSI Type II Integrating sound level meter.
Refer to Figure 4.10-1 for noise measurement locations.

As referenced, the nearest sensitive properties to the site are located over one-half mile to the south along Bellegrave Avenue. Receptors are also located approximately one-half mile northwest of the site approximately 1,000 feet west of Hamner Avenue. The Goodman Commerce Center project proposes construction of commercial and retail uses south of Cantu-Galleano Ranch Road. Thus, this development would be an intervening use between the proposed project and the sensitive properties south of Bellegrave Avenue. Existing warehouse development is located between the site and receptors to the northwest. Existing measured noise levels fall within the standards for commercial, industrial and institutional standards shown in Table 4.10-1.

Linscott, Law and Greenspan, Inc. prepared the Transportation Impact Analysis Final Report for the project and analyzed local roadway segments and intersections in the surrounding roadway network and provided average daily trip (ADT) rates and peak hour trips (see Appendix J). No sensitive receptors are located in proximity to the project site. Thus, four locations along Cantu-Galleano Ranch Road and Hamner Avenue were modeled to determine whether changes in traffic volumes associated with the project would be large enough to cause a noticeable increase in existing noise levels. Existing traffic volumes were obtained from the Transportation Impact Analysis, Figure 3-2 (see Appendix J).

Table 4.10-3 shows existing traffic-generated noise levels along local roadways and the surrounding roadway network compared to measured noise levels shown in Table 4.10-3. Modeled noise levels range from 60.1 dBA to 67.7 dBA. The highest modeled noise level would occur at the northwest corner of Cantu-Galleano Ranch Road and Hamner Avenue. Measured noise levels at the project site are similar to modeled noise levels at the same locations. Existing noise levels would be consistent with the values shown in Table 4.10-1 for commercial, industrial and institutional uses.

Table 4.10-3
Existing Traffic-Generated Noise

Roadway Segment	Modeled Noise Level (dBA)	Measured Noise Level Leq (dBA)
Local Roadways[1]		
North side of Cantu-Galleano Ranch Road at project site	64.4	63.3
Center of project site.	60.1	60.7
Northeast corner of Cantu-Galleano Roach Road and Hamner Avenue	67.7	NA
Northwest corner of Cantu-Galleano Roach Road and Hamner Avenue	64.7	NA

1. Estimates of noise generated by traffic approximately 100 feet from the roadway centerline. Refer to Appendix I for these estimates. Calculated using the FHWA Traffic Noise Model version 2.5.

4.10.2 Impact Analysis

a. Methodology and Thresholds of Significance. Pursuant to Appendix G of the *CEQA Guidelines*, potentially significant impacts would occur if the project would result in any of the following conditions:

1. *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;*
2. *Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;*
3. *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;*
4. *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;*
5. *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, would the project expose people residing or working in the project area to excessive noise levels; and/or*
6. *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.*

As discussed under *Environmental Effects Found Not to Be Significant* on page 219, the project site is not located in the vicinity of a private airstrip nor is it located within two miles of an airport or within an airport land use plan. Impacts related to airport noise are not further discussed in this section. The EIR analyzes potential impacts from temporary (i.e., construction-related) noise increases, including potential vibration impacts, under Impact N-1, and permanent operational noise increases under impact N-2.

Methodology. The analysis of noise impacts considers the effects of both temporary construction-related noise and long-term noise associated with operation of the proposed

project. Construction noise estimates are based upon noise levels reported by the Federal Transit Administration (FTA), Office of Planning and Environment (FTA, May 2006), and the distance to nearby sensitive receptors. Reference noise levels from that document were then used to estimate noise levels at the nearest sensitive receptors based on a standard noise attenuation rate of 6 dBA per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Construction noise level estimates do not account for the presence of intervening structures or topography, which could reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual construction noise.

Operational noise levels associated with existing and future traffic along local roadways using the TNM 2.5 (FHWA, April 2004) (noise modeling data sheets can be viewed in Appendix I) and the Transportation Impact Analysis Final Report (see Appendix J and Section 4.13, *Transportation and Traffic*). Roadway noise level estimates do not account for any intervening barriers or topography that may shield individual receptors from the noise source. Therefore, the levels presented represent a conservative estimate of the noise levels that would be experienced at individual receptor locations.

b. Project Impacts and Mitigation Measures.

Impact N-1 Construction-related activities associated with the proposed project would intermittently generate high noise levels and groundborne vibration on and adjacent to the site. The site located over one-quarter mile from existing residences; thus, construction noise is exempt from regulation per City code. This is a *less than significant* impact.

Short-term noise impacts associated with construction may adversely affect adjacent residential uses. The grading/excavation phase of project tends to create the highest construction noise levels because of the operation of heavy equipment. As shown in Table 4.10-4, the maximum noise level associated with heavy equipment at construction sites can range from about 74 to 85 dBA at 50 feet from the source, depending upon the types of equipment in operation at any given time and phase of construction (FTA, 2006). During grading operations, equipment is dispersed in various portions of the site.

Construction noise levels would diminish at approximately 6 dBA per doubling of distance. Table 4.10-5 shows typical maximum construction noise levels at various distances from construction activity. Based upon an assumed average construction noise level of 85 dBA at a distance of 50 feet from the source, the maximum average noise levels would be 51 dBA at a distance of 2,500 feet. This is approximate distance to the nearest residences south of the site. Based on ambient conditions, construction noise generated on the site would be inaudible at this distance.

Development of the proposed project would result in short-term construction noise. The sensitive receptors nearest the construction noise sources would be residences bordering the northern and northeastern portions of the site, which would be exposed to construction-phase noise from grading and construction activities. As noted, the Eastvale Municipal Code exempts

construction noise over one-quarter mile from the nearest sensitive receptor. Construction noise levels at varying distances from a noise source are shown in Table 4.10-5.

Project construction activities would result in vibration primarily during grading and excavation for building foundation footings and installation of underground utilities. Table 4.10-6 identifies various vibration velocity levels for different types of construction equipment. Project construction would not involve the use of pile drivers, but could involve the use of bulldozers and jackhammers on the project site. Additionally, loaded trucks carrying construction materials would operate on the project site and some surrounding streets during construction.

Vibration levels would be 55 VdB at 300 feet from the construction equipment and imperceptible at the nearest residences. This is below the vibration threshold established by the FTA of 72 VdB for residences and buildings where people normally sleep. There are no sensitive structures located in proximity to the project site; thus, ground-borne vibration impacts would be less than significant.

Table 4.10-4
Typical Construction Equipment Noise Levels

Equipment	Acoustical Usage Factor (%)[1]	Measured Lmax (dB at 50 feet)
Augur Drill Rig	20	84
Backhoe	40	78
Compactor (ground)	20	83
Dozer	40	82
Dump Truck	40	76
Excavator	40	81
Flat Bed Truck	40	74
Front End Loader	40	79
Generator	50	81
Grader	40	83
Pickup Truck	40	75
Pneumatic Tools	50	85
Roller	20	80
Scraper	40	84
Warning Horn	5	83
Welder/Torch	40	74

Source: FTA, 2006.

[1] The average fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

Table 4.10-5
Typical Maximum Construction Noise Levels at Various Distances from Project Construction (dBA)

Distance from Construction	Maximum Noise Level at Receptor (no Pile-Driving)
10 feet	99
50 feet	85
100 feet	79
250 feet	71
500 feet	65
775 feet	61
1,000 feet	59
2,500 feet	**51**

Source: FTA, 2006.

Table 4.10-6
Vibration Source Levels for Construction Equipment

Equipment	Approximate VdB					
	10 Feet	40 Feet	75 Feet	100 Feet	200 Feet	300 Feet
Large Bulldozer	97	79	73	69	60	55
Loaded Trucks	93	77	71	68	59	54
Jackhammer	87	71	65	61	52	47
Small Bulldozer	66	49	43	40	31	26

Source: FTA, 2006.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact N-2 **Onsite noise sources would include truck movement, roof mounted HVAC equipment and related activities associated with warehouse operation. Given the site is in proximity to I-15, other transportation corridors and surrounded by existing warehouse buildings, operational noise is not expected to exceed City noise standards or thresholds. This is a *less than significant* impact.**

Noise levels would increase as a result of project related activity. Noise generated by ventilation and air conditioning (HVAC) units), truck trips and vendor deliveries and activities on-site is expected. Much of the noise generated by the project would be intermittent and focused within the project site. Existing background noise levels with operation of adjacent warehouse uses

range from 60.7 to 63.3 dBA. The scope of operation associated with the proposed project will likely be similar to existing uses in the area. Based on the scope of activity and project location within an existing warehouse area, no exceedance of City standards is anticipated.

As discussed above in the *Regulatory Setting*, the sensitive receptors (residences) are located approximately one-half mile south of the project site. Noise sources from the proposed residential uses would consist of rooftop HVAC equipment and truck traffic. Compliance with municipal code requirements would ensure that HVAC operation and related activities do not exceed City exterior noise level standards. Thus, project-related operations on-site would result in less than significant noise impacts.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact N-3 Truck operation and employee vehicles generated by the proposed project would not audibly increase noise levels in proximity to the project site. Traffic-related noise would not exceed the City's threshold for existing land use located along roadway segments. This is a *less than significant* impact.

Impacts to existing development is considered significant if project-generated traffic results in exposure of sensitive receptors to noise levels that exceed standards or where standards are currently exceeded, an audible increase in noise levels. As discussed herein, existing noise levels do not exceed City of Eastvale standards for commercial, industrial and institutional uses; thus, project impacts are dependent on whether project-related traffic would exceed these standards. Typically, changes in traffic noise are dependent on overall traffic volumes and vehicle speeds. A doubling of sound energy is required to create a noticeable change (+/- 3 dBA) in noise levels. In this case, traffic volumes on roadway segments located in proximity to the site (i.e., Cantu-Galleano Ranch Road and Hamner Avenue) would have to double and maintain the same speed for a 3 dBA change to occur. As discussed in the Traffic Impact Analysis, project-related traffic would be concentrated on Interstate 15, Cantu-Galleno Ranch Road, Micro Drive and Hamner Avenue. The nearest sensitive receptors are located along the south side of Bellegrave Avenue south of the project site. Receptors are also located approximately one-half mile northwest of the site west of Hamner Avenue. No project traffic is expected to use Bellegrave Avenue; thus, no project-related traffic noise would be generated at this location because there is no freeway access. Traffic volumes along Hamner Avenue would increase by approximately 17% (Linscott, Law and Greenspan, 2010) which is not enough to cause an audible increase in noise levels at residences located west of Hamner Avenue. The majority of project traffic would use Cantu-Galleano Ranch Road for direct access to I-15. As discussed, there are no sensitive properties existing or planned for development in this area. Existing and modeled noise levels are shown in Table 4.10-7. As shown, the project would have no effect on noise levels along Hamner Avenue. Noise levels along Cantu-Galleano Ranch Road would increase by 0.1 dBA, which is an inaudible change and result in a less than significant noise impact.

Table 4.10-7
Existing Traffic-Generated Noise

Roadway Segment	Existing Noise Level (dBA)	Noise Level w/ Project Leq (dBA)
Local Roadways[1]		
North side of Cantu-Galleano Ranch Road at project site	64.4	64.5
Center of project site.	60.1	60.2
Northeast corner of Cantu-Galleano Roach Road and Hamner Avenue	67.7	67.7
Northwest corner of Cantu-Galleano Roach Road and Hamner Avenue	64.7	67.7

1. Estimates of noise generated by traffic approximately 100 feet from the roadway centerline. Refer to Appendix I for these estimates. Calculated using the FHWA Traffic Noise Model version 2.5.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. The immediate area surrounding the project site is developed with warehouse uses served by local roadways and I-15. The closest sensitive receptor to the site is located approximately one-half mile south on the south side of Bellegrave Avenue and one-half mile to the northwest west of Hamner Avenue. As shown in Table 3-1 in Section 3.0, *Environmental Setting*, Cumulative projects would add 6,082 residential units, 2,754,631 square feet of commercial and 4,452,100 square feet of industrial development to the Cities of Eastvale, Jurupa Valley and Ontario. This would increase traffic on the roadway network surrounding the project site and beyond. Traffic data used to determine future conditions with the project assumed cumulative development consistent with the projects listed in Table 3-1 in Section 3.3 of this EIR. As shown in Table 4.10-7, cumulative impacts associated with traffic operations would increase noise levels but would not cause an exceedance of local standards identified herein. Because the project is a warehouse facility, development of the adjacent Goodman Commerce Center would not have an adverse noise impact. Because of its distance from the project site, operational noise generated by the project would be inaudible at the sensitive receptors located south of Bellegrave Avenue and northwest of the site and would not contribute to cumulative noise impacts in this area. All future development would be required to comply with the City's noise and vibration standards applicable to that specific use. Cumulative impacts would be less than significant.

4.11 POPULATION AND HOUSING

This section evaluates the proposed project's potential impact on population and housing in the project area and its surroundings.

4.11.1 Setting

a. City of Eastvale. Table 4.11-1 provides the State's 2015 population and housing estimate for the City of Eastvale and Riverside County as a whole. The City of Eastvale has an estimated 14,972 housing units as of January 2015 while the City's estimated 2015 population is 60,633 (California Department of Finance, January 2015).

Table 4.11-1
Current Housing and Population

	City of Eastvale	Riverside County
Housing Units	14,972	706,222
Population	60,633	2,308,441
Persons/Household	4.05	3.1

Source: California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2015, with 2010 Benchmark, January 2015.

Eastvale's population of 60,633 makes up about 2.6% of the countywide population of about 2.3 million, and the City's 14,972 housing units make up about 2.1% of the approximately 700,000 housing units in the County. The average number of persons per household in Eastvale is 4.05, which is about 30% higher than the countywide average of 3.1 persons per household.

Table 4.11-2 shows 2008 estimates of employment, household, and population for Eastvale as well as 2020 and 2035 forecasts, all from the Southern California Association of Governments (SCAG). From 2008 to 2035, the City is forecast to add 15,100 residents, 4,200 households, and 6,400 jobs.

Based on the 2008 estimate of employment (jobs) and households in the City, there are 3.64 households for every job in Eastvale. By comparison, there are about 1.02 households for every job in Riverside County as a whole. This indicates that the majority of Eastvale's labor force commutes to work outside the City. The ratio of housing to jobs in the City is forecast to drop to 1.69:1 by 2035, which indicates a larger increase in the number of jobs relative to the increase in households.

Table 4.11-2
SCAG Employment, Households and Population Forecasts for Eastvale

	2008	2020	2035
Population	53,200	61,500	68,300
Households	13,500	15,700	17,700
Employment	3,700	5,400	10,100

Source: SCAG, 2012 RTP Growth Forecast, April, 2012.

b. Regulatory Setting.

Regional Comprehensive Plan and Guide. SCAG's Regional Comprehensive Plan and Guide (RCPG) contains a general overview of federal, state, and regional plans applicable to the southern California region and serves as a comprehensive planning guide for future regional growth. The primary goals of the RCPG are to improve the standard of living, enhance the quality of life, and promote social equity. The RCPG was originally adopted by the member agencies of SCAG in 1994 to set broad goals for the Southern California region and identify strategies for agencies at all levels of government to use in their decision making. The 2008 RCP, which serves the same function as the previous version, was accepted by the Board as an advisory document, but was never adopted. Nevertheless, the 2008 RCP includes input from each of the 13 subregions that make up the Southern California region including Los Angeles, Orange, San Bernardino, Riverside, Imperial, and Ventura counties.

SCAG's RCPG serves as a framework for addressing problems and creating a path to correct issues on a regional level through 2035. The RCGP is broken up into nine chapters that include key areas where resource management is necessary due to the urban growth the area experiences. Population projections are made through SCAG's Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) and are the basis for growth for the RCPG.

Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). SCAG's RTP/SCS is a long range transportation plan that looks ahead 20+ years and provides a vision for the future of the regional multi-modal transportation system. The RTP/SCS identifies major challenges as well as potential opportunities associated with growth, transportation finances, the future of airports in the region, and impending transportation system deficiencies that could result from growth that is anticipated in the region. The SCS component of the RTP integrates land use and transportation strategies to achieve California Air Resources Board emissions reduction targets. SCAG adopted its current RTP/SCS in 2012, and is currently in the process of developing its 2016 RTP/SCS (SCAG, April 2012).

4.11.2 Impact Analysis

a. Methodology and Significance Thresholds. Impacts related to population are generally social or economic in nature. Under CEQA, a social or economic change generally is

not considered a significant effect on the environment unless the changes are directly linked to a physical change. Pursuant to the *State CEQA Guidelines* Appendix G Environmental Checklist, impacts related to population and housing would be potentially significant if the project would:

1. *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), or*
2. *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere, or*
3. *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.*

As discussed in *Environmental Effects Found Not to be Significant*, the project would have no impact related to displacement of substantial numbers of existing housing or people; therefore, these topics are not further analyzed in this section of the EIR. The analysis that follows focuses on the first criterion listed above.

b. Project Impacts and Mitigation Measures.

Impact PH-1 Development associated with the proposed project would add jobs, but would not directly increase the City's population. Population growth would remain consistent with City of Eastvale General Plan and SCAG population forecasts. The proposed project would not in itself induce population growth beyond that already planned and impacts related to inducement of substantial population growth would be *less than significant.*

Development of the proposed project would not add new housing units to Eastvale. The project consists of a 446,173 square foot industrial warehouse facility. The project would add approximately 100 new jobs, which would improve the current job/housing imbalance in Eastvale described in the *Setting*. The job to household ratio is projected to drop from 3.54:1 in 2008 to 2.9:1 in 2020.

The project would be constructed in an area planned for development of warehouse and similar uses. All primary access roads and utility infrastructure are in place. No new infrastructure that may induce growth in areas not planned for new development would be needed to accommodate the project. There would be no direct population growth associated with the proposed project and the project would not cause an exceedance of population or job forecasts for Eastvale. The project would be consistent with the Regional Comprehensive Plan and RTP/SCS referenced above. For these reasons, impacts related to population and housing growth would be less than significant.

Mitigation Measures. None required.

Significance after Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. As discussed in Impact PH-1, the proposed project would have no direct impact on housing or population growth. As shown in Table 3-1 in Section 3.0, *Environmental Setting*, there are no other planned or pending residential development projects in the northern portion of Eastvale. However, cumulative projects would add 6,082 residential units, 2,754,631 square feet of commercial and 4,452,100 square feet of industrial development to the Cities of Eastvale, Jurupa Valley and Ontario. Construction of these projects would result in a direct population increase but the proposed project would not contribute to the increase. In addition, the project would add approximately 100 new jobs, which would improve the current job/housing imbalance. Therefore, cumulative impacts associated with population and housing in Eastvale associated with the proposed project would be less than significant.

4.12 PUBLIC SERVICES

This section assesses the impact of the proposed project with respect to fire and police services. As discussed in *Environmental Effects Found Not to be Significant*, the project would not cause an increase in population; thus, no impacts to libraries, schools or parks and recreation facilities would occur. These issue areas are not discussed in this EIR. Impacts related to water and wastewater infrastructure and solid waste collection and disposal are discussed in Section 4.14, *Utilities and Service Systems*. The information in this section is based in part on the Eastvale General Plan (2012 Safety Element) and communications with various service providers, as cited.

4.12.1 Setting

a. Fire Protection Service. Fire protection services within Eastvale are provided by the County of Riverside Fire Department, which operates in cooperation with the California Department of Forestry. The three nearest County of Riverside Fire Department stations that would respond to an incident at the project site include the Eastvale Station #27, the Pedley Station #16, and the Glen Avon Station #17.

- **Riverside County Station #27 – Eastvale Station,** located at 7067 Hamner Avenue, Eastvale, CA, 92880. This station is located approximately 2 miles south of the Project site with three fire fighters staffed 24 hours a day with one Type-1 fire engine.
- **Riverside County Station #17 – Glen Avon Station**, located at 10400 San Sevaine Way, Mira Loma, CA 91752. The Glen Avon station is located approximately 2.4 miles northeast of the Project site. This station houses one Type-1 fire engine and one 100-foot aerial ladder Truck Company with current staffing consisting of seven personnel, 24 hours a day.
- **Riverside County Station #16 – Pedley Station**, located at 9270 Limonite Avenue, Pedley, CA, 92509. The Pedley station is located approximately 4 miles southeast of the Project site. This station houses one Type-1 fire engine with three personnel staffed 24 hours a day (Goodman Commerce Center EIR, 2014).

The three fire stations are staffed full-time, 24 hours/seven days a week, with a minimum three person crew, operating a Type-1 structural firefighting apparatus. Station 27 (Eastvale) currently provides Paramedic service operating a Type 1 structural firefighting apparatus.

b. Police Service. Police protection in Eastvale is provided by the Eastvale Police Department andcontracted through the Riverside County Sheriff Department. The project area is serviced from the Jurupa Valley Station (JVS), located at 7477 Mission Boulevard in Jurupa Valley, approximately five miles east/northeast of the project site. The Jurupa Valley Station currently provides law enforcement services for the cities of Norco, Eastvale and Jurupa Valley, as well as the unincorporated communities of Riverside County, including Coronita, Lake Hills, Highgrove, El Cerrito, and Home Gardens (Jurupa Valley Sheriff Annual Report, 2010).

As of 2010, the JVS employed a total of 165 sworn deputies, including 1 captain, 5 lieutenants, 17 sergeants, 14 investigators, 11 corporals, and 117 deputy sheriffs. The station is also served by 30 classified employees, including 13 community service officers, five sheriff service officers,

and one crime analyst. The station serves an area of 94 square miles and a population of approximately 190,000 residents (Jurupa Valley Sheriff Annual Report, 2010). Patrol operations for the City of Eastvale include 21 sworn deputies from the JVS, one dedicated traffic officer, two zone officers and 18 patrol officers (Jurupa Valley Sheriff Annual Report, 2010).

During 2010, the average response time to Priority 1 calls (in-progress, life threatening) within Eastvale was 4.51 minutes, the response time for Priority 2 calls (slightly less severe) was 12.10 minutes, and the response time for Priority 3 calls (routine) was 20.35 minutes, and the response time for Priority 4 (past incidents) was 30.19 minutes (Jurupa Valley Sheriff Annual Report, 2010).

The County of Riverside Sheriff's Department has a staffing level of one sworn officer per 1,000 residents. Eastvale has contracted with the Sheriff's Department to be at a staffing level of 0.55 sworn officers per 1,000 residents, which is being exceeded (Goodman Commerce Center EIR, 2014).

c. Regulatory Setting. The proposed project would be subject to state, regional and local codes, including the Eastvale Municipal Code regarding development standards that pertain to minimizing fire hazards.

Uniform Fire Code. The Uniform Fire Code established by the International Fire Code Institute and the Uniform Building Code (UBC) established by the International Conference of Building Officials both prescribe performance characteristics and materials to be used to achieve acceptable levels of fire protection. Fire policies and regulations include Ordinance No. 787 (ORD 787), Riverside County Master Fire Protection Plan, the California Fire Code, International Fire Codes and the California Building Code. ORD 787 outlines fire protection standards for the safety, health, and welfare of the citizens of the County. Among the items regulated by ORD 787 are access to a project, storage of hazardous materials, building design, water supply, and brush clearance. This project would be required to be in compliance with ORD 787.

California Building Code. Current law states that every local agency enforcing building regulations, such as cities and counties, must adopt the provisions of the California Building Code (CBC) within 180 days of its publication. The publication date of the CBC is established by the California Building Standards Commission and the code is also known as Title 24 of the California Code of Regulations. The most recent building standard adopted by the legislature and used throughout the state is the 2013 version of the CBC, often with local, more restrictive amendments that are based upon local geographic, topographic, or climatic conditions. These codes provide minimum standards to protect property and the public welfare by regulating various aspects of building design and construction.

Riverside County Master Fire Protection Plan. The Riverside County Master Fire Protection Plan outlines the fire protections performance standards for both rural and urban areas, and establishes guidelines for facility and personnel minimum requirements. The City is served by the County of Riverside Fire Department and therefore the proposed project must comply with this Plan.

City of Eastvale Municipal Code. Title 101 Chapter 110.20 adopts the 2013 California Fire Code and 2012 International Fire Code with additions, amendments and deletions as the Fire Code for the city. This project would be required to be in compliance with Title 101 Chapter 110.20.

City of Eastvale Development Impact Fee Program. Chapter 110.28, Development Impact Fee Program, of the Eastvale Municipal Code, addresses impact fees for public services including fire and imposes a fire facilities impact fee on all development for the purposes of assuring that new development pays its fair share of the costs required to support needed fire facilities and related costs necessary to accommodate such development. The fee is imposed per gross square foot of floor area for non-residential development. The fire facilities impact fee is to be paid prior to issuance of the certificate of occupancy and is utilized for acquiring new property, construction of new facilities and purchasing equipment.

Eastvale General Plan. Goals, policies and actions within the General Plan that address the provision of fire and police service for specific projects are summarized as follows:

Goal S-1: *Provide a safe and healthy environment for all Eastvale residents that includes adequate levels of police and fire protection, safe housing, and safe places to work and play.*

Goal S-3: *Coordinate planning activities and development proposals with law enforcement capabilities to create communities, neighborhoods, and conditions that enhance community safety and emergency disaster response.*

Policy S-10: *All proposed construction shall meet minimum standards for fire safety as defined in the City's Building or Fire codes, based on building type, design, occupancy, and use.*

Policy S-11: *Development in hazardous fire areas shall include secondary public access, unless determined otherwise by the Fire Chief.*

Policy S-20: *The City shall work with the Riverside County Fire Department to ensure the safety and protection of Eastvale and its community members*

Policy S-23: *The City encourages the design of neighborhoods and buildings in a manner that discourages crime and promotes security and safety for people and property.*

Policy S-24: *The City encourages the use of Crime Prevention Through Environmental Design (CPTED) and the following crime prevention principles:*

Natural Surveillance
A design concept directed primarily at keeping intruders easily observable. Promoted by features that maximize visibility of people, parking areas, and building entrances: doors and windows that look out on to streets and parking areas; pedestrian-friendly sidewalks and streets; front porches; and adequate nighttime lighting.

Territorial Reinforcement
Physical design can create or extend the area in which users develop a sense of territorial control. Potential offenders, perceiving this control, are discouraged. This experience is promoted by features that define property lines and distinguish private spaces from public spaces by using landscape plantings, pavement designs, gateway treatments, and "CPTED" fences.

4.12.2 Impact Analysis

a. Methodology and Significance Thresholds. The following thresholds have been used to determine the impacts to fire protection services, police protection services, schools, public libraries, and parks and recreation facilities. The proposed project would result in potentially significant impacts related to public services if it would:

1. *Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for any of the following public services:*
    a. *Fire protection*
    b. *Police protection*
    c. *Schools*
    d. *Parks*
2. *Other public facilities (i.e. libraries)*
3. *Increase 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; or*
4. *Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.*

As discussed in *Environmental Effects Found Not to be Significant,* the proposed project would not cause an increase in population that would result in higher demand for schools, libraries and parks/recreation services; thus, potential impacts to these resources is not discussed herein.

b. Project Impacts and Mitigation Measures.

Impact PS-1 Buildout of the proposed project would place increased demands on fire protection services. However, the project would be in compliance with the Uniform Fire Code and would not create the need for new or expanded fire protection facilities. Impacts would therefore be *less than significant*.

The proposed project would involve the construction of 479,000 square feet of industrial space with various parking and infrastructure improvements as defined in Section 2.0, *Project Description*. The project would be constructed consistent with current fire codes as defined above and require design approval from the Riverside County Fire Department.

The proposed project may incrementally increase demand for fire protection service through the addition of a new structure and workers on the site. However, the project would not add new residences or otherwise expand the population of Eastvale. The site is currently within the

service area of the Riverside County Fire Department and is accessible by multiple stations. Fire hydrants are currently available along Cantu-Galleano Ranch Road.

Because the project site is within the existing Riverside County Fire Department service area and response times to the site are currently within the identified response time goal, the proposed project would not result in the need to expand existing facilities or build new facilities. Further, the project is consistent with the Eastvale General Plan, which incorporates accessibility to public services as part of the overall land use planning process. Because the project would be designed in compliance with the California Fire Code and the Uniform Building Code, the proposed project would not significantly affect community fire protection services or result in the need for new or expanded fire protection facilities. Impacts would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact PS-2 Buildout of the proposed project would place increased demands on police services. However, the proposed project would not create the need for new or expanded police facilities. Impacts would be *less than significant*.

The ratio of sworn officers to the Eastvale population would not change as the proposed project would not add a new residential population to Eastvale. Any increase in law enforcement services would be associated with occurrences on the project site. However, to avoid or minimize incidences requiring law enforcement services, the project would be located behind security fencing, access to/from the site would be controlled by gates and a guard shack at the Cantu-Galleano Ranch Road entrance and the site would be continuously monitored by surveillance cameras located in- and outside the building. For these reasons, the proposed project would not result in the need for new or expanded police protection facilities to the serve the project site. Impacts related to the provision of police service would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts.

Fire Protection. The geographic area for cumulative analysis of fire protection services is defined as the service territory for the Riverside County Fire Department and surrounding jurisdictions. As discussed above, no residential growth would occur as a result of the proposed project and the project is consistent with the General Plan and located within an area anticipated for warehouse/business park development. Residential growth caused by other planned and pending projects would be within future projections for the City as contained in the City's General Plan and SCAG's RCP. Nearby planned or pending projects in Eastvale as described in Section 3.0, *Environmental Setting*, have residential elements that would be

evaluated on a project–by-project basis to determine impacts on fire protection services. Because population growth caused by the project would not create the need for new or expanded fire protection facilities, cumulative impacts would be less than significant. Fire Facilities Impact Fees (Eastvale Municipal Code Section 110.28) would be used to finance fair share improvements to new facilities. Cumulative impacts would be less than significant.

Police Protection. The project would not increase the residential population of Eastvale or otherwise increase demand for law enforcement services. Thus, the project would not contribute cumulatively to impacts associated with the provision of these services. The project and other planned and pending developments in the City would be required to pay impact fees (Eastvale Municipal Code Chapter 110.28) for police services to help fund improvements to current facilities, if required. No significant cumulative impacts would occur and mitigation is not required.

4.13 TRANSPORTATION AND TRAFFIC

This section analyzes the potential for the proposed project to cause significant impacts to the existing traffic and transportation facilities in the City of Eastvale. The analysis in this section is based on a Traffic Impact Analysis (TIA) prepared for the proposed project by Linscott, Law, & Greenspan Engineers (LLG), August 2015. The Traffic Impact Assessment is provided in Appendix J.

4.13.1 Setting

a. Existing Street Network. Primary regional access to the project site is provided via the SR-60 Freeway and the I-15 Freeway. Direct access to the project site from SR-60 Freeway is provided via the interchange at Milliken Avenue/Hamner Avenue. Direct access to the project site from the I-15 Freeway is provided via the interchange at Cantu-Galleano Ranch Road. The project site is located north of Cantu-Galleano Ranch Road and east of Hamner Avenue. The site is bound by Micro Drive to the North, Cantu-Galleano Ranch Road to the south, existing industrial buildings off Hamner Avenue to the west, and the I-15 Freeway to the east. The principal local network of streets serving the proposed project site is Hamner Avenue and Cantu-Galleano Ranch Road. These roadways are described below.

Hamner Avenue. Hamner Avenue is an urban arterial (152' row) four-lane, divided roadway north of Cantu-Galleano Ranch Road and a two-lane, divided roadway between Cantu-Galleano Ranch Road and Bellegrave Avenue, oriented in the north-south direction. On-street parking is generally not permitted along Hamner Avenue in the vicinity of the project site. The posted speed limit on Hamner Avenue is 50 miles per hour (mph). Traffic signals control the study intersections of Hamner Avenue at the SR-60 WB Ramps, the SR-60 EB Ramps, Riverside Drive, Harvest Drive, Micro Drive, Cantu-Galleano Ranch Road, and Bellegrave Avenue.

Cantu-Galleano Ranch Road. Cantu-Galleano Ranch Road is an urban arterial (152' row) four-lane, divided roadway west of the I-15 Freeway and a six-lane, divided roadway east of the I-15 Freeway, oriented in the east-west direction. Cantu-Galleano Ranch Road borders the project site to the south and would provide access to the project site via one full access driveway. On-street parking is not permitted along Cantu-Galleano Ranch Road in the vicinity of the project site. Traffic signals control the study intersections of Cantu-Galleano Ranch Road at Hamner Avenue, the I-15 north- and southbound ramps.

Micro Drive. Micro Drive is a two-lane local road, oriented in the east-west direction. Micro Drive borders the project site to the north and would provide primary passenger vehicle access to the project site from Hamner Avenue.

b. Existing Traffic Conditions. Traffic conditions were analyzed at nine key intersections affected by the project during the morning and evening peak operating hours (one hour between 7:00-9:00 AM and 4:00-6:00 PM). In May and June 2015, Transportation Studies, Inc. collected intersection data at each of the study intersections, as well as the existing W.W. Grainger driveway adjacent to the site on Cantu-Galleano Ranch Road.

c. Existing Intersection Conditions. In conformance with City of Eastvale and Riverside County Transportation Requirements, existing AM and PM peak hour operating conditions for the signalized intersections were evaluated using the *Highway Capacity Manual* methodology (HCM) described below.

Highway Capacity Manual Method of Analysis (Signalized Intersections). Level of service (LOS) for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. Control delay is composed of a number of factors that relate to control, geometries, traffic, and incidents. The total control delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions. Only the portion of total delay attributed to the control facility is quantified, which includes deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The six qualitative categories of LOS that have been defined along with the corresponding HCM control delay value range for signalized intersections are shown in Table 4.13-1.

Table 4.13-1
Level of Service (LOS) Criteria for Signalized Intersections

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	>10.0 and ≤20.0	This cycle level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	>20.0 and ≤35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	>35.0 and ≤55.0	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	>55.0 and ≤80.0	Very long traffic delays. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high *v/c* rations. Individual cycle failures are frequent occurrences.
F	≥80.0	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

LLG Traffic Impact Analysis (see Appendix J).

Highway Capacity Manual Method of Analysis (Unsignalized Intersections). The traffic study utilized the methodology for stop-controlled intersections to evaluate the unsignalized intersections. LOS estimates the average control delay for each of the subject movements and determines the LOS for each movement. For all-way stop controlled intersections, the overall average control delay measured in seconds per vehicle is used to calculate the LOS for the entire intersection. For one-way and two-way stop-controlled intersections, the worst side street delay is estimated. It is measured in seconds per vehicle and used to determine the LOS for that approach. The six qualitative categories of LOS that have been defined along with the corresponding HCM control delay value range for unsignalized intersections are shown in Table 4.13-2.

Table 4.13-2
Level of Service (LOS) Criteria for Unsignalized Intersections

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤10.0	Little or no delay
B	>10.0 and ≤20.0	Short traffic delays
C	>20.0 and ≤35.0	Average traffic delays
D	>35.0 and ≤55.0	Long traffic delays
E	>55.0 and ≤80.0	Very long traffic delays
F	≥80.0	Severe congestion

LLG Traffic Impact Analysis (see Appendix J).

City of Eastvale Level of Service Criteria. The City of Eastvale seeks to maintain an LOS of "C" along all City-maintained roads. A peak hour LOS of "D" may be allowed in commercial and employment areas and at intersections of any combination of major highways, urban arterials, secondary highways, or freeway ramp intersections. Because Milliken Avenue, Hamner Avenue, and Cantu-Galleano Ranch Road are classified as Urban Arterials per the City of Eastvale General Plan, LOS D or better is the operating threshold for the nine study intersections. For intersections currently operating at an unacceptable LOS (LOS E or LOS F) without project traffic conditions, an increase in delay of more than five seconds is the operating threshold.

Caltrans Level of Service Criteria. California Department of Transportation (Caltrans) works to maintain a target LOS at the transition between LOS C and LOS D on state highways. LOS D is not required to be maintained. Caltrans acknowledges that this is not always feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For this analysis, LOS D is the target LOS and will be utilized to assess project impacts at state-controlled study intersections.

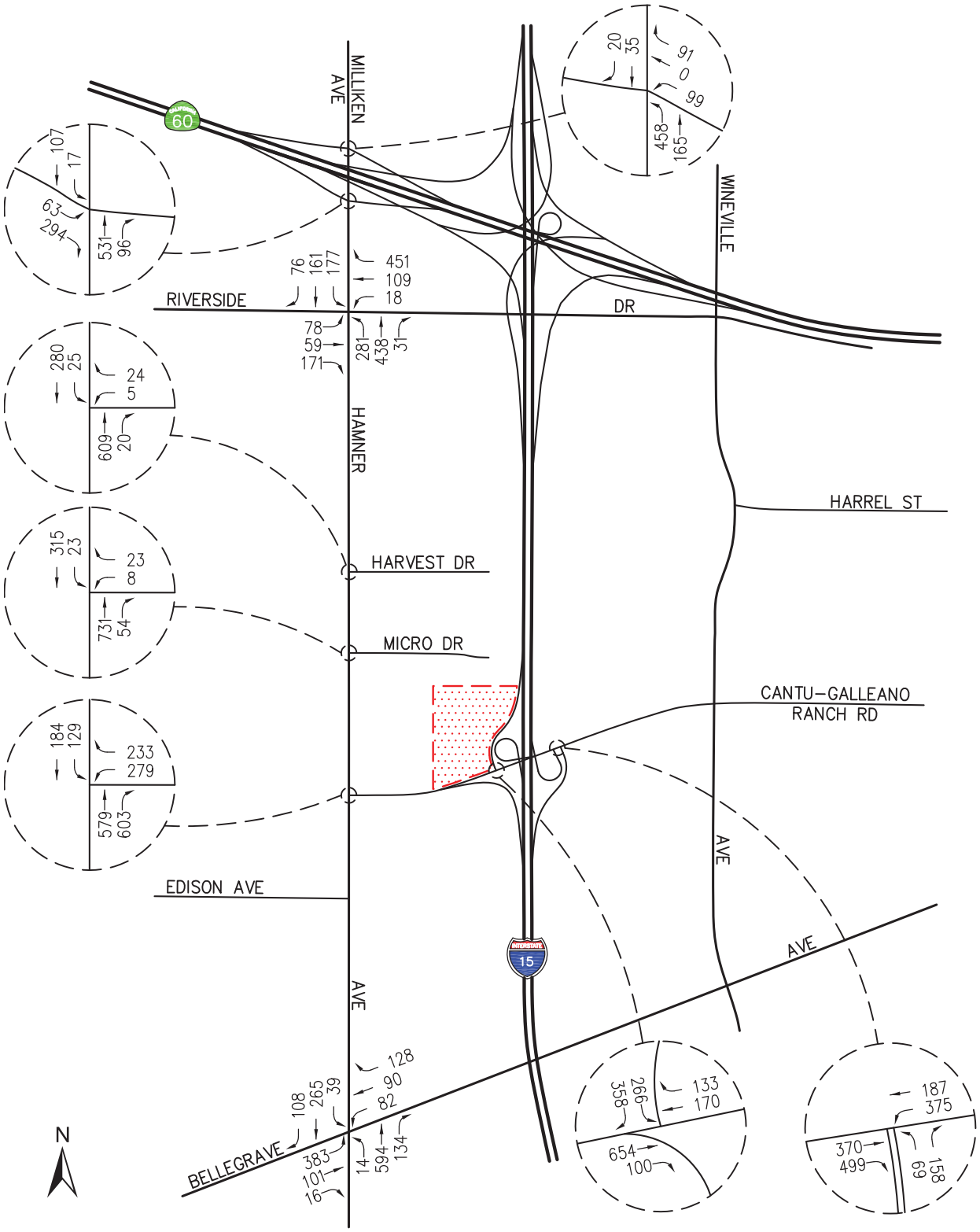
Existing Daily Intersection Volumes. Existing traffic data was collected in May and June 2015, at each of the nine study intersections during weekday peak hours. Figure 4.13-1 depicts the existing AM peak hour traffic volumes and Figure 4.13-2 depicts the existing PM peak hour traffic volumes at the nine study intersections.

Existing Level of Service Results. Existing peak hour LOS at the nine study intersections are shown in Table 4.13-3. These data are based on existing traffic volumes and current street geometry. Eight of the nine study intersections currently operate at an acceptable LOS during both AM and PM peak hours. The Hamner Avenue/Riverside Drive intersection currently operates at LOS F during the PM peak hour.

Table 4.13-3
Existing[1] LOS at Study Intersections

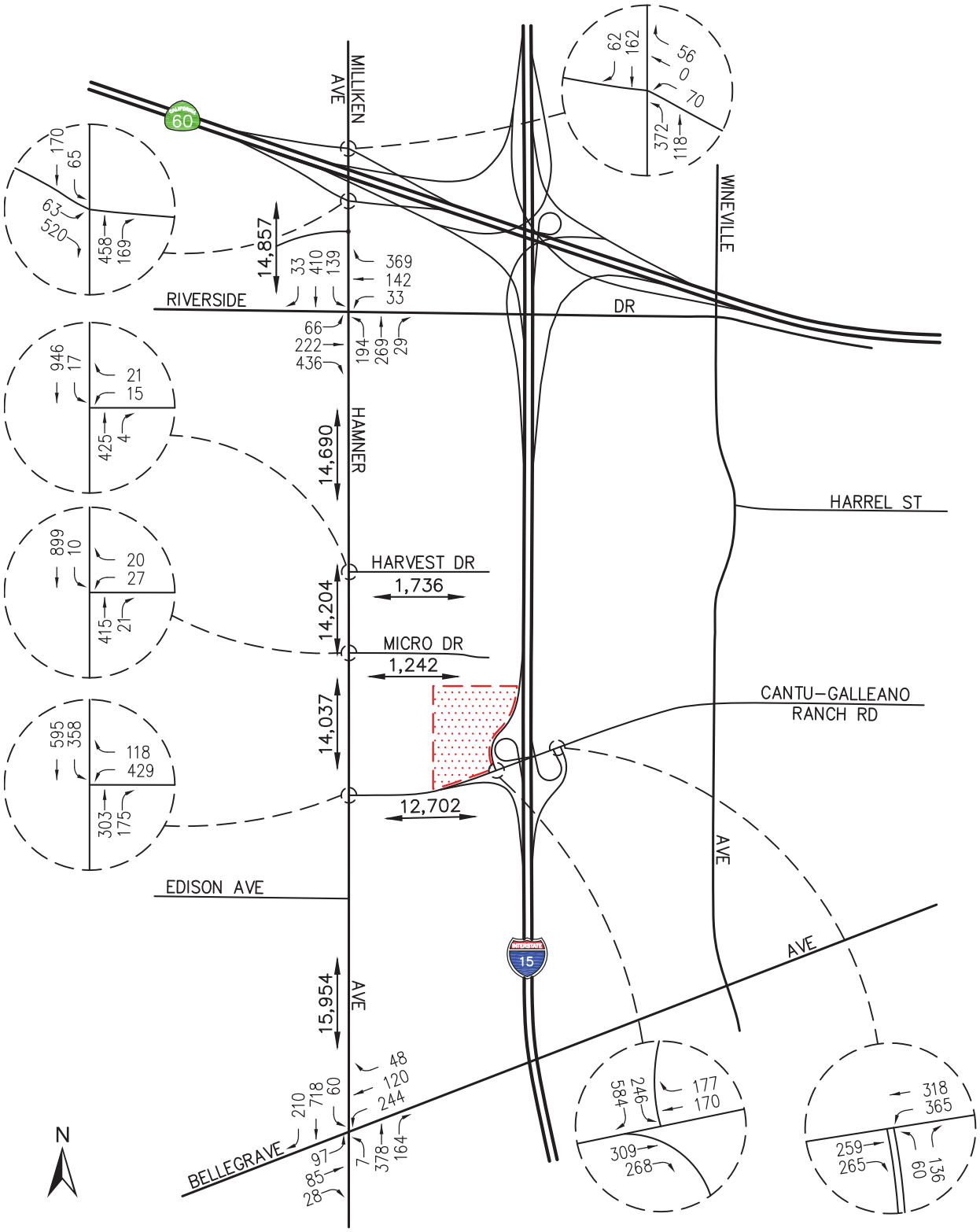
Key Intersection		Minimum Acceptable LOS	Time Period	Control Type	HCM	LOS
1.	Milliken Avenue at SR-60 WB Ramps	LOS D	AM PM	3Ø Traffic Signal	12.4 s/v 14.3 s/v	B B
2.	Hamner Avenue at SR-60 EM Ramps	LOS D	AM PM	3Ø Traffic Signal	16.8 s/v 21.7 s/v	B C
3.	Hamner Avenue at Riverside Drive	LOS D	AM PM	6Ø Traffic Signal	49.7 s/v **83.3 s/v**	D **F**
4.	Hamner Avenue at Harvest Drive	LOS D	AM PM	3Ø Traffic Signal	5.8 s/v 9.6 s/v	A A
5.	Hamner Avenue at Micro Drive	LOS D	AM PM	3Ø Traffic Signal	5.6 s/v 9.7 s/v	A A
6.	Hamner Avenue at Cantu-Galleano Ranch Road	LOS D	AM PM	3Ø Traffic Signal	23.6 s/v 24.0 s/v	C C
7.	Hamner Avenue at Bellegrave Avenue	LOS D	AM PM	8Ø Traffic Signal	38.0 s/v 34.1 s/v	D C
8.	I-15 SB Ramps at Cantu-Galleano Ranch Road	LOS D	AM PM	2Ø Traffic Signal	12.6 s/v 11.2 s/v	B B
9.	I-15 NB Ramps at Cantu-Galleano Ranch Road	LOS D	AM PM	3Ø Traffic Signal	13.3 s/v 13.7 s/v	B B

Source: LLG Traffic Impact Analysis, See Appendix J.
[1] Existing intersection conditions are based on weekday traffic counts conducted in May and June 2015 for the LLG traffic study.
s/v=seconds per vehicle
***Bold HCM/LOS** indicates unacceptable service levels based on LOS criteria identified in this report.*



Source: Linscott Law & Greenspan, 2015

Existing AM Peak Hour Traffic Volumes Figure 4.13-1



Source: Linscott Law & Greenspan, 2015

Existing PM Peak Hour Traffic Volumes Figure 4.13-2

d. Regulatory Setting.

Congestion Management Program. In Riverside County (County), the Congestion Management Program (CMP) recognizes the use of the Southern California Association of Governments (SCAG) transportation model, the Coachella Valley Area Transportation System (CVATS) sub-regional transportation model, the Riverside County Traffic Analysis Model (RIVTAM) Final Report (May 2009), and local agency models to analyze traffic impacts associated with development proposals or land use plans. In June 1990, the passage of the Proposition 111 gas tax increase required urbanized areas in the State with a population of 50,000 or more to adopt a CMP. Riverside County Transportation Commission (RCTC) is the Congestion Management Agency (CMA) for the County. RCTC has been charged with the development, monitoring, and biennial updating of Riverside County's CMP. The Riverside County CMP is intended to address the impact of local growth on the regional transportation system. The CMP Highway System includes specific roadways, including state highways, and CMP arterial monitoring locations/intersections. The CMP is also the vehicle for proposing transportation projects that are eligible to compete for the State gas tax funds.

City of Eastvale General Plan. The City of Eastvale General Plan Circulation and Infrastructure Element identifies goals and policies to provide a safe, achievable, efficient, environmentally and financially sound, and accessible transportation system. The following policies are included in the Circulation and Infrastructure Element of the General Plan.

Policy C-3	*The cumulative and indirect traffic impacts of development may be mitigated through the payment of impact mitigation fees.*
Policy C-10	*Seek to maintain the following target levels of service: "C" along all City-maintained roads. A peak hour level of service of "D" may be allowed in commercial and employment areas, and at intersections of any combination of major highways, urban arterials, secondary highways, or freeway ramp intersections.*
Policy C-13	*Construct and improve traffic signals at appropriate intersections. Traffic signals should be spaced and operated as part of coordinated systems to optimize traffic operation.*
Policy C-14	*Continue to support the integration of Intelligent Transportation Systems (ITS) consistent with the principles and recommendations referenced in the Inland Empire ITS Strategic Plan as the transportation system is implemented.*

4.13.2 Impact Analysis

e. Methodology and Significance Thresholds. Impacts related to transportation and circulation would be potentially significant if development facilitated by the proposed project would:

1. *Conflict with an applicable plan, ordinance, or policy establishing a measure of effectiveness for the performance of a circulation system, taking into account all modes of transportation, including mass transit and nonmotorized 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*

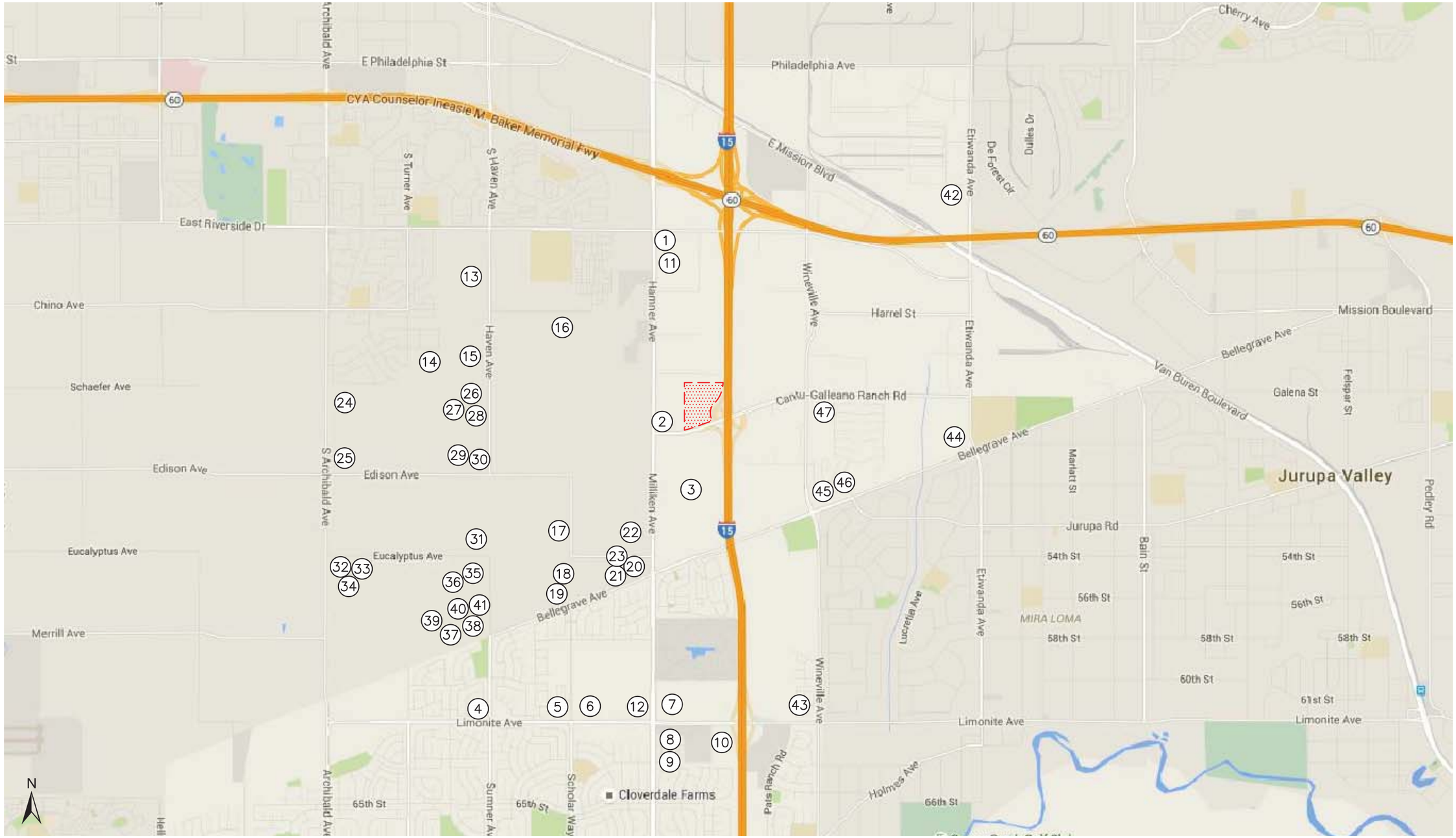
2. *Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways*
3. *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks*
4. *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*
5. *Result in inadequate emergency access*
6. *Conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities*

In addition, the City of Eastvale seeks to maintain LOS C along all City-maintained roads. A peak hour LOS D may be allowed in commercial and employment areas and at intersections of any combination of major highways, urban arterials, secondary highways, or freeway ramp intersections. Because Milliken Avenue, Hamner Avenue, and Cantu-Galleano Ranch Road are classified as Urban Arterials per the City of Eastvale General Plan, LOS D or better is the operating threshold for the nine study intersections. For intersections currently operating at an unacceptable LOS (LOS E or LOS F) without project traffic conditions, an increase in delay of more than five seconds is the operating threshold.

Each of the nine study intersections within the study area was analyzed to determine the LOS under 2019 (opening year) and cumulative project scenarios.

Traffic Forecasting Methodology. Traffic forecasting was performed using a three step process. First, traffic generation potential was forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation. Second, traffic distribution was performed to identify the origins and destinations of inbound and outbound traffic using demographics and existing/expected future travel patterns in the study area. Third, project traffic was allocated to study area streets and intersections based on minimization of travel time. Using traffic forecasting, the impact of the project can be isolated by comparing operational LOS conditions at the key intersections using expected future traffic volumes with and without operation of the project.

Future Traffic Conditions. Future traffic conditions include ambient traffic growth and growth from cumulative projects in addition to the project traffic. An ambient growth factor of 2% was used to account for unknown future cumulative projects and typical traffic growth. Based on a 2% annual growth rate, volumes were increased by eight percent (8%) from 2015 (existing conditions) to 2019 (opening year). For cumulative project growth, 47 known development projects (cumulative projects) within a two-mile radius of the project site were identified. These projects include 12 in the City of Eastvale, 29 in the City of Ontario, and 6 in the City of Jurupa Valley (see Table 3-1, *Location and Description of Cumulative Projects*). Figure 4.13-3 illustrates the location of the cumulative projects. The trip generation assumptions for each of the cumulative projects is included in Traffic Impact Assessment provided in Appendix J.



Cumulative Project Locations

Source: Linscott Law & Greenspan, 2015

Figure 4.13-3

As referenced in the *Environmental Effects Found to Not Be Significant* discussion in Section 4.0, the project would not result in a change in air traffic patterns, conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise decrease the performance of safety of such facilities, or result in inadequate emergency access. Therefore, thresholds related to these topics are not discussed further in the EIR.

f. Project Impacts and Mitigation Measures.

Impact AQ-8 **Implementation of the proposed project would increase traffic on the surrounding street network and would impact intersections in the area. Impacts associated with the Project would be *significant but mitigatable.***

Project Traffic Generation. Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the Ninth Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE). Trip generation estimates for the project are summarized in Table 4.13-4. The trip generation for the project was forecast using ITE Land Use Code 152 High Cube Warehouse. As shown, the project would generate 1,318 daily trips, with 70 (48 inbound and 22 outbound) in the AM peak hour and 58 (28 inbound and 40 outbound) in the PM peak hour on a typical weekday.

Table 4.13-4
Project Traffic Generation Forecast

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Generation Factors: • **152: High Cube Warehouse (TE/1000 SF)**	**1.68**						
Proposed Project Generation Forecast LBA Realty Industrial Development (456,173 SF)							
• [a] Passenger Cars	398	16	6	22	10	22	32
• [b] Truck Trips	368	19	9	28	7	16	23
• [c] Truck P.C.E. Trips	920	48	22	70	18	40	58
Total Traffic Generation Forecast [a]+[c]	**1,318**	**64**	**28**	**92**	**28**	**62**	**90**

Source: LLG Traffic Impact Analysis (see Appendix J).
TE/1000 SF = Trip ends per 1,000 SF of development
P.C.E = passenger car equivalent

Existing Plus Project Traffic Conditions. The peak hour LOS for the nine study intersections for existing plus project conditions are summarized in Table 4.13-5. Potential project impacts are evaluated using the circulation system as it currently exists, pursuant to the City's traffic study guidelines and CEQA guidelines, to identify direct project impacts. The project will not significantly impact any of the nine intersections evaluated. The intersection at Hamner Avenue and Riverside Drive is forecast to operate at an unacceptable LOS F with or without the project.

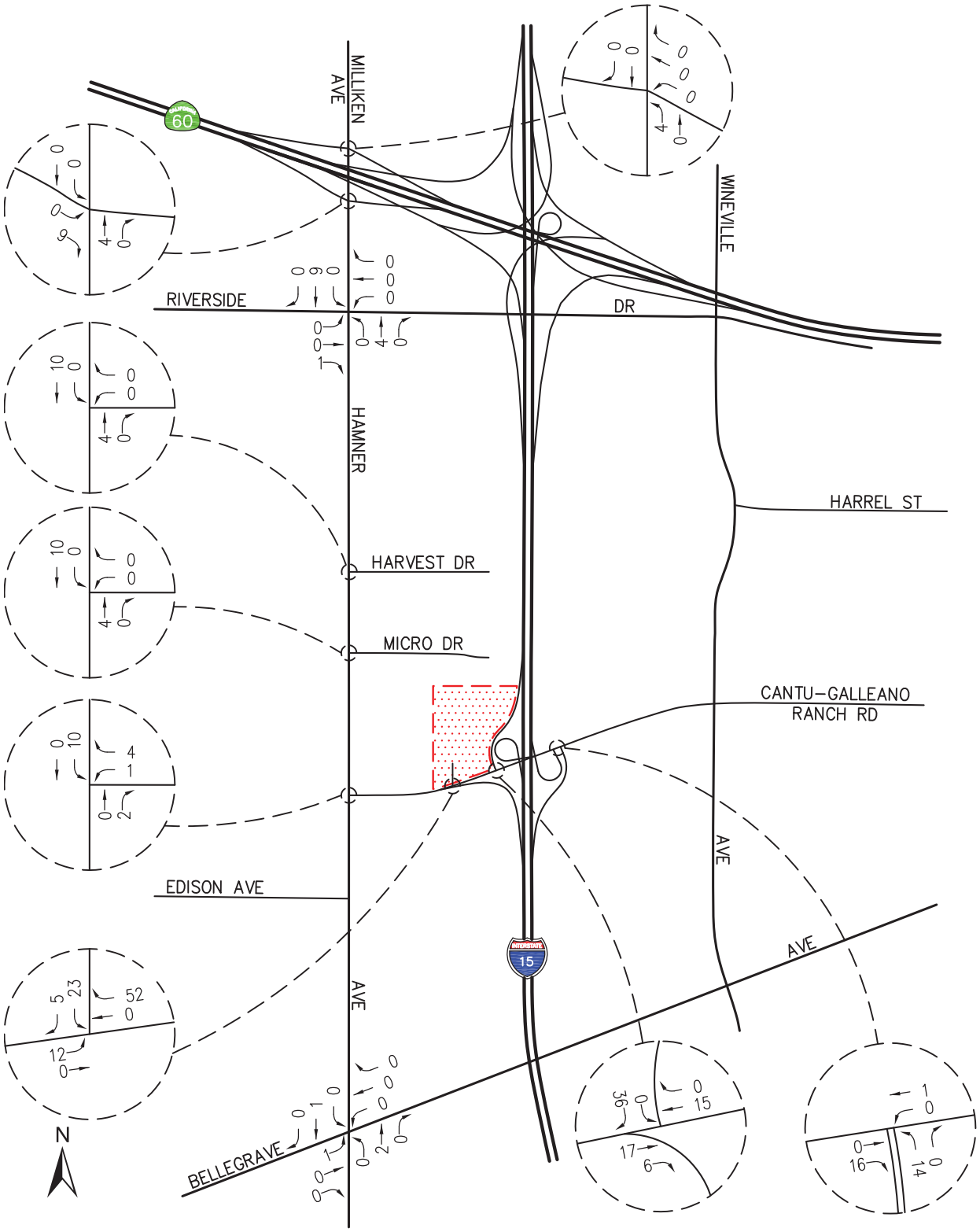
Figure 4.13-4 and Figure 4.13-5, respectively, show the AM and PM peak hour traffic volumes at the study intersections with the project.

Table 4.13-5
Existing[1] Plus Project LOS at Study Intersections

Key Intersection		Minimum Acceptable LOS	Time Period	Existing Traffic Conditions		Existing Plus Project Traffic Conditions		Significant Impact	
				HCM	LOS	HCM	LOS	Increase	Yes/No
1.	Milliken Avenue at SR-60 WB Ramps	LOS D	AM PM	12.4 s/v 14.3 s/v	B B	12.4 s/v 14.2 s/v	B B	0.0 s/v 0.0 s/v	No No
2.	Hamner Avenue at SR-60 EM Ramps	LOS D	AM PM	16.8 s/v 21.7 s/v	B C	17.0 s/v 22.0 s/v	B C	0.2 s/v 0.3 s/v	No No
3.	Hamner Avenue at Riverside Drive	LOS D	AM PM	49.7 s/v **83.3 s/v**	D **F**	49.6 s/v **83.8 s/v**	D **F**	0.0 s/v 0.5 s/v	No No
4.	Hamner Avenue at Harvest Drive	LOS D	AM PM	5.8 s/v 9.6 s/v	A A	5.8 s/v 9.7 s/v	A A	0.0 s/v 0.1 s/v	No No
5.	Hamner Avenue at Micro Drive	LOS D	AM PM	5.6 s/v 9.7 s/v	A A	5.6 s/v 9.8 s/v	A A	0.0 s/v 0.1 s/v	No No
6.	Hamner Avenue at Cantu-Galleano Ranch Road	LOS D	AM PM	23.6 s/v 24.0 s/v	C C	24.5 s/v 24.3 s/v	C C	0.9 s/v 0.3 s/v	No No
7.	Hamner Avenue at Bellegrave Avenue	LOS D	AM PM	38.0 s/v 34.1 s/v	D C	38.5 s/v 34.3 s/v	D C	0.5 s/v 0.2 s/v	No No
8.	I-15 SB Ramps at Cantu-Galleano Ranch Road	LOS D	AM PM	12.6 s/v 11.2 s/v	B B	12.8 s/v 11.7 s/v	B B	0.2 s/v 0.5 s/v	No No
9.	I-15 NB Ramps at Cantu-Galleano Ranch Road	LOS D	AM PM	13.3 s/v 13.7 s/v	B B	13.4 s/v 13.7 s/v	B B	0.1 s/v 0.2 s/v	No No

Source: LLG Traffic Impact Analysis, (see Appendix J)
[1] Existing intersection conditions are based on weekday traffic counts conducted in May and June 2015 for the LLG traffic study.
s/v=seconds per vehicle
***Bold HCM/LOS** indicates unacceptable service levels based on LOS criteria identified in this report.*

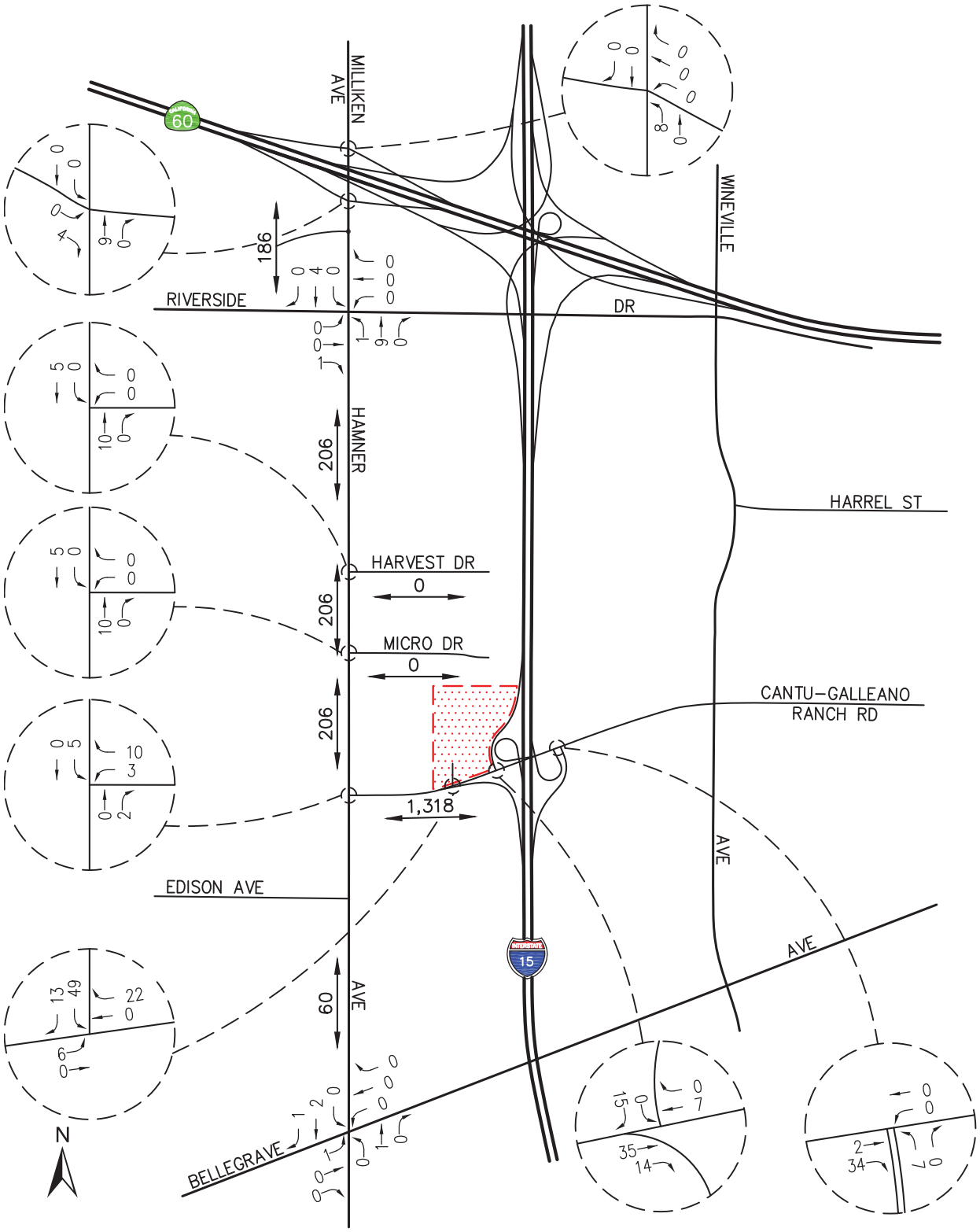
Existing Plus Ambient Growth and 2019 With Project Traffic Conditions. The peak hour LOS for the existing plus ambient growth through 2019 plus project traffic conditions are summarized in Table 4.13-6. Only the Hamner Avenue/Riverside Drive intersection would be significantly impacted by the project and ambient growth. The PM peak hour LOS would remain at LOS F and the AM peak hour LOS would drop from LOS D to LOS E.



Source: Linscott Law & Greenspan, 2015

Project AM Peak Hour Traffic Volumes

Figure 4.13-4



Source: Linscott Law & Greenspan, 2015

Project PM Peak Hour Traffic Volumes

Figure 4.13-5

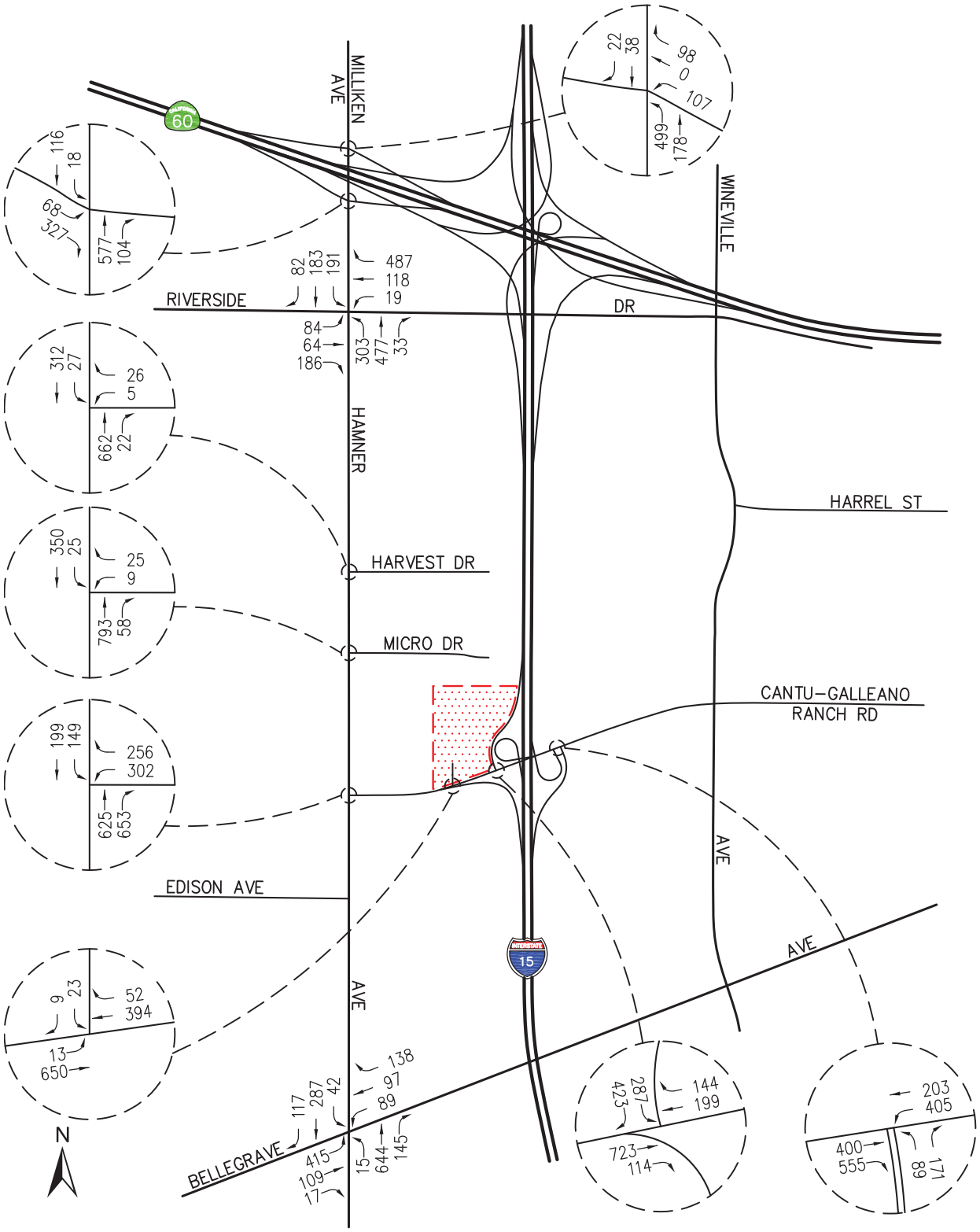
Table 4.13-6
Existing[1] Plus Ambient Growth (2019) Plus Project LOS at Study Intersections

Key Intersection		Minimum Acceptable LOS	Time Period	Existing Traffic Conditions		Existing Plus Ambient Plus Project Traffic Conditions		Significant Impact	
				HCM	LOS	HCM	LOS	Increase	Yes/No
1.	Milliken Avenue at SR-60 WB Ramps	LOS D	AM PM	12.4 s/v 14.3 s/v	B B	12.8 s/v 14.4 s/v	B B	0.4 s/v 0.1 s/v	No No
2.	Hamner Avenue at SR-60 EM Ramps	LOS D	AM PM	16.8 s/v 21.7 s/v	B C	17.8 s/v 24.5 s/v	B C	1.0 s/v 2.8 s/v	No No
3.	Hamner Avenue at Riverside Drive	LOS D	AM PM	49.7 s/v **83.3 s/v**	D **F**	**64.6 s/v** **104.5 s/v**	**E** **F**	**14.9 s/v** **21.2 s/v**	**Yes** **Yes**
4.	Hamner Avenue at Harvest Drive	LOS D	AM PM	5.8 s/v 9.6 s/v	A A	5.9 s/v 9.9 s/v	A A	0.1 s/v 0.3 s/v	No No
5.	Hamner Avenue at Micro Drive	LOS D	AM PM	5.6 s/v 9.7 s/v	A A	5.7 s/v 10.0 s/v	A A	0.1 s/v 0.3 s/v	No No
6.	Hamner Avenue at Cantu-Galleano Ranch Road	LOS D	AM PM	23.6 s/v 24.0 s/v	C C	29.2 s/v 28.5 s/v	C C	5.6 s/v 4.5 s/v	No No
7.	Hamner Avenue at Bellegrave Avenue	LOS D	AM PM	38.0 s/v 34.1 s/v	D C	44.6 s/v 37.3 s/v	D D	6.6 s/v 3.2 s/v	No No
8.	I-15 SB Ramps at Cantu-Galleano Ranch Road	LOS D	AM PM	12.6 s/v 11.2 s/v	B B	13.1 s/v 12.0 s/v	B B	0.5 s/v 0.8 s/v	No No
9.	I-15 NB Ramps at Cantu-Galleano Ranch Road	LOS D	AM PM	13.3 s/v 13.7 s/v	B B	13.7 s/v 13.9 s/v	B B	0.4 s/v 0.2 s/v	No No

Source: LLG Traffic Impact Analysis (see Appendix J).
[1] Existing intersection conditions are based on weekday traffic counts conducted in May and June 2015 for the LLG traffic study.
s/v=seconds per vehicle
***Bold HCM/LOS** indicates unacceptable service levels based on LOS criteria identified in this report.*

Figures 4.13-6 and 4.13-7, respectively, show the AM and PM peak hour traffic volumes for the project with 2019 ambient growth.

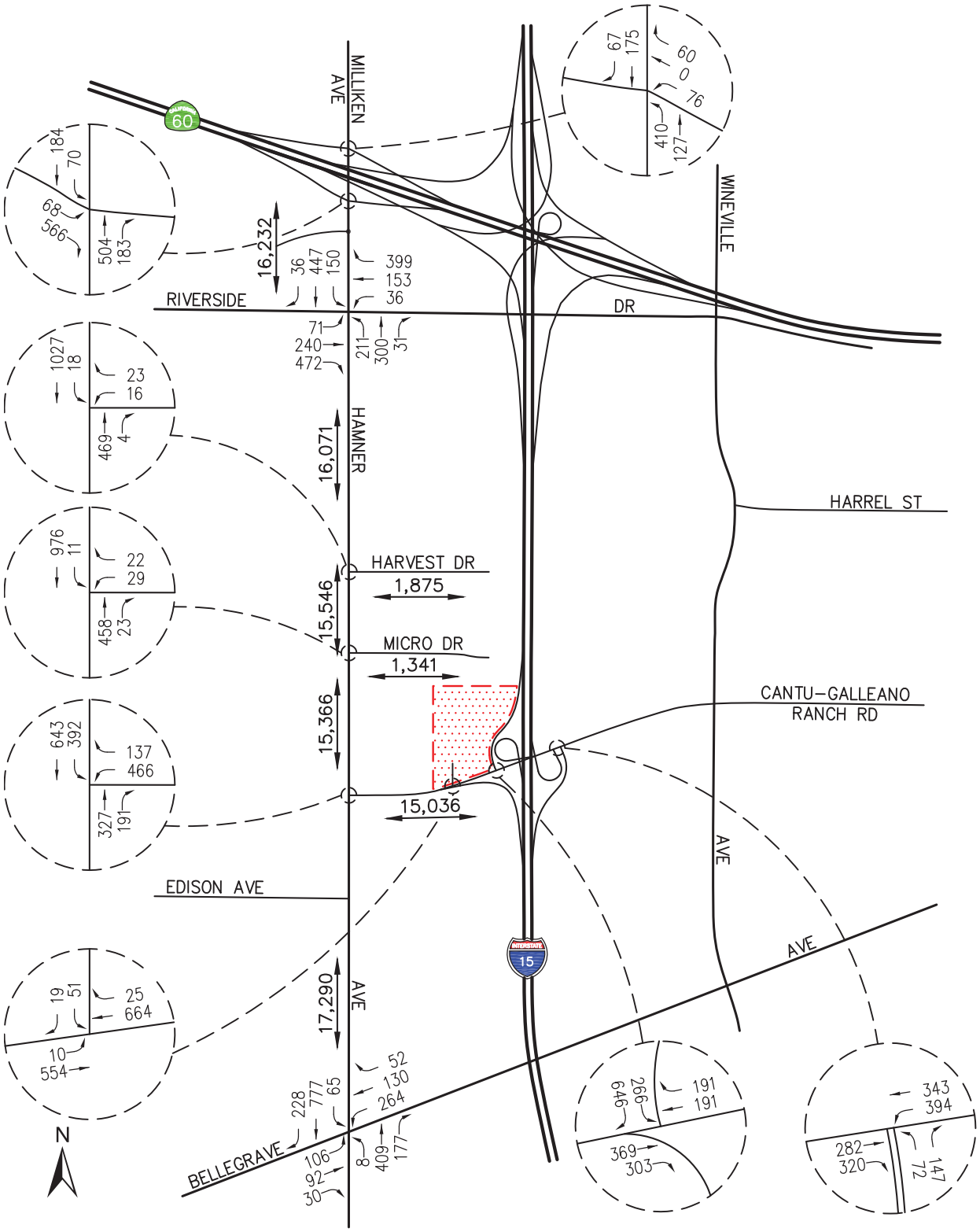
Caltrans Facilities. Caltrans requires the use of Highway Capacity Manual (HCM) for the analysis of ramp intersections and basic freeway segments. Caltrans works to maintain an LOS between C and D on State highway facilities; however, as noted herein, LOS D is acceptable.



Source: Linscott Law & Greenspan, 2015

2019 Ambient Growth Plus
Project AM Peak Hour Traffic Volumes

Figure 4.13-6



Source: Linscott Law & Greenspan, 2015

2019 Ambient Growth Plus
Project PM Peak Hour Traffic Volumes

Figure 4.13-7

Ramp Intersection Capacity Analyses were conducted for the following four key ramp intersection:

1. Milliken Avenue at SR-60 EB Ramps
2. Hamner Avenue at SR-60 WB Ramps
3. I-15 SB Ramps at Cantu-Galleano Ranch Road
4. I-15 NB Ramps at Cantu-Galleano Ranch Road

These results are shown above in Tables 4.13-5 and 4.13-6 for Existing Plus Project Traffic Conditions and Ambient Growth Plus Project Traffic Conditions. Cumulative project traffic conditions for these intersections are included below in *Section 4.13.2-c Cumulative Impacts*.

Basic Freeway Segment Analysis for freeway segments was conducted for the following six Caltrans freeway segments in the vicinity of the Project for existing traffic conditions:

1. I-15 NB *from* Limonite Avenue *to* Cantu-Galleano Ranch Road
2. I-15 NB *from* Cantu-Galleano Ranch Road *to* SR-60 Freeway
3. SR-60 WB *from* Milliken Avenue *to* Haven Avenue
4. SR-60 EB *from* Haven Avenue *to* Milliken Avenue
5. I-15 SB *from* SR-60 Freeway *to* Cantu-Galleano Ranch Road
6. I-15 SB *from* Cantu-Galleano Ranch Road *to* Limonite Avenue

Four of the six freeway segments (#2, #4, #5, and #6) currently operate at LOS C or better during the AM and/or PM peak hours. Freeway segment #1 currently operates at LOS D during both AM and PM peak hours and freeway segment #3 currently operates at LOS D during the PM peak hour.

Per Caltrans guidelines, the following is stated in the *Caltrans Guide for the Preparation of Traffic Impact Studies (TIS), December 2002:*

> *"The following criterion is a starting point in determining when a TIS is needed. When a project:*
> 1. *Generates over 100 peak hour trips assigned to a State highway facility…*
> 2. *Generates 50 to 100 peak hour trips assigned to a State highway facility and noticeable delay approaching LOS C or D…*
> 3. *Generates 1 to 49 peak hour trips assigned to a State highway facility and noticeable delay approaching LOS E or F…"*

Based on the Caltrans criteria above and the results of the basic freeway segments analysis for existing traffic conditions, no additional analysis is needed for the Caltrans Facilities since the project does not generate greater than 100 peak hour trips assigned to a state highway facility and all freeway segments are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours under Existing traffic conditions.
As referenced in Table 4.13-6, project-generated traffic would increase traffic volumes at each of the nine study intersections. When considering existing and 2019 traffic growth, only the Hamner Avenue and Riverside Drive intersection would be significantly impacted by the project. This intersection currently operates at LOS F during the PM peak hour and would continue to do so with the implementation of the project. Table 4.13-7 summarizes project

impacts based on 2019 traffic conditions. During the AM peak hour, LOS at the intersection of Hamner Avenue and Riverside Drive would decrease to LOS E. The LOS during PM peak hour would remain at LOS F. The proposed project would cause an increase in traffic volume and as a result, vehicle delay would also increase.

Table 4.13-7
2019 Growth Plus Project LOS at Impacted Intersections

Key Intersection		Minimum Acceptable LOS	Time Period	Existing Traffic Conditions		Year 2019 Cumulative Plus Project Traffic Conditions		Significant Impact	
				HCM	LOS	HCM	LOS	Increase	Yes/No
3.	Hamner Avenue at Riverside Drive	LOS D	AM PM	49.7 s/v 83.3 s/v	D F	64.6 s/v 104.5 s/v	E F	14.9 s/v 21.2 s/v	Yes Yes

Source: LLG Traffic Impact Analysis, See Appendix J.
s/v=seconds per vehicle.

An intersection LOS of E or F is unacceptable per the City of Eastvale; therefore, the project's impact would be significant based on the City's criteria.

Mitigation Measures. The following measures would reduce the impact of T-1 to less than significant.

T-1(a) **Riverside Drive Widening.** Prior to project operation, Riverside Drive shall be widened and/or restriped to provide an exclusive eastbound right-turn lane at Hamner Avenue.

T-1(b) **Hamner Avenue/Riverside Drive Modifications.** Prior to project operation, the existing traffic signal at Hamner Avenue and Riverside Drive shall be modified and an eastbound right-turn overlap shall be installed.

Significance After Mitigation. Roadway widening/ provision of an additional turn-lane would provide additional capacity for turning vehicles and would therefore improve the flow of traffic along Riverside Drive. Signal modifications would improve the efficiency of vehicle flow from Riverside Drive turning right onto Hamner Avenue and would also contribute to improved traffic flow conditions. With incorporation of mitigation measures T-1(a) and T-1(b), Project impacts on intersections would be less than significant.

Impact AQ-9 The proposed Project would alter design of the road system through the development of a truck access signalized driveway along Cantu-Galleano Ranch Road. Impacts from the truck access driveway would be *less than significant.*

Vehicular truck access to the project site would be provided via one full access signalized driveway located on Cantu-Galleano Ranch Road, directly opposite from the proposed full access signalized driveway serving the Goodman Commerce Center. Secondary truck access

and primary passenger vehicle access would be provided via a new driveway from Micro Drive; however, this access would not be used full time for truck access. In order to provide a conservative analysis, the traffic study assumed project access for employees and trucks only from the project driveway located along Cantu-Galleano Ranch Road. The proposed driveway to/from Cantu-Galleano Ranch Road would also serve the existing W.W. Grainger building located adjacent to the west of the project site. The existing W.W. Grainger driveway would be modified to allow shared access with the proposed project.

Table 4.13-8 summarizes the intersection operations at the proposed project driveway under 2019 traffic conditions at completion of the project and full occupancy of the site. The traffic volumes also include the W.W. Grainger traffic volumes as well as traffic associated with operation of the Goodman Commerce Center. The operations analysis for the project driveway is based on the HCM methodology for signalized intersections. The project driveway intersection is forecast to operate at an acceptable LOS C during both AM and PM peak hours.

Table 4.13-8
Project Driveway Peak Hour Intersection Analysis Summary

Project Driveway	Time Period	Intersection Control	Year 2019 Cumulative Plus Project Traffic Conditions	
			HCM	LOS
Project Driveway/ Goodman Commerce Center Driveway at Cantu-Galleano Ranch Road	AM PM	Traffic Signal	22.7 s/v 31.0 s/v	C C

Source: LLG Traffic Impact Analysis, see Appendix J.
s/v=seconds per vehicle

An on-site circulation analysis was performed using the *Turning Vehicle Templates* developed by Jack E. Leisch & Associates and *AutoTURN for AutoCAD* computer software. The software simulates turning maneuvers for various types of vehicles. The turning templates were utilized to ensure that large trucks could properly access and circulate through the project site as well as to/from the W.W. Grainger site. A large truck (STAA-Long) turning template was utilized in this evaluation. Circulation was found to be adequate for clockwise and counter-clockwise circulation on the project site and for access to the W.W. Grainger facility.
The proposed driveway intersection would operate at an acceptable and safe LOS C and the on-site circulation would be adequate for large trucks. Therefore, impacts would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Cumulative development in the area would increase traffic on area roadways. The Traffic Impact Assessment identified 47 related projects within a two-mile radius of the project site that could, in combination with the proposed project, result in cumulative traffic impacts. Figure 4.13-3 depicts the locations of the 47 projects. The list of cumulative projects includes projects in the City of Eastvale (12), the City of Ontario (29), and the City of Jurupa Valley (6).

- Figures 4.13-8 and 4.13-9, respectively, show the forecasted traffic volumes for cumulative projects (including the proposed project) in the AM and PM peak hours. Table 4.13-9 summarizes existing and cumulative project intersection capacities.

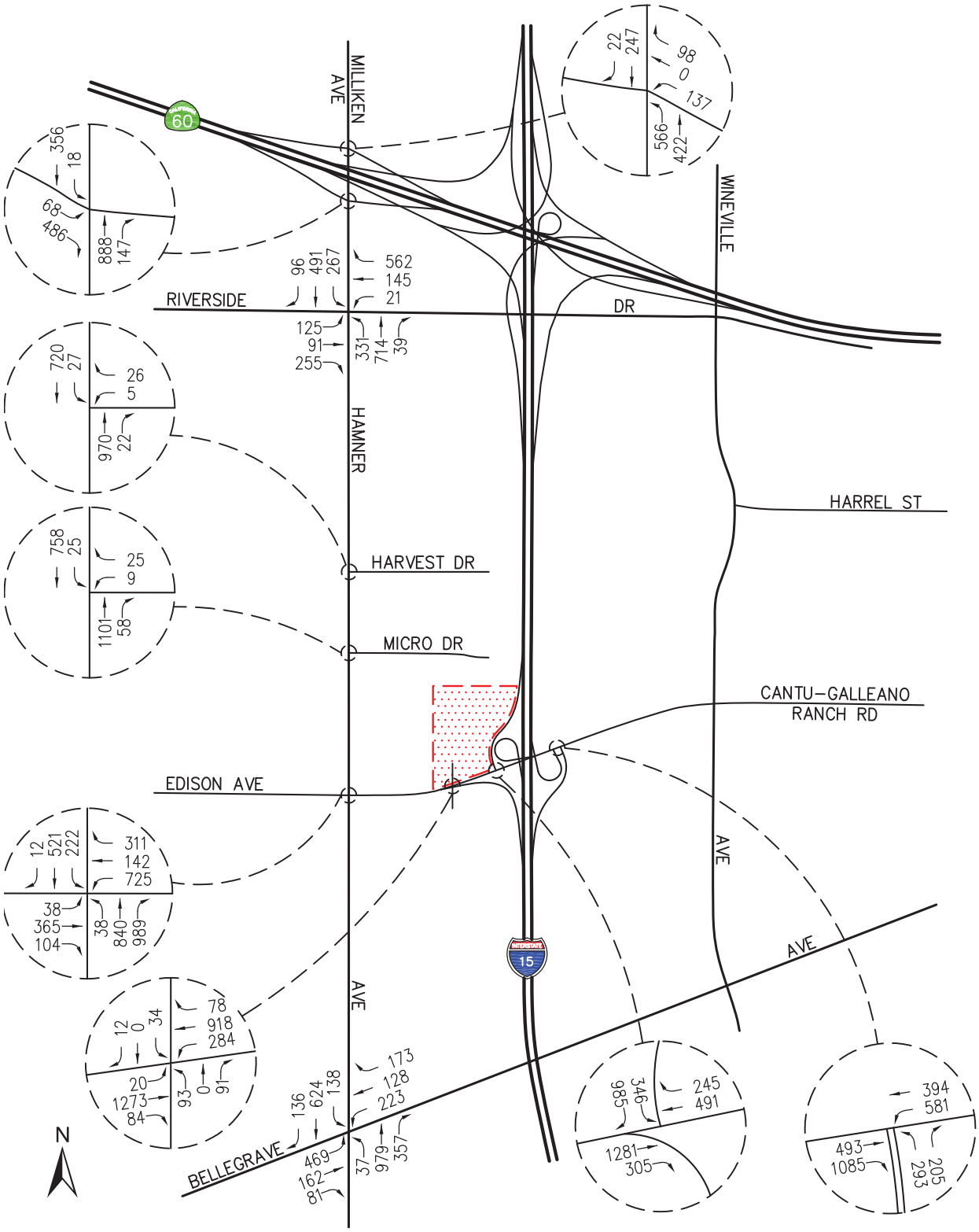
Table 4.13-9
Existing[1] Plus Cumulative Growth (2019) Plus Project LOS at Study Intersections

Key Intersection		Minimum Acceptable LOS	Time Period	Existing Traffic Conditions		Year 2019 Cumulative Plus Project Traffic Conditions		Significant Impact	
				HCM	LOS	HCM	LOS	Increase	Yes/No
1.	Milliken Avenue at SR-60 WB Ramps	LOS D	AM PM	12.4 s/v 14.3 s/v	B B	14.6 s/v 16.8 s/v	B B	2.2 s/v 2.5 s/v	No No
2.	Hamner Avenue at SR-60 EM Ramps	LOS D	AM PM	16.8 s/v 21.7 s/v	B C	28.1 s/v 45.5 s/v	C D	11.3 s/v 23.8 s/v	No No
3.	**Hamner Avenue at Riverside Drive**	**LOS D**	**AM PM**	**49.7 s/v 83.3 s/v**	**D F**	**139.9 s/v 211.5 s/v**	**F F**	**84.2 s/v 128.2 s/v**	**Yes Yes**
4.	Hamner Avenue at Harvest Drive	LOS D	AM PM	5.8 s/v 9.6 s/v	A A	6.9 s/v 16.4 s/v	A B	1.1 s/v 6.8 s/v	No No
5.	Hamner Avenue at Micro Drive	LOS D	AM PM	5.6 s/v 9.7 s/v	A A	5.7 s/v 15.9 s/v	A B	0.1 s/v 6.2 s/v	No No
6.	**Hamner Avenue at Cantu-Galleano Ranch Road**	**LOS D**	**AM PM**	**23.6 s/v 24.0 s/v**	**C C**	**278.0 s/v 307.7 s/v**	**F F**	**254.4 s/v 283.7 s/v**	**Yes Yes**
7.	**Hamner Avenue at Bellegrave Avenue**	**LOS D**	**AM PM**	**38.0 s/v 34.1 s/v**	**D C**	**94.7 s/v 132.6 s/v**	**F F**	**56.7 s/v 98.5 s/v**	**Yes Yes**
8.	**I-15 SB Ramps at Cantu-Galleano Ranch Road**	**LOS D**	**AM PM**	**12.6 s/v 11.2 s/v**	**B B**	**54.9 s/v 74.8 s/v**	**D E**	**42.3 s/v 63.6 s/v**	**No Yes**
9.	I-15 NB Ramps at Cantu-Galleano Ranch Road	LOS D	AM PM	13.3 s/v 13.7 s/v	B B	36.4 s/v 40.8 s/v	D D	23.1 s/v 27.1 s/v	No No

Source: LLG Traffic Impact Analysis, (see Appendix J).
[1] Existing intersection conditions are based on weekday traffic counts conducted in May and June 2015 for the LLG traffic study.
s/v=seconds per vehicle
***Bold HCM/LOS** indicates unacceptable service levels based on LOS criteria identified in this report.*

Four of the intersections, Hamner Avenue at Riverside Drive, Hamner Avenue at Cantu-Galleano Ranch Road, Hamner Avenue at Bellegrave Avenue, and I-15 southbound on- and off-ramps at Cantu-Galleano Ranch Road, would operate at an unacceptable LOS of E or F under these conditions.

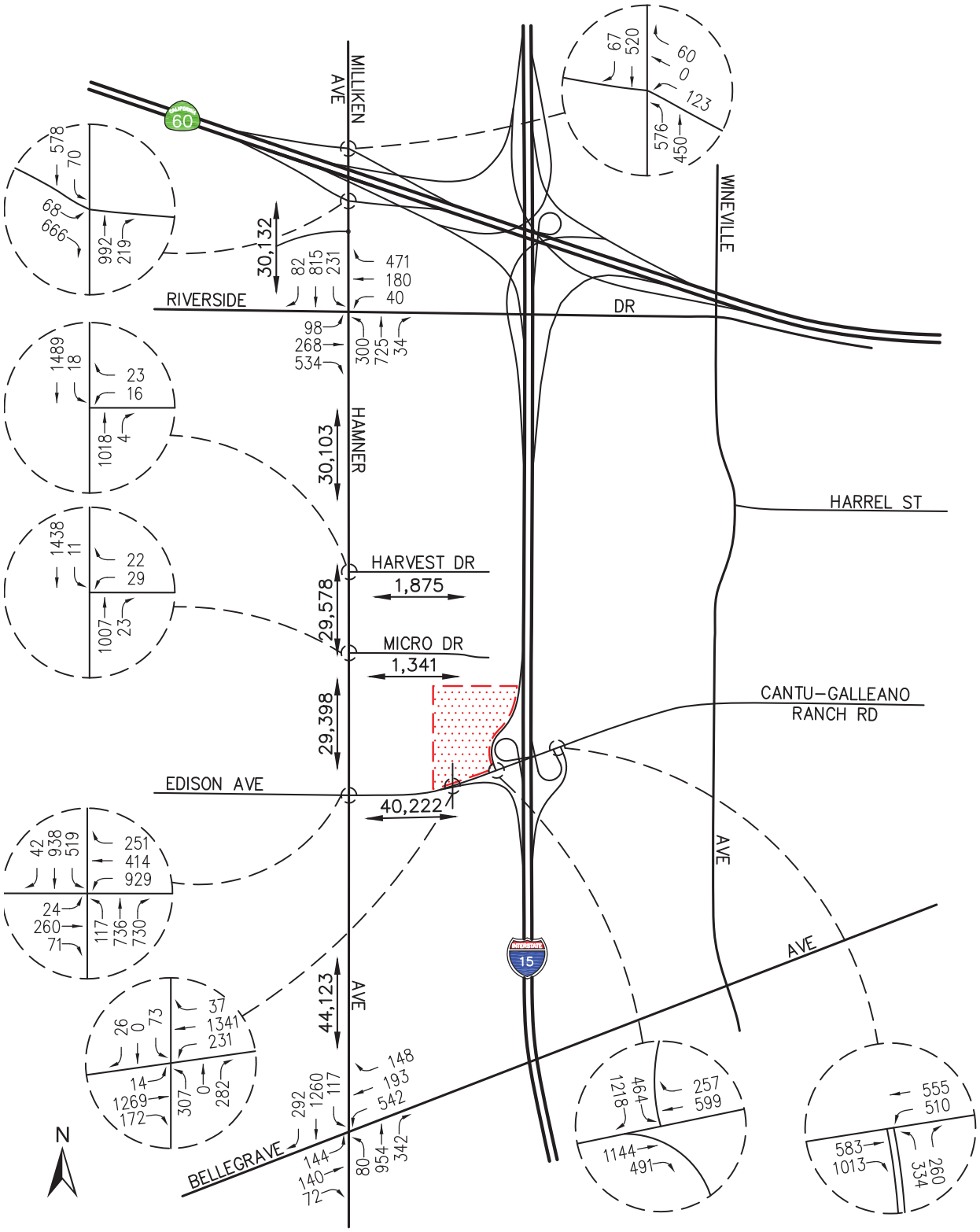
Table 4.13-10 shows the project's contribution to cumulative traffic. As shown, the projects fair share totals 1.3% for the intersection of Hamner Avenue/Riverside Drive, 0.7% for the intersection of Hamner Avenue/Cantu-Galleano Ranch Road, 0.3% for the intersection of Hamner Avenue/Bellegrave Avenue and 2.9% for the intersection of I-15 SB Ramps/Cantu-Galleano Ranch Road.



Source: Linscott Law & Greenspan, 2015

2019 Cumulative Growth Plus
Project AM Peak Hour Traffic Volumes

Figure 4.13-8



Source: Linscott Law & Greenspan, 2015

2019 Cumulative Growth Plus
Project PM Peak Hour Traffic Volumes

Figure 4.13-9

Table 4.13-10
Year 2019 Project Fair Share Contribution

Key Intersection		Time Period	Existing Traffic	Project Only Traffic	Year 2019 Cumulative Plus Project Traffic	Net Project Percent Increase
3.	Hamner Avenue at Riverside Drive	AM PM	2,050 2,342	14 15	3,137 3,778	1.3% 1.0%
6.	Hamner Avenue at Cantu-Galleano Ranch Road	AM PM	2,007 1,978	17 20	4,307 5,031	0.7% 0.6%
7.	Hamner Avenue at Bellegrave Avenue	AM PM	1,954 2,158	4 5	3,507 4,284	0.3% 0.2%
8.	I-15 SB Ramps at Cantu-Galleano Ranch Road	PM	1,754	71	4,173	2.9%

Source: LLG Traffic Impact Analysis, (see Appendix J)

Net Project Percent Increase=[Project Only Traffic]/([Year 2019 Cumulative Plus Project Traffic]-[Existing Traffic])

Mitigation Measures. Mitigation measures T-1(a) and T-1(b) would address the inadequate LOS at the intersection of Hamner Avenue and Riverside Drive. The following mitigation measure would address cumulative impacts to the intersections of Hamner Avenue at Cantu-Galleano Ranch Road, Hamner Avenue at Bellegrave Avenue, and I-15 SB Ramps at Cantu-Galleano Ranch Road.

T-2 **Fair Share Contribution to Transportation Improvement Program.** Prior to project construction, the project applicant shall make a fair share contribution to the 2015 Northwest TUMF Zone Transportation Improvement Program which would contribute to the following improvements:

1. Hamner Avenue at Cantu-Galleano Ranch Roade/Edison Avenue. Widen and/or restripe Hamner Avenue to provide a second northbound through land, a second southbound left-turn lane, and a second southbound through lane. Widen and/or restripe Edison Avenue/Cantu-Galleano Ranch Road to provide a second eastbound through lane, an exclusive eastbound right-turn lane, and a second westbound left-turn lane. Modify the existing traffic signal and install a northbound right-turn overlap and a westbound right-turn overlap.
2. Hamner Avenue at Bellegrave Avenue. Widen and/or restripe Hamner Avenue to provide a second northbound through lane and a second southbound through lane. Modify the existing traffic signal.
3. I-15 SB Ramps at Cantu-Galleano Ranch Road. Restripe the off ramp to provide one southbound left turn lane, one share southbound left/right turn lane, and one southbound right-turn lane.

Significance After Mitigation. Implementation of the improvements identified under T-2 in combination with T-1(a) and T-1(b) would completely offset the impact of the proposed project. The four impacted intersections are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours with implementation of recommended improvements. Hamner Avenue and Cantu-Galleano Ranch Road within the project study area are a part of the

2015 Northwest TUMF Zone Transportation Improvement Program roadway network. Contribution of the project's fair share to the 2015 Northwest TUMF Zone Transportation Improvement Program would reduce cumulative impacts to a less than significant level.

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4.14 UTILITIES AND SERVICE SYSTEMS

This section discusses potential impacts to utilities, including water supply, wastewater collection and treatment, solid waste, and stormwater conveyance facilities. Impacts to public services such as police and fire protection are discussed in Section 4.12, *Public Services*. Impacts to water quality and hydrology are discussed in Section 4.8, *Hydrology and Water Quality*.

4.14.1 Setting

a. Water Supply. The project site is located within the boundaries of Jurupa Community Services District (JCSD) which has a service area of 48 square miles and is responsible for providing water, sewer and street lights for over 91,000 people, including Eastvale and adjacent communities east of I-15.

According to the 2010 JCSD Urban Water Management Plan (JCSD UWMP), potable and non-potable water demand is met by pumping from the Chino Basin, extraction from the Chino Basin through the Chino I and II Desalters and pumping from the Riverside Basin. The Chino Basin is the main source of water supply and is projected to supply approximately 51% of overall demand in 2015. JCSD has rights to groundwater pumping in the Chino Basin through the 1978 Chino Groundwater Basin adjudication and to water produced by the Chino Desalters.

Groundwater production in excess of the safe yield is allowed by the Chino Basin Watermaster provided that the water is replenished. Groundwater from the Chino Basin is removed via 16 wells located throughout JCSD's service area and treated prior to delivery for customer use. JCSD's existing well field has a maximum capacity of 26,450 gallons per minute (gpm) or 38 million gallons per day. The safe yield for the Chino Basin was established as 140,000 acre feet per year; however, the 1978 adjudication does not place specific limits on groundwater production. All municipal water entities that exceed their safe yield allotment pay a pump tax, which is used to recharge the ground water basin with State Water Project water. The Chino Basin has been maintained in a safe yield condition under this method of operation. (JCSD UWMP, pp. 29–40, 2010) Thus, the quantity and reliability of groundwater supply is a matter of replenishment cost rather than limitations on access to groundwater supply. (JCSD UWMP, pp. 29–40, 2010) Groundwater volumes used by JCSD are expected to decline through the UWMP 2035 planning horizon. Western Metropolitan Water District transfers will begin in 2020 and compensate for reduced groundwater volumes. Table 4.14-1 shows current and projected water demand within the JCSD.

As shown in Table 4.14-1, industrial users account for approximately 4.0% of the 2015 projected water demand in the JCSD. This overall percentage is projected to be similar (4.4%) through the 2035 planning horizon.

Table 4.14-2 shows the current and projected water supply from both potable and non-potable sources within the JCSD. As shown, supplies are projected to equal demand. Total demand is projected to be 53% of production capacity in 2015 and 66% of capacity in 2035.

Table 4.14-1
JCSD Current and Projected Water Demand – Acre Feet per Year

	2009	2015	2020	2025	2030	2035
Single Family	14,069	17,081	20,118	20,469	20,838	21,190
Multifamily	851	947	1,109	1,128	1,048	1,156
Commercial	1,916	2,757	3,227	3,281	3,339	3,393
Industrial	851	1,182	1,383	1,407	1,431	1,454
Institutional/Governmental	639	802	939	955	971	987
Landscape	2,556	2,841	3,326	3,382	3,442	3,497
Agricultural (non-potable)	626	720	720	720	720	720
Subtotal	21,509	26,330	30,822	31,342	31,888	32,407
Unaccounted for Water (10%)	2,151	2,633	3,082	3,134	3,189	3,241
Total	**23,660**	**28,962**	**33,905**	**34,476**	**35,077**	**35,648**

Source: JCSD Urban Water Master Plan, 2010

Table 4.14-2
JCSD Current and Projected Water Supply – Acre Feet per Year

	2009	2015	2020	2025	2030	2035
Potable Groundwater from Chino Basin	13,586	13,805	13,748	12,819	11,920	10,491
Desalination – Existing Chino Desalter Authority Purchase	8,676	8,200	8,200	8,200	8,200	8,200
Desalination – Future Chino Desalter Authority Purchase	No Data	3,300	3,300	3,300	3,300	3,300
Future Transfer – Metropolitan/Western MWD	No Data	No Data	5,000	6,500	8,000	10,000
Supplier Surface Diversions	0	0	0	0	0	0
Current Transfers from Rubidoux	679	500	500	500	500	500
Future Transfers from Rubidoux	N/A	1,000	1,000	1,000	1,000	1,000
Total Potable	**22,941**	**26,805**	**31,748**	**32,319**	**32,920**	**33,491**
Chino Basin – Existing Non-Potable Groundwater	212	200	200	200	200	200
Groundwater – Non-Potable (Riverside Basin)	507	600	600	600	600	600
Non-Potable Groundwater (Future Chino Basin)	No Data	857	857	857	857	857
Recycled Water (projected use)	No Data	500	500	500	500	500
Total Non-Potable	**719**	**2,157**	**2,157**	**2,157**	**2,157**	**2,157**
Total Water Supply	**23,660**	**28,962**	**33,905**	**34,476**	**35,077**	**35,648**
Total Potential Production Capacity	41,900	54,000	54,000	54,000	54,000	54,000

Source: JCSD Urban Water Master Plan, 2010.

As shown in Table 4.14-2, based on the current water supply portfolio, JCSD will be able to meet demand through 2035 with surplus production capacity. As referenced in Section 2.0, *Project Description*, the project would connect to an existing water supply line located along Cantu-Galleano Ranch Road.

As a result of the Governor's Executive Order issued on April 1, 2015, the State Water Resources Control Board's (State Water Board) updated Emergency Water Conservation regulations went into effect on May 18, 2015. Jurupa Community Services District (JCSD) and its customers were mandated to meet a total 28% district-wide reduction in potable water usage. To achieve a 28% water-usage reduction, JCSD's cutback is expected to be approximately 5,625 acre-feet (or 1,832,914,288 gallons). To meet the State's 28% mandatory water-use reduction, on May 26, JCSD's Board of Directors adopted *Level 3 – Drought Alert Condition* of its Water Shortage Contingency Plan (WSCP). For businesses, Level 3 water-use restrictions are focused on limiting landscape irrigation to a specified duration and days of the week. The preliminary landscape plan (see Figure 4-1.3) indicates drought tolerant plant species would be used to minimize demand for irrigation water.

b. Wastewater Conveyance and Treatment. The JCSD provides sewer service to approximately 26,000 acres within its service area boundaries (JCSD MSP, p. 3-1, 2010). JCSD has over 319 miles of collection pipelines and the majority of flow is collected and transmitted by gravity. Pressure systems were constructed with lift stations and pumps where gravity flow is unavailable. JCSD discharges wastewater to three different treatment plants from three independent sewer systems. First, JCSD uses a regional lift station to pump wastewater to the City of Riverside Treatment Plant. Second, Community Facilities District (CFD) No. 1 conveys wastewater primarily from industrial users and discharges to the Santa Ana Regional Interceptor (SARI) System for treatment in Orange County. The Eastvale area discharges to the River Road Lift Station, which pumps wastewater to the Western Riverside County Regional Wastewater Authority (WRCRWA) facility located in Corona. The facility has a treatment capacity of 8 mgd. An expansion is ongoing to increase capacity to 14 mgd. The expansion is expected to be completed in 2017. JCSD is a member of the WRCRWA Joint Powers Authority (JPA) and has a 3.25-million-gallons-per-day (mgd) treatment allotment at this facility. The proposed project would connect to an existing 8" sewer line located along Cantu-Galleano Road that extends east from Hamner Avenue to the southwest corner of the site. Wastewater would be conveyed to the WRCRWA for treatment and discharge.

c. Solid Waste. According to the Riverside County Waste Management Department, solid waste generated by the proposed facility would be disposed of at either the Badlands or El Sobrante landfill. Prior to reaching the landfill, waste would be taken to the Robert A. Nelson (Agua Mansa) Transfer Station in Riverside for consolidation and transport to sanitary landfills.

The Project site is located approximately 18 miles north of the El Sobrante Landfill, a Riverside County regional municipal solid waste landfill. This facility is located south of the City of Corona and east of I-15 at 10910 Dawson Canyon Road. The landfill is privately owned and operated by USA Waste Services of California, Inc., a subsidiary of Waste Management, Inc. The existing landfill encompasses 1,322 acres, of which 645 acres are permitted for landfill. The El Sobrante landfill has a total capacity of 209.91 million cubic yards and is permitted to receive up to 70,000 tons of refuse per week (16,054 tons per day). During 2009, the landfill accepted about

1.8 million tons of waste. As of January 1, 2014, the El Sobrante landfill had a remaining capacity of 36.471 million tons and is expected to reach capacity in 2045.

The Project site is located approximately 27 miles west of the Badlands Landfill, located northeast of the City of Moreno Valley at 31125 Ironwood Avenue and accessed from State Highway 60 at Theodore Avenue. The landfill is also a regional municipal solid waste landfill that is owned and operated by Riverside County and has been in operation since 1966. The Badlands Landfill property encompasses approximately 1,168 acres, of which 150 acres are permitted for landfilling and another 96 acres is planned for ancillary facilities. The landfill is permitted to receive up to 4,000 tons of municipal solid waste for disposal daily. As of January 1, 2014, the Badlands Landfill had a remaining capacity of 7.322 million tons. During 2013, the Badlands landfill accepted an average of 1,980 tons per day. The landfill is expected to reach capacity in 2024.

d. Stormwater Conveyance. The project site is served by the Riverside County Flood Control and Water Conservation District (RCFCWCD) for operation and maintenance of storm drain facilities. As referenced in Section 2.0, *Project Description*, the Project site lies within the boundaries of the Eastvale Area Drainage Plan. The Eastvale Area Drainage Plan Line E-1 crosses the Project site generally in a north-south direction. The line connects to an existing detention basin to the north of the site, conveys flow across the site and discharges through an outflow structure located at the southwest corner of the site. Stormwater is conveyed to an existing line along Bellegrave Avenue and is eventually discharged into the Santa Ana River.

e. Regulatory Setting.

Federal.

Clean Water Act/National Pollutant Discharge Elimination System (NPDES) Permits. The federal *Clean Water Act* (CWA) establishes regulatory requirements for potable water supplies, including raw and treated water quality criteria. The JCSD is required to monitor water quality and conform to the regulatory requirements of the CWA.

Under the CWA, the USEPA has implemented pollution control programs such as setting waste water standards for industry and water quality standards for all contaminants in surface waters as the CWA makes it unlawful to discharge any pollutant from a point source into navigable waters unless a permit is obtained. Point sources are discrete conveyances such as pipes or man-made ditches. The USEPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. On February 16, 2012, the USEPA issued the Final 2012 Construction General Permit which identifies that stormwater discharges from construction activities (such as clearing, grading, excavating, and stockpiling) that disturb one or more acres, or smaller sites that are part of a larger common plan of development or sale that will ultimately disturb one or more acres of land, shall be regulated under the NPDES permit program which includes development and implementation of a stormwater pollution prevention plan (SWPPP). Prior to discharging stormwater, coverage under an NPDES permit, administered by either the State (if it has been authorized to operate the NPDES stormwater program), or the USEPA, must be obtained. California has been authorized to operate an NPDES program and as such, the State of California Water Resources Control Board implements this program. Industrial, municipal, and other facilities are also required to obtain permits if their discharges go directly

to surface waters. Dischargers covered under the NPDES, State Water Resources Control Board Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ on or after September 2, 2012, are required to comply with the run-off reduction requirements of Section XIIII(A) unless they are located in municipal separate storm sewer systems (MS4s), in which case, they are exempt from this provision.

Safe Drinking Water Act (SDWA) establishes standards for contaminants in drinking water supplies. Maximum contaminant levels and treatment techniques are established for each of the contaminants. The listed contaminants include metals, nitrates, asbestos, total dissolved solids, and microbes.

State.

Safe Water Drinking Act (1976). California enacted its own *Safe Water Drinking Act*. The California Department of Health Services (DHS) has been granted primary enforcement responsibility for the SDWA. Title 22 of the California Administrative Code establishes DHS authority and stipulates drinking water quality and monitoring standards. These standards are equal to or more stringent than federal standards.

California Water Code. Sections 13550–13556 of the State Water Code provide that local, regional, or state agencies shall not use water from any source of quality for non-potable uses if suitable recycled water is available as provided in Section 13550 of the Water Code.

Senate Bill 610 (2001). Senate Bill 610 (Costa) was signed into law in 2001. This law requires cities and counties to develop water supply assessments when considering approval of applicable development projects in order to determine whether projected water supplies can meet the project's anticipated water demand. The proposed project does not require a water supply assessment pursuant to SB 610 because it would not have more than 1,000 employees, occupy more than 40 acres of land, or have more than 650,000 square feet of floor area.

Urban Water Management Planning Act. In 1983, the California Legislature enacted the Urban Water Management Planning Act, which was codified into Sections 10610 to 10656 of the California Water Code. Section 10610.4 of the California Water Code requires urban water suppliers to develop water management plans to actively pursue the efficient use of available supplies. Every five years, water suppliers are required to develop Urban Water Management Plans (UWMPs) to identify short-term and long-term water demand management measures to meet growing water demands. JCSD, as a water supplier, has prepared and adopted a UWMP. JCSD's latest UWMP was completed in the year 2010. The proposed Project is expected to comply with the requirements of the Urban Water Management Planning Act.

Water Conservation Act. The Water Conservation Act of 2009, or Senate Bill 7x-7, which was enacted on November 2009, set a requirement for water agencies to reduce their per capita water use by the year 2020. The overall goal is to reach a statewide reduction of per capita urban water use of 20 percent by December 31, 2020, with an intermediate 10 percent reduction by December 31, 2015. Demand reduction can be achieved through both conservation and the use of recycled water as a potable demand offset.

California Integrated Waste Management Act. Solid waste regulation in California is governed by the California Integrated Waste Management Act of 1989, which is commonly known as Assembly Bill (AB) 939. The Act, codified into the California Public Resources Code, emphasizes a reduction of waste disposed in California landfills. To achieve a reduction of waste in California landfills, AB 939 requires all city and county plans to include a waste diversion schedule with the goals to divert 25 percent of solid waste from landfills by 1995 and divert 50 percent of solid waste from landfills by the year 2000. To achieve these goals, AB 939 emphasizes that cities and counties reduce the production of, recycle and reuse solid waste.

Regional.

Countywide Integrated Waste Management Plan. The Countywide Integrated Waste Management Plan (CIWMP) was prepared in accordance with the California Integrated Waste Management Act of 1989, Chapter 1095 (AB 939). AB 939 redefined solid waste management in terms of both objectives and planning responsibilities for local jurisdictions and the state. AB 939 was adopted to reduce the volume and toxicity of solid waste that is landfilled and incinerated by requiring local governments to prepare and implement plans to improve the management of waste resources. The CIWMP's components include the Countywide Summary Plan, the Countywide Siting Element, the Source Reduction and Recycling Element (SRRE), the Household Hazardous Waste Element and Non-Disposal Facility Element (NDFE).

The Summary Plan summarizes the steps needed to cooperatively implement programs among the County's jurisdictions to meet and maintain the 50 percent diversion mandates. The Source Reduction and Recycling Element was developed separately by each Riverside County jurisdiction, including the Unincorporated County, and their purpose was to analyze the local waste stream to determine where to focus diversion efforts, including programs and funding. The Household Hazardous Waste Element was developed by jurisdictions and provides a framework for recycling, treatment and disposal practices for Household Hazardous Waste programs.

Non-disposal facilities are those facilities that will be used by a jurisdiction to meet its diversion goals. The non-disposal facility element identifies and describes existing and proposed facilities, other than landfills and transformation facilities, requiring a solid waste permit to operate. The Riverside County NDFE identifies and describes those non-disposal facilities that will be needed to implement the Riverside County SRRE. AB 939 requires each of the cities and unincorporated portions of counties throughout the state to divert a minimum of 25 percent of the solid waste sent to landfills by 1995 and 50 percent by the year 2000. Eastvale was able to meet this goal through implementation of local recycling programs.

Jurupa Community Service District Ordinance No. 352. On June 11, 2012, JCSD approved Ordinance No. 352 (JCSD ORD 352), which was established to promote the conservation and reuse of water resources and ensure maximum public benefit from the use of District's recycled water supply by regulating its use in accordance with applicable federal, state, and local regulations. This ordinance requires new developments to use recycled water and convert to recycled water, as appropriate and provides updated recycled water engineering standards for the distribution system and on-site design and construction standards for non-residential sites,

developed to adhere to applicable standards of government agencies having jurisdiction within JCSD.

Stormwater Conveyance. Under the Los Angeles Regional Water Quality Control Board (RWQCB) National Pollution Discharge Elimination System (NPDES), the City is subject to the storm water discharge requirements set forth in its NPDES Permit No. CAS004003 for municipal separate storm sewer system (MS4) discharges originating within its jurisdictional boundaries. NPDES permits are required for operators of construction projects and industrial facilities. NPDES permits are further discussed in Section 4.8, *Hydrology and Water Quality*.

Local.

City of Eastvale General Plan. Chapters 3 and 7 of the General Plan, establishes policies relating to utilities and service systems. The proposed Project would be required to comply with the following applicable policies:

Policy LU-32 *Adequate and available circulation facilities, water supplies, and sewer facilities should be available to meet service demands as development occurs.*

Policy AQ-32 *Utilize source reduction, recycling, and other appropriate measures to reduce the amount of solid waste disposed of in landfills.*

City of Eastvale Municipal Code. Chapter 16.124 of the City's Municipal Code outlines the general requirements for an approval and construction permit to install or alter plumbing facilities or drainage systems for the discharge or deposit of any sewage, sewage effluent, or nonhazardous waste from any dwelling, house or building or appurtenance thereof in or upon incorporated area of the city, or into streams or bodies of water above or below the surface. The proposed project would be required to comply with Chapter 16.124 of the Municipal Code.

4.14.2 Impact Analysis

a. Methodology and Significance Thresholds. To analyze impacts to utilities, the proposed project was compared to the available capacity of facilities that serve the project site.

Water. The proposed project would have a significant effect on water supplies if demand associated with projected growth would:

1. Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
2. Fail to have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.

Impacts to water supply were determined based upon information provided in the JCSD 2010 UWMP. Water supply impacts would be potentially significant if the proposed project would not have sufficient water supplies available from existing entitlements and resources.

Wastewater. Impacts related to the proposed project would be significant if the proposed project would:

1. Exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board.
2. 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.
3. Result in a determination that the wastewater treatment provider does not have adequate capacity to serve projected demand in addition to existing commitments.

The increase in wastewater generation expected to occur with implementation of the proposed project was estimated using wastewater generation factors from the JCSD. Impacts to wastewater infrastructure would be significant if the proposed project would result in sewer line or treatment plant system deficiencies requiring new or expanded facilities.

Solid Waste. The proposed project would have significant impacts on solid waste collection and disposal if it would:

1. Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
2. Fail to comply with federal, state, and local statutes and regulations related to solid waste.

Solid waste generation was estimated using factors from the California Integrated Waste Management Board (2004). Solid waste collection service and disposal capacity already exist in the project area; therefore, for the purpose of this EIR, the project would cause a significant impact if it fails to implement measures to reduce the amount of solid waste entering landfills in accordance with State standards and/or if solid waste generated by the proposed project exceeds the capacity of the disposal facility and other solid waste facilities where such waste would be disposed.

Stormwater Conveyance. The proposed project would have significant impacts on stormwater conveyance facilities if it would:

1. 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.

None of the thresholds of significance were eliminated from consideration in the *Environmental Effects Found Not to Be Significant* in Section 4.0 of this EIR. Thus, all of the above criteria are discussed herein. Water quality and hydrological impacts are discussed in Section 4.8, *Hydrology and Water Quality*. Impacts related to water, wastewater, solid waste, and stormwater are discussed below.

b. Project Impacts and Mitigation Measures.

Impact U-1 **The proposed project would generate demand for approximately 93 acre-feet of water per year. Based on the 2010 Urban Water Management Plan, the JCSD has adequate water supplies to meet projected demand through the year 2035, including demand associated with the project. Therefore, impacts to water supply would be *less than significant*.**

The JCSD would provide water for the proposed development. The 2011 JCSD Standards Manual for Water and Sewer Facilities uses 8,100 gallons per day per gross acre to estimate water demand for industrial development. For the purpose of this review, the developed acreage (10.24 acres) was used to estimate water demand. Using these factors, the proposed project would generate demand for approximately 93 AFY or about 82,966 gallons of water per day. This demand would be about 7 percent of JCSD 2015 water demand for industrial users and 6 percent in 2035 (see Table 4.11-1).

As discussed in the *Setting*, JCSD does not show a surplus through 2035 because water is purchased as needed to meet projected demands. However, water demand is projected based on existing and planned land use within the service area through the planning horizon. As shown in Table 4.14-2, the JCSD would operate at 54% of capacity in 2015 and 66% of capacity in 2035. The JCSD would remain under the pumping capacity referenced in Table 4.14-2.

As a result of the Governor's Executive Order issued on April 1, 2015, the State Water Resources Control Board's (State Water Board) updated Emergency Water Conservation regulations went into effect on May 18, 2015. The JCSD and its customers are mandated to meet a total 28% district-wide reduction in potable water consumption. At a 28% water-usage reduction, JCSD's cutback is expected to be approximately 5,625 acre-feet. To meet this requirement, the JCSD Board of Directors adopted Level 3 Drought Alert Conditions as defined in the Water Shortage Contingency Plan (WSCP). Water conservation measures are focused primarily on irrigation restrictions and other measures designed to reduce residential consumption. None specifically address industrial users or use of reclaimed water to reduce potable demand.

According to JCSD Ordinance 352, it is the policy of JCSD that recycled water be used within the jurisdiction of JCSD when there is not an alternative higher or better use for the recycled water and its use is consistent with legal requirements, preservation of public health, the safety and welfare of the public and protection of the environment. A goal of the ordinance is to achieve conservation of potable water supplies by using recycled water for current and future demands. Currently, there are no non-potable water requirements or facilities in the project area. Because adequate supplies are available, connection to such facilities would not be needed to address a significant water supply impact. Impacts related to water supplies would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact U-2 **The proposed project would generate a net increase of approximately 20,480 gallons of wastewater per day. Projected future wastewater generation would remain within the capacity of local wastewater facilities. This impact would be *less than significant.***

The proposed warehouse would be 10.24 acres in size and as estimated by the JCSD, would generate 2,000 gallons per day (gpd) of wastewater for a total of approximately 20,400 gpd or 0.020 millon gallons per day (mgd) (JCSD Standards Manual. 2011). The sewer flow generated by the proposed project would be discharged to an existing 8″ sewer line located along Cantu-Galleano Road at the southwest corner of the site and extending east to Hamner Avenue. The Hamner Avenue line is 21 inches and conveys water south eventually reaching the WRCRWA Regional Wastewater Reclamation Plant located at 14634 River Road in Corona, CA. This facility currently treats 8 mgd; however, construction is ongoing to expand capacity to 14 mgd. Construction is expected to be completed in 2017. Projected wastewater generated from the proposed project (20,400 gpd), would represent less than 1 percent of the additional capacity (6 mgd) currently under construction. The project would increase wastewater volumes; however, it would not exceed the treatment capacity at the WRCRWA facility.

Off-site sewer improvements are identified in JCSD's Eastvale Master Water and Sewer Plans and were evaluated pursuant to CEQA in an Initial Study (IS)-Mitigated Negative Declaration (State Clearinghouse Number 2003121055). The IS-MND was adopted January 26, 2004. As part of the plan, JCSD specifically analyzed the construction of approximately 16 miles of sewer pipeline and one lift station to accommodate projected flows within the service area. On January 24, 2011, JCSD adopted an IS-MND (State Clearinghouse Number 2010101017) for JCSD Master Sewer Plan Project No. 3066. This document analyzed JCSD's Master Sewer Plan, 2007 Master Sewer Plan Addendum, 2010 Master Sewer Plan Addendum No.2, the Eastvale Master Sewer Plan Update, and Eastvale Master Sewer Plan Update Addendum No. 1, which further addressed sewer improvements in the service area required to meet service demand. The infrastructure improvements addressed in the JCSD sewer plans referenced herein are intended to convey projected flows in the service area based on existing and planned land use. The project is consistent with planned land use for the site; thus, flow projections for the project have been considered as part of the service area planning process. Impacts related to wastewater conveyance and treatment would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact U-3 **The proposed project would generate 988 tons of construction waste (2.5 tons per day) and 0.73 tons of solid waste per day during operation. Projected future solid waste generation would remain within the capacity of local landfills. Impacts would therefore be *less than significant*.**

Waste Management provides solid waste services to Eastvale and the project site. As indicated by the Riverside County Waste Management Department, one of two landfills (El Sobrante or

Badlands) would likely receive waste from the proposed project after being sorted at the Robert A. Nelson transfer station. Implementation of the project would result in the generation of solid waste from construction and operation. Based on construction waste factors provided by the US EPA, the average amount of waste generated during construction of an industrial facility is 4.34 pounds per square foot (Source: United States Environmental Protection Agency Report No. EPA530-R-98-010, *Characterization of Building-Related Construction and Demolition Debris in the United States*, June 1998). During operation, industrial/warehouse facilities generate approximately 1.9 tons of solid waste per year per employee (California Department of Resources Recycling and Recovery (CR(d)), Solid Waste Characterization Database, Waste Disposal Rates for Business Types (available at http://www.calrecycle.ca.gov/wastechar/DispRate.htm).

The number of employees working at the facility is estimated to be 100. Based on the above factors, the project would generate approximately 988 tons of solid waste during construction and 190 tons annually during operation. Assuming that construction lasts 18 months or 390 days, the project would generate an average of approximately 2.5 tons of solid waste per day during construction. Assuming that the facility operates five days per week (260 days annually), it would generate an average of 0.73 tons of solid waste per day (100 employees x 1.9 tons annually/260 operating days).

The El Sobrante landfill has a total capacity of 209.91 million cubic yards and is permitted to receive up to 70,000 tons of refuse per week (16,054 tons per day). The Badlands Landfill is permitted to receive up to 4,000 tons of municipal solid waste for disposal daily. As of January 1, 2014, the Badlands Landfill had a remaining capacity of 7.322 million tons. Assuming that no recycling occurs, solid waste generated by construction and operation of the project would be less than one percent of the daily capacity at either landfill. If recycling of both construction and operational waste occurs, the percentage would be less. Thus, either the El Sobrante or Badlands Landfill could accommodate waste from the project and impacts related to solid waste disposal would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact U-4 The proposed project would not result in increased peak period off-site conveyance of stormwater. Impacts to stormwater conveyance facilities would be *less than significant*.

The proposed project involves the development of approximately 28.8 acres of vacant land. Of the total, approximately 14% would be landscaped. The remainder, 25.2 acres, would be new impervious surface. All on-site flows would be treated by one infiltration basin and one underground infiltration detention system. The underground infiltration detention system will be located near the northeast corner of the site and be designed to capture 39,970 cubic feet of stormwater. All runoff would pass through a pretreatment system prior to flowing into the infiltration detention basin. The detention basin would be an above ground facility located near the southwest corner of the site and designed to capture 32,590 cubic feet of stormwater. The

detention basin would treat all on-site flows on the west side of the project and the underground infiltration detention system will treat all on-site flows on the east side of the project. These basins are defined as Local Improvement District (LID) Best Management Practices (BMPs) in the preliminary Water Quality Management Plan (October 13, 2014) prepared for the proposed project.

Off-site flow and overflows from the northerly storage basin are currently conveyed through the property via an existing open concrete lined channel. The existing channel would be removed to accommodate the project. The project proposes to construct a new storm drain line located along the western property boundary to convey off-site flow and overflows from the northerly storage basin through the project site. Off-site flows originating from the storage basin would not be treated by this project. Stormwater in the infiltration detention basin would percolate into subsurface soils. Storm runoff in detention basin can be stored or metered and discharged consistent with existing flow rates via an outlet structure into a storm drain line located at the southwest corner of the site. This line connects to an existing MS4 facility and the Eastvale MDP Line E1 located south of the site along Bellegrave Avenue. The new line located south of Cantu-Galleano Ranch Road will be constructed as part of the Goodman Commerce Center project. The flow will convey to Prado Basin by improved channels and pipes. Because the proposed project would not increase flow off-site to the downstream storm water drainage system, operation of the proposed project would not contribute runoff water that would exceed the capacity of an existing or planned storm water drainage system. Peak discharge from the site would not increase and the project would not adversely affect the capacity of downstream networks. Therefore, construction or expansion of downstream storm water drainage facilities would not be required and impacts to storm water drainage facilities would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. As shown in Table 3-1 in Section 3.0, *Environmental Setting*, cumulative development in Eastvale would add 6,082 residential units, 2,754,631 square feet of commercial and 4,452,100 square feet of industrial development to the Cities of Eastvale, Jurupa Valley and Ontario.

Water. JCSD would provide water for the proposed development and other projects within the service area. As discussed above, as calculated by JUSC rates, demand from the project would be about 7 percent of JCSD 2015 water demand for industrial users and 6 percent in 2035 (see Table 4.11-1). Other residential, commercial and industrial users would generate demand for volumes projected in the JCSD UWMP. Cumulative demand would be approximately 5,211 acre feet/year based on generation rates in the Goodman Commerce Center EIR (2014). Demand projections in 2020 would be approximately 15% of the supplies provided in Table 4-14.1. JCSD does not show a surplus through 2035 because water is purchased as needed to meet projected demands. However, water demand is projected based

on existing and planned land use within the service area through the planning horizon. Thus, assuming land development occurs consistent with planned development, supplies would be adequate to meet cumulative demand. Cumulative impacts to water supply would be less than significant.

Wastewater Treatment and Conveyance. Planned and pending development within the vicinity of the project site would increase the demand for wastewater treatment services. As discussed above, on January 24, 2011, JCSD adopted approved Master Sewer Plan Project No. 3066 which incorporated JCSD's Master Sewer Plan, 2007 Master Sewer Plan Addendum, 2010 Master Sewer Plan Addendum No.2, the Eastvale Master Sewer Plan Update (2004), and Eastvale Master Sewer Plan Update Addendum No. 1, which further addressed sewer improvements in the service area required to meet service demand. Wastewater generated by the cumulative projects would be approximately 2,032,960 mgd using generation rates in the JCSD Master Sewer Plan (2004). This would equate 14% of the capacity at the WRCRWA Regional Wastewater Reclamation Plant located at 14634 River Road in Corona, CA. assuming completion of the ongoing expansion in 2017. Infrastructure within the project has been designed to accommodate wastewater flows based on planned land use in the area. While demand for services would increase, infrastructure planning efforts as reflected in the revised master sewer plans will ensure the capacity of conveyance infrastructure and treatment facilities is not exceeded as demand increases. Cumulative impacts to wastewater infrastructure would be less than significant.

Solid Waste. Planned and pending development within the vicinity of the project site would increase demand for solid waste disposal services. Based on the cumulative development scenario, all projects could generated up to 108 tons per day. This would be .006% of the daily permitted volume at the El Sobrante Landfill and .025% of the daily capacity at the Badlands Landfill. Solid waste disposal requirements would be evaluated on a project specific basis for all projects as part of the entitlement process. Based on the capacity of existing landfills to accommodate solid waste, no additional improvements to the solid waste management system are immediately needed to accommodate planned and pending development in the vicinity of the project site. However, solid waste disposal is a regional issue; thus, as the capacity of existing landfills is reduced over time, this issue will be addressed as part of the regional solid waste management process. Cumulative solid waste impacts would be less than significant.

Stormwater. Planned and pending development within the vicinity of the project site would add new impervios surface and increase stormwater volumes. Cumulative development would utilize existing stormwater infrastructure or incorporate on site detention and treatment, similar to what is proposed under the project. Cumulative impacts related to stormwater management would be less than significant.

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4.15 ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT

CEQA recommends that a Draft EIR focus on potentially significant environmental effects caused by the project as well as provide a discussion of those effects with emphasis in proportion to their severity and probability of occurrence. Section 21100(c) of the Public Resources Code states that an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant; and therefore, were not discussed in detail in the EIR. Based on the scope and location of the proposed project, it was determined that the project would not result in significant impacts to the following issue areas or portions of those issue areas, as described below. These specific issues listed are not discussed further within the body of the Draft EIR.

Aesthetics

The following issues related to Aesthetics were determined to have no impact or a less than significant impact. The analyses of other Aesthetic issues required per Appendix G of the CEQA Guidelines are provided in Section 4.1 of the Draft EIR.

- **Impacts to a State Scenic Highway Corridor.** The proposed Project site is adjacent to Interstate 15, which is not designated as a State or County Scenic Highway. The Project site is not located within a scenic highway corridor. The nearest officially designated state scenic highways are Highway 91 (from the Anaheim city limit west to State Route 55) approximately 20 miles southwest of the Project site, and Highway 243 approximately 40 miles east of the Project site. Therefore, no impacts are anticipated.

Agriculture and Forest Resources

The following issues related to Agriculture and Forest Resources would not be affected by the proposed project. The analysis of other Agriculture and Forest Resources issues is presented in Section 4.2 of the Draft EIR.

- **Rezoning of Forest Land.** Implementation of the proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland as these resources do not occur on or in proximity to the Project site. Therefore, no impacts are anticipated.

- **Loss of Forest Land.** Implementation of the proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use as these resources do not occur in the vicinity of the Project site. Therefore, no impacts are anticipated.

- **Other Changes in Environment Resulting in Conversion of Forest Land.** There are no forest resources located on or in proximity to the site; thus, no impacts to these resources would result from the proposed project.

Air Quality

The following issues related to Air Quality were determined to be less than significant during preparation of the NOP. The analysis of other Air Quality issues is presented in Section 4.3 of the Draft EIR.

- **Construction of Sensitive Receptors.** The proposed Project would not involve the construction of a sensitive receptor, and no point pollution sources exist within one mile of the Project. No impacts are anticipated.

- **Odors.** The proposed Project would not involve construction of a use that would emit an objectionable odor affecting a substantial number of people. No impact are anticipated.

Biological Resources

The following issues related to Biological Resources were determined to be less than significant during preparation of the NOP. The analysis of other Biological Resource issues is presented in Section 4.4 of the Draft EIR.

- **Native/Migratory Fish or Wildlife.** The proposed project would require removal and replacement of an existing Riverside County Flood Control District conveyance channel located generally in the center of the subject property and along the eastern and southern site boundary. However, according to the MSHCP Consistency Analysis and Habitat Assessment (Rincon Consultants, 2015), no fish species were observed during the site visit. In addition, given that year-round stream flow is not present, no fish species are expected to occur. Therefore, no impacts to native resident or migratory fish are anticipated.

  The CDFW BIOS (2015) does not include any mapped essential habitat connectivity areas within the vicinity of the project site. The closest mapped essential habitat connectivity area is located over six miles southwest of the project site in the vicinity of Prado Regional Park. Furthermore, the project site is surrounded by existing road corridors and warehouse development. Thus, it is not within a location that serves or would serve as a native resident or migratory wildlife corridor. No impacts are anticipated.

- **Local Policies/Ordinances.** Implementation of the proposed Project would not conflict with local policies protecting biological resources identified in the General Plan. Therefore, no impacts are anticipated.

Cultural Resources

The following issues related to Cultural Resources were determined to be less than significant during preparation of the NOP. The analysis of other Cultural Resources issues is presented in Section 4.5 of the Draft EIR.

- **Alter or Destroy a Historical Resource.** Section 15064.5 of the CEQA Guidelines states that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the Lead Agency. The Cultural Resources Study completed for the proposed project confirmed that no resources meeting these criteria are present on the site. Therefore, no impacts are anticipated.

- **Adverse Change in Historical Resource.** Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired. No historic resources have been recorded on or adjacent to the Project site. Therefore, no impacts are anticipated.

- **Disturb Human Remains.** The proposed Project site is not located on a known cemetery. Thus, no impacts to human remains, including those interred outside of formal cemeteries are anticipated. In the event that unknown human remains are discovered, the City will comply with the requirements of Public Resources Code Section 5097.98, as amended. Therefore, impacts would be less than significant.

Geology and Soils

The following issues related to Geology and Soils were determined to be less than significant during preparation of the NOP. The analysis of other Geology and Soils issues is presented in Section 4.6 of the Draft EIR.

- **Earthquake Fault and Ground Shaking Zone.** The Project site is not located within an Alquist-Priolo earthquake fault zone or Fault Hazard Zone. The nearest fault is the Chino-Central Avenue Fault located approximately 7.5 miles to the west. The proposed Project would implement all requirements of the current edition of the California Building Code (CBC), which provides seismic design criteria for buildings. All construction projects in the City are required to comply with the CBC. With incorporation of the CBC requirements, impacts from seismic events would be less than significant.

- **Landslide Risk.** According to the General Plan, there are no known or mapped geologic units that could potentially result in on- or off-site landslides, lateral spreading or collapse hazards within the City of Eastvale. The project site is generally flat with a gradual slope from north to south. The Cantu-Galleano Ranch Road/Interstate 15 slope located at the southeast corner of the site is engineered to support the interchange structure. While a retaining wall would be constructed in the southeast corner of the site to allow truck circulation around the building, no landslides or seismic related events associated with the engineered slopes behind the retaining wall are anticipated. The Project site would not be susceptible to landslides, rockfall, lateral spreading or collapse. Therefore, impacts would be less than significant.

- **Other Geologic Hazards.** The topography of the Project site does not include steep slopes which could generate a mudflow. There are no large bodies of water in proximity to the Project site that could produce earthquake-induced seiche. The site is inland from the Pacific Ocean and not subject to tsunamis. There no other geologic hazards that may affect the Project site. Therefore, no impacts are anticipated.

- **Septic Tanks/Disposal Systems.** No septic tanks or alternative wastewater disposal systems will be constructed as a part of the Project. Therefore, no impacts would occur.

Hazards and Hazardous Materials

The following issues related to Hazards and Hazardous Materials were determined to be less than significant during preparation of the NOP. The analysis of Hazards and Hazardous Materials issues is presented in Section 4.8 of the Draft EIR.

- **Emergency Response/Evacuation Plan.** The proposed Project will not impair the implementation of, or physically interfere with, an emergency response plan and/or emergency evacuation plan because access to emergency vehicles will be allowed at all times and all road and access improvements would be designed to meet City of Eastvale standards for safety and access. Therefore, no impacts are anticipated.

- **Proximity to a School.** The project site is not within a quarter-mile of a school site. The nearest schools are Colony High School in Ontario over one mile to the northwest and Jurupa Valley High School which is located over one mile to the east. Therefore, no impacts are anticipated.

- **Airport Master Plan.** The Project site is not in an airport influence area or located within an Airport Master Plan. Therefore, no impacts are anticipated.

- **Airport Land Use Commission.** The Project site is not in an airport influence area or located within an Airport Master Plan. Thus, the Project will not require review by the Airport Land Use Commission. Therefore, no impacts are anticipated.

- **Airport Land Use Plan.** The Project site is not located within an Airport Land Use Plan. Therefore, no impacts are anticipated.

- **Vicinity of an Airport (Public/Private).** The proposed Project is not in an airport influence area, or within the vicinity of a private airstrip or heliport. Therefore, no impacts will occur.

- **Wildland Fires.** Per the Eastvale General Plan, the Project site is not located within a wildfire susceptibility area. Therefore, no impacts are anticipated.

Hydrology and Water Quality

The following issues related to Hydrology and Water Quality were determined to be less than significant during preparation of the NOP. The analysis of other Hydrology and Water Quality issues is presented in Section 4.9 of the DEIR.

- **Housing in Flood Hazard Area.** According to the Flood Insurance Rate Map (FIRM) No.'s 06065C0018G issued by the Federal Emergency Management Agency (FEMA), the Project site is not located within a mapped 100 year flood plain or flood hazard area. In addition, the development of housing is not proposed as a part of the Project. Therefore, no impacts are anticipated.

- **Impede or Redirect Flood Flows.** According to the FIRM No.'s 06065C0018G issued by FEMA, the Project site is not located within a mapped 100 year flood plain or flood hazard area. Thus, no structures would be placed in a 100-year flood hazard area. No impacts are anticipated.

- **Levee or Dam Failure.** There are no dams or levees in the proximity to the Project site. The closest facility is Lake Mathews located approximately 20 miles southeast of the site. Additionally, the Project site is not located in a dam inundation area. Therefore, no impacts are anticipated.

Land Use and Planning

The following issues related to Land Use and Planning were determined to be less than significant during preparation of the NOP. The analysis of other Land Use and Planning issues is presented in Section 4.10 of the Draft EIR.

- **Divide Established Community.** The Project site is currently vacant and bordered by Cantu-Galleano Ranch Road to south, Interstate 15 to the east and existing warehouse buildings to the west and north. Surrounding land uses are warehouse and light industrial facilities. There are no residences located in proximity to the site; thus, implementation will not disrupt or divide the physical arrangement of an established community, including a low-income or minority community. Therefore, no impacts are anticipated.

Mineral Resources

All issues related to Mineral Resources were determined to be less than significant during preparation of the NOP and will not be addressed further in the Draft EIR.

- **Known Mineral Resource.** The Project site does not contain any known mineral resource and is not located within an area classified or designated as a mineral resource area by the State Board of Mining and Geology. Therefore, no impacts are anticipated.

- **Locally Important Mineral Resource.** Eastvale General Plan Figure OS-5 "Mineral Resources" shows that the Project site has been classified by the State Mining and

Geology Board (SMGB) as ”MRZ-3” The General Plan defines this classification as, "[a]reas where the available geologic information indicates that mineral deposits are likely to exist, however, the significance of the deposit is undetermined." However, the General Plan provides no specific policies regarding property designated as "MRZ-3" and has not designated the Project site for mineral resource related uses. Additionally, the Project site has no history of mineral resource recovery uses. Therefore, no impacts are anticipated.

Noise

The following issues related to Noise were determined to be less than significant during preparation of the NOP. The analysis of other Noise issues is presented in Section 5.11 of the Draft EIR.

- **Vicinity of Public Airport.** The Project is not located within an Airport Influence Area, an airport land use plan or within two miles of a public or public use airport. The nearest airport is Chino Airport located approximately 4 miles southwest of the site. Therefore, no impacts are anticipated.

- **Vicinity of Private Airstrip.** The Project site is not located in the vicinity of a private airstrip. Therefore, no impacts are anticipated.

Population and Housing

The following issues related to Population and Housing were determined to be less than significant during preparation of the NOP. The analysis of other Population and Housing issues is presented in Section 4.12 of the Draft EIR.

- **Displace Existing Housing.** The Project site is currently undeveloped and construction of the Project will not require the removal of housing. Thus, the project will not cause the need to replace housing. Therefore, no impacts are anticipated.

- **Displace Substantial Numbers of People.** The Project site is currently undeveloped and construction of the Project will not require the removal of housing. Thus, the project will not displace substantial numbers of people. Therefore, no impacts are anticipated.

- **Induce Population Growth.** The proposed Project does not include any residential component that could induce population growth. The Project is located in an urbanized area that is served by existing roads and infrastructure. Jobs will be provided; however, it is assumed the jobs would be filled by the existing workforce in the region. No new housing will need to be constructed to accommodate the workforce. Therefore, no impacts are anticipated.

Public Services

The following issues related to Public Services were determined to be less than significant during preparation of the NOP. The analysis of other Public Services issues is presented in Section 4.13 of the Draft EIR.

- **Schools.** The Project does not propose residential uses that would directly increase demand for schools. Regardless, the Project would be required to pay school mitigation fees as required by the Leroy F. Greene School Facilities Act of 1998 (Senate Bill 50) which would fully mitigate any potential impact the Project may have on public school facilities. Therefore, impacts are less than significant.

- **Libraries.** Library services are provided to the Project area by the Riverside County Public Library System. The proposed Project involves warehouse development and will not provide new housing that would increase demand for library services. Therefore, no impacts are anticipated.

- **Other Public Services.** In the event of an emergency, employees or users of the Project may access Corona Regional Hospital located approximately 8 miles to the south of the Project site or Arrowhead Regional Medical Center located approximately 17 miles to the northeast of the Project site. However, because the proposed Project does not propose residential uses that would increase the population or demand for health services, impacts would be less than significant.

Recreation

All issues related to Recreation were determined to be less than significant during preparation of the NOP and will not be addressed further in the Draft EIR.

- **Use of Existing Facilities/Demand for New Recreation Facilities.** The proposed Project is located on vacant land within an urbanized area. The Project proposes a warehouse with related parking and infrastructure improvements. The development of the proposed project is not expected to increase demand for recreational facilities to the extent that substantial physical deterioration would occur or necessitate the construction of new facilities or expansion of facilities that may degrade the quality of the environment. Therefore, no impacts would occur.

Transportation/Traffic

The following issues related to Transportation/Traffic were determined to be less than significant during preparation of the NOP. The analysis of other Transportation/Traffic issues is presented in Section 4.13 of the Draft EIR.

- **Changes in Air Traffic Patterns.** The proposed project is approximately 4 miles east of Chino Airport, the closest airport to the site. The project would not change air traffic patterns at Chino Airport or any other airport; thus, no impacts are anticipated.

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5.0 OTHER CEQA-REQUIRED DISCUSSIONS

This section discusses growth-inducing impacts, irreversible environmental impacts, and energy impacts that would be caused by the project.

5.1 GROWTH INDUCEMENT

Section 15126(d) of the *CEQA Guidelines* requires a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The proposed project's growth inducing potential is therefore considered significant if it could result in significant physical effects in one or more environmental issue areas.

5.1.1 Population Growth

The proposed project would add approximately 100 new jobs to the City of Eastvale. The number of residences would not increase as a result of this project. The project would be constructed in an area planned for development of warehouse and similar uses. All primary access roads and utility infrastructure is in place. No new infrastructure would be needed that may induce growth in areas not planned for new development. There would be no direct population growth associated with the proposed project and the project would not cause population forecasts for the City of Eastvale to be exceeded. The project would be consistent with the Regional Comprehensive Plan and RTP/SCS as referenced in Section 4.11, *Population and Housing*. For these reasons, impacts related to growth inducement would be less than significant.

5.1.2 Economic Growth

The project would generate temporary employment opportunities during construction, which would be draw workers from the existing regional work force. Therefore, construction of the project would not be considered growth inducing from a temporary employment perspective. The proposed project would generate permanent employment opportunities as referenced. However, employees are expected to come from the existing work force in Eastvale and/or the region. Therefore, the proposed project would not be growth-inducing with respect to jobs and the economy.

5.1.3 Removal of Obstacles to Growth

The project site is located in a fully urbanized area that is served by existing infrastructure. As discussed in Section 4.14, *Utilities,* and 4.8, *Hydrology and Water Quality*, existing utilities would be adequate to serve the proposed project. Additional modifications to on-site drainage and flood control infrastructure would be made to accommodate construction of the project and serve the new development. The proposed project would involve the construction of a new site entrance and secondary access to the north of the site; however, these would provide an on-site

circulation option only. The proposed project does not require construction of a new traffic signal at the entrance drive intersection with Cantu-Galleano Ranch Road, as a signal is already part of the Goodman Commerce Center project. These improvements would be required to accommodate new development rather than increase the capacity of existing roadways. Because the project would be constructed within an urbanized area, it does not require the extension of new infrastructure through undeveloped areas. Thus, project implementation would not remove an obstacle to growth.

5.2 IRREVERSIBLE ENVIRONMENTAL EFFECTS

The *CEQA Guidelines* require that EIRs evaluating projects involving amendments to public plans, ordinances, or policies contain a discussion of significant irreversible environmental changes. CEQA also requires decision makers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the proposed project.

Conversion of the project site from undeveloped to a warehouse industrial development would result in a long-term commitment of the site to such uses. Construction and use of the warehouse and associated parking areas would irreversibly commit construction materials and non-renewable energy resources. The project would involve the use of building materials and energy, some of which are non-renewable resources. Consumption of these resources would occur with any development in the region and are not unique to the project. The development would also irreversibly increase local demand for non-renewable energy resources such as petroleum products and natural gas. However, increasingly efficient building designs and fixtures as well as automobile and truck engines are expected to offset this demand.

The project would require a commitment of public services such as law enforcement and fire protection as well as water supply, wastewater treatment, and solid waste disposal services. However, as discussed in Section 4.12, *Public Services,* and 4.14, *Utilities*, impacts to these service systems would be less than significant.

Primary impacts related to the consumption of resources would be less than significant because the proposed project would not require unusual amounts of energy or construction materials as the development would be a typical warehouse use. Consumption of these resources would occur with any similar development in the region and are not unique to the proposed project. Additional vehicle trips associated with the proposed project would incrementally increase local traffic and regional air pollutant and greenhouse gas emissions. As discussed in Section 4.2, *Air Quality, Section* 4.6, Greenhouse Gas Emissions and Section 4.13, *Transportation and Traffic*, impacts resulting from traffic generated by future development would be less than significant or less than significant with mitigation incorporated.

5.3 ENERGY EFFECTS

The *CEQA Guidelines* Appendix F requires that EIRs include a discussion of potential energy consumption with particular emphasis on avoiding or reducing inefficient, wasteful or unnecessary consumption of energy. As discussed, the proposed project would involve the use

of energy during the construction and operational phases of the project. Energy use during the construction phase would be in the form of fuel consumption (e.g., gasoline and diesel fuel) to operate heavy equipment, light-duty vehicles, machinery and generators. In addition, temporary grid power may be provided to construction trailers and electric construction equipment. Long-term operation of the proposed project would require permanent grid connections for electricity and natural gas service to power internal and exterior building lighting, heating and cooling systems. In addition, the increase in vehicle trips associated with the project would increase fuel consumption.

Electricity service for the proposed project would be provided by Southern California Edison (SCE). SCE's power mix consists of approximately 20 percent renewable energy sources (wind, geothermal, solar, small hydro, and biomass) (SCE website, 2015). Gas service would be provided by the Southern California Gas Company.

California used 296,628 gigawatt-hours (GWh) of electricity in 2013 (CEC, California Energy Almanac, 2014) and 2,313 billion cubic feet of natural gas in 2012 (CEC, California Energy Almanac, 2012). Californians presently consume over 18 billion gallons of motor vehicle fuels annually (CEC, 2014 Integrated Energy Policy Report).

The proposed project's estimated energy usage, calculated using CalEEMod and shown in the CalEEMod output files in Appendix B, is summarized and compared to state-wide usage in Table 5-1. Estimated motor vehicle fuel use is further detailed in Table 5-2. As shown in Table 5-1, the proposed project would add negligibly to state-wide energy consumption in these categories.

Table 5-1
Estimated Project-Related Energy Usage
Compared to State-Wide Energy Usage

Form of Energy	Units	Annual Project-Related Energy Use	Annual State-Wide Energy Use	Project % of State-Wide Energy Use
Electricity	megawatts per hour	3.9[1]	296,628,000[2]	0.0003%
Natural Gas	billion BTU	.9[1]	2,313,000[3]	0.0002%
Motor Vehicle Fuels	gallons	336,536[4]	18,019,000,000[5]	0.001%

[1] *CalEEMod output provided in the Section 4.2, Air Quality (see Appendix B for calculation results); Table 5-2*

[2] *California Energy Commission, California Energy Almanac,2013 Total Electricity System Power, data as of September 2014. Available: http://energyalmanac.ca.gov/electricity/total_system_power.html*

[3] *California Energy Commission, California Energy Almanac, Overview of Natural Gas in California – Natural Gas Supply. Available: http://energyalmanac.ca.gov/naturalgas/overview.html*

[4] *See Table 5-2*

[5] *California Energy Commission, 2014 Integrated Energy Policy Report, Available: http://www.energy.ca.gov/2014publications/CEC-100-2014-001/CEC-100-2014-001-CMF.pdf.*

Table 5-2
Estimated Project-Related Annual Motor Vehicle Fuel Consumption

Vehicle Type	Percent of Vehicle Trips[1]	Annual Vehicle Miles Traveled[2]	Average Fuel Economy (miles/gallon)[3]	Total Annual Fuel Consumption (gallons)
Passenger Cars	20%	657,782	27.5	23,919
Light/Medium Trucks	9.5%	312,447	23.5	13,296
Heavy Trucks/Other	70%	2,302,238	7.7	298,992
Motorcycles	0.5%	16,445	50	329
Total	**100%**	**3,288,912**	**--**	**336,536**

[1] *Percent of vehicle trips found in Table 4.3 "Trip Type Information" in CalEEMod output (see Appendix B)*

[2] *Mitigated annual VMT found in Table 4.2 "Trip Summary Information" in CalEEMod output (see Appendix B)*

[3] *Average fuel economy provided by the United States Department of Transportation, Bureau of Transportation Statistics (2010).*

The proposed project would also be subject to the energy conservation requirements of the California Energy Code (Title 24, Part 6, of the California Code of Regulations, *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*) and the California Green Building Standards Code (Title 24, Part 11 of the California Code of Regulations). The California Energy Code provides energy conservation standards for all new and renovated commercial and residential buildings constructed in California. The Code applies to the building envelope, space-conditioning systems, and water-heating and lighting systems of buildings and appliances. The Code provides guidance on construction techniques to maximize energy conservation. Minimum efficiency standards are given for a variety of building elements, including appliances; water and space heating and cooling equipment; and insulation for doors, pipes, walls and ceilings. The Code emphasizes saving energy at peak periods and seasons, and improving the quality of installation of energy efficiency measures. The California Green Building Standards Code sets targets for: energy efficiency; water consumption; dual plumbing systems for potable and recyclable water; diversion of construction waste from landfills, and use of environmentally sensitive materials in construction and design, including ecofriendly flooring, carpeting, paint, coatings, thermal insulation, and acoustical wall and ceiling panels. Adherence to Title 24 energy conservation requirements would ensure that energy is not used in an inefficient, wasteful, or unnecessary manner.

6.0 ALTERNATIVES

As required by Section 15126.6 of the *CEQA Guidelines*, this EIR examines a range of reasonable alternatives to the proposed project that would attain most of its basic objectives (stated in Section 2.5 of this EIR) but would avoid or substantially lessen any of its significant effects.

Included in this analysis are three alternatives, including the CEQA-required "no project" alternative, that involve changes to the project to help reduce its environmental impacts as identified in this EIR. This section also addresses Alternatives Considered But Not Advanced and identifies the Environmentally Superior Alternative.

The following alternatives are evaluated in this EIR:

- Alternative 1: No Project (no new development project on the site)
- Alternative 2: Reduced (2/3) Size
- Alternative 3: Alternate Site

The potential environmental impacts of each alternative are analyzed in Sections 6.1 through 6.3. Table 6-1 provides a summary comparison of the development characteristics of the proposed project and the alternatives. A more detailed description of the alternatives is included in the impact analysis for each alternative.

Table 6-1
Summary Comparison

	Alternatives			
Characteristic	**Proposed Project**	**No Project**	**Reduced Size**	**Alternate Site**
Square Footage	446,173	0	294,474	446,173
Site Size	28.8	28.8	23.5	23 acres
Access to Project Site	Shared access via Cantu-Galleano Ranch Road	No access required	Shared access via Cantu-Galleano Ranch Road	Unknown/subject to negotiation

6.1 NO PROJECT – ALTERNATIVE 1

As described below and throughout this EIR, the project does not have any significant impacts that would be significantly reduced by this alternative. This alternative assumes that the proposed improvements are not implemented and that the site remains undeveloped. This alternative would not meet the objectives of the proposed project (listed in Section 2.5 of this EIR). Implementation of the No Project alternative would not preclude future development on the site. If, in the future, the site were developed with uses allowed under the site's current land use and zoning designations, such development could be subject to discretionary review as required of the proposed project or, if it were a use permitted by right and did not require any other discretionary permits, could be subject only to ministerial review.

6.1.1 Aesthetics

The No Project Alternative would not change the aesthetics of the project site or area. As discussed in Section 4.1, *Aesthetics*, the project site currently has relatively low visual quality and is consistent with the aesthetic character of surrounding parcels. This alternative would not change the site from existing conditions. While the project would be consistent with policies from the Eastvale General Plan relating to aesthetics and develop warehouse facility generally consistent with other development in the vicinity, the No Project Alternative would leave the site in its current state, which, as a vacant undeveloped lot. No impact to aesthetics would occur under this alternative.

6.1.2 Air Quality

The project site is currently vacant; thus, there are no emissions currently generated. As discussed in Section 4.2, *Air Quality*, the proposed project would have a significant but mitigable impact to air quality during construction. Therefore, the No Project Alternative's air quality impacts would be less than those of the proposed project.

6.1.3 Biological Resources

Existing biological resources on the site are described in Section 4.3, *Biological Resources*. These resources would not be affected with implementation of the No Action alternative. Therefore, biological resource impacts would be less than those of the proposed project.

6.1.4 Cultural Resources

Existing cultural resources on the site are described in Section 4.4, *Cultural Resources*. No known cultural resources are present that would be adversely affected by the proposed project. However, mitigation measure CR-1(a) and CR-2(a) and CR-2(b) are provided to address unanticipated discoveries. The No Action alternative would not result in ground disturbances; thus, cultural resource impacts would be less than the proposed project.

6.1.5 Geology and Soils

Because the project site is currently vacant, activities on-site generate no impacts related to geology or soil resources. Under the No Action alternative, no development on-site associated with this project would occur; thus, existing conditions would not change. Geology/soil impacts under the No Action alternative would be less than those associated with the proposed project though project impacts would be less than significant.

6.1.6 Greenhouse Gas Emissions/Climate Change

Because the project site is currently vacant, activities on-site generate no GHG emissions. Under the No Action alternative, no development on-site associated with this project would occur; thus, existing conditions would not change. GHG emissions and related climate change impacts under the No Action Alternative would be less than those of the proposed project; however, project impacts would be less than significant.

6.1.7 Hazards & Hazardous Materials

There are no known hazards occurring on the project site. Under the No Action alternative, the site would remain undeveloped; thus, hazardous materials conditions would not change from existing conditions. It is possible that hazardous materials may be transported to and stored at the site when the warehouse is in operation. While this would occur consistent with applicable regulations, it would increase the potential for impacts to occur. Thus, although the proposed project's hazardous material impacts would be less than significant, the No Action alternative would have less overall impact.

6.1.8 Hydrology and Water Quality

The project site is currently undeveloped. Stormwater runoff is conveyed through the site via an existing open conveyance channel. Currently, precipitation falling on the site percolates into the ground. The project would increase the volume of stormwater runoff generated on-site, but stormwater associated with the project would be conveyed into one of two detention/ retention basins located on-site. If the No Action alternative were implemented, the volume of stormwater generated on-site would not change and the proposed detention/retention basins would not be needed. No new infrastructure would be required. Thus, water quality and hydrology impacts would be less than those of the proposed project even though the project's impact would be less than significant.

6.1.9 Land Use and Planning

Under the No Action alternative, no development would occur on the site. The project site is currently zoned for warehouse/light industrial development. Thus, the project is consistent with applicable land use designations. Impacts associated with the No Action alternative and the proposed project would be similar and would be less than significant, though the No Action alternative would not implement the General Plan land use designation for the site.

6.1.10 Noise and Vibration

The project site is currently undeveloped with no activities that generate noise. Noise levels would increase as a result of project-related truck traffic and overall activity associated with construction and operation of a warehouse facility. The No Project Alternative would not involve any construction on the project site or operation of a facility. Thus, although the project would not have significant noise impacts, noise associated with the No Project alternative would be less than that of the proposed project.

6.1.11 Population and Housing

The project site is currently undeveloped and would remain so under the No Action alternative. The proposed project would not increase the population of Eastvale and jobs are expected to be filled by the existing regional work force. While no significant population and housing impacts would occur with the proposed project, the No Action alternative would have less impact.

6.1.12 Public Services

Because the project site is currently vacant, it generates no demand for police, fire or other public services. The project would incrementally increase demand for these services; however, no new or expanded facilities would be needed and payment of impact fees would address any potential impacts to public services associated with the proposed project. The project would not cause a significant or adverse impact to public services. Nevertheless, impacts associated with the No Action alternative would be incrementally lower than those of the proposed project.

6.1.13 Transportation/Traffic

Because the project site is currently vacant, it does not generate vehicle trips. The proposed project would result in both temporary construction traffic and long-term operational traffic, generating an estimated 1,318 daily two-way vehicle trips. While the impacts of project-related traffic would be less than significant, the No Project Alternative would avoid these impacts. Thus, transportation and traffic impacts associated with the No Action alternative would be less than those of the proposed project.

6.1.14 Utilities/Service Systems

Because the project site is currently vacant, there is no demand for public services and this would not change under the No Action alternative. The proposed project would generate demand for potable water as well as wastewater collection and conveyance. It would require on-site management of stormwater runoff. The project's impact related to utilities (water, wastewater, solid waste, storm drains) would not be significant. Nevertheless, impacts associated with the No Action alternative would be less than the proposed project.

6.2 REDUCED INTENSITY ALTERNATIVE – ALTERNATIVE 2

As described below and throughout this EIR, the project does not have any significant impacts that would be significantly reduced by this alternative. This alternative involves reducing building square footage by approximately 2/3. This would reduce parking demand and avoid the need for overflow truck parking to the north of the project site. Secondary access via Micro Drive to the north would be constructed as part of this alternative. With the exception of the secondary access, all project improvements are expected to be confined to the primary 23.5-acre parcel. Under this alternative, the warehouse would be approximately 294,474 square feet. The number of loading docks and square footage allocated to administration and related uses would be reduced accordingly. All building exterior design features and landscaping as described in Section 2.0, *Project Description*, would be modified to reflect a smaller scale building and development footprint. This alternative would meet the objectives of the project, but to a lesser degree than the project, because it would only accommodate about 2/3 of the storage allowed by the proposed project.

6.2.1 Aesthetics

The project site would be fully developed under this alternative. Consequently, although the size of the development would be smaller than the proposed project, this alternative would

change the site from an undeveloped parcel to a warehouse, parking and related on-site improvements. Overall, aesthetic impacts would similar to those of the proposed project and less than significant.

6.2.2 Air Quality

Air pollutant emissions would be generated during both construction and operation of the project. Under this alternative, the number of employees would be less and fewer truck trips would occur because the warehouse would only be 2/3 of the size expected by the proposed project. As discussed in Section 4.2, *Air Quality*, ROG emissions would exceed the SCAQMD threshold of significance during construction of the proposed project. This could be mitigated by using low VOC paint as stipulated in Mitigation Measure AQ-2. While the duration of construction would likely be less because the project would be smaller, emissions during construction would likely be similar to what is projected for the project. Thus, because the threshold of significance is measured in daily emissions, ROG emissions may be similar to what is expected for the proposed project. Air quality impacts would be similar to what is projected for the proposed which included a significant but mitigable impact during construction.

6.2.3 Biological Resources

The project site would be fully developed under this alternative; however, it is assumed that this alternative would avoid the need to construct the overflow parking on the SCE easement to the north. Therefore, impacts to biological resources in this area would be avoided. Because fewer resources would be affected, biological resource impacts under this alternative would be less than those of the proposed project. However, biological resources associated with the proposed project would be less than significant with mitigation.

6.2.4 Cultural Resources

The project site would be fully developed under this alternative; however, it is assumed that this alternative would avoid the need to construct the overflow parking on the SCE easement to the north. While no cultural resources are expected to occur anywhere on the project site, unknown discoveries may be unearthed during ground preparation under any development scenario. Thus, this alternative would reduce the potential for such disturbance since it would reduce the overall area to be graded. Nevertheless, as with the proposed project, impacts would be potentially significant and mitigation measures required for the proposed project would apply. Impacts associated with this alternative would be similar to the proposed project.

6.2.5 Geology and Soils

Under this alternative, less land disturbance would be required to accommodate project improvements as development within the SCE easement would be avoided. This would reduce the potential for soil erosion and related impacts associated with grading and site preparation activities. Thus, potential impacts to geology/soils would be less than those of the proposed project though project impacts would be less than significant.

6.2.6 Greenhouse Gas Emissions/Climate Change

GHG emissions would be generated during both construction and operation of the project. Under this alternative, the number of employees would be less and fewer truck trips are anticipated because the warehouse would only be 2/3 the size of the proposed project. Because the level of activity on the site would be less, GHG emissions would also be less than those of the proposed project. However, project impacts would be less than significant.

6.2.7 Hazards & Hazardous Materials

While the warehouse would be smaller under this alternative than under the proposed project, hazardous materials could be transported to/from and be stored on-site. The relative quantities may be less than what could occur at any given time with the proposed project; thus, although the proposed project's impacts would be less than significant, impacts under the Reduced Intensity alternative would be lower.

6.2.8 Hydrology and Water Quality

Under this alternative, less land disturbance would be required to accommodate project improvements as development within the SCE easement would be avoided. This would reduce the amount of impervious surface and related increase in runoff quantities. Stormwater infrastructure would be required on-site; however, the infiltration basins may be smaller than constructed for the proposed project because runoff volumes would be less under this alternative. Overall impacts to hydrology and water quality would be similar to those of the proposed project and less than significant.

6.2.9 Land Use and Planning

The Reduced Intensity alternative would require the same land use entitlements as the proposed project with the exception of an easement from SCE for development of the overflow parking. No SCE easement would be required for development of the Reduced Density alternative. Both this alternative and the proposed project would be consistent with the existing zoning designation. Land use impacts for the Reduced Intensity alternative would be similar to those of the proposed project and less than significant.

6.2.10 Noise and Vibration

Noise and vibration impacts associated with the proposed project would occur during both construction and operation of the facility; however, impacts would be less than significant. The Reduced Intensity alternative would result in a similar level of impact during construction, though the duration of construction may be less. During operation, the number of truck trips associated with the alternative would be less than under the proposed project; therefore, noise levels associated with truck traffic would be reduced relative to the proposed project. Overall, noise impacts associated with the Reduced Intensity alternative would be less than those of the proposed project. However, project related impacts would be less than significant.

6.2.11 Population and Housing

No significant population and housing impacts were identified for the proposed project. Like the proposed project, development of the Reduced Intensity alternative would not affect the population of Eastvale. This alternative would create approximately 2/3 the number of jobs as the proposed project. As with the proposed project, it is expected that employees would come from the regional work force and not increase demand for housing in Eastvale. Population and housing impacts would be similar to those of the proposed project and less than significant.

6.2.12 Public Services

Development of the proposed project would not significantly affect public services (fire, police, schools, parks). The smaller facility anticipated under the Reduced Intensity alternative may generate less demand for police and fire services. However, the proposed project's impacts to these services would not be significant and impact fees paid the project applicant would alleviate impacts related to police and fire service regardless of the project size. Thus, public service impacts would be similar to those of the proposed project.

6.2.13 Transportation/Traffic

Under the Reduced Intensity alternative, the number of employees would be less and fewer truck trips are anticipated because the warehouse would only be 2/3 the size expected by the proposed project. As discussed in Section 4.14, *Transportation and Traffic*, trip generation rates are based on the square footage of the project. Thus, overall trips would be reduced to 870 daily two-way trips. Because the number of trips would be less under the Reduced Intensity alternative, traffic related impacts would be less than those of the proposed project. Based on existing conditions at the Hamner Avenue/Riverside Drive intersection, project-related mitigation would likely be required to avoid significant impacts at this location. These would likely include the improvements addressed in Mitigation Measures T-1(a) and T-1(b) and for cumulative impacts. Thus, impacts associated with this alternative would be similar to those identified for the proposed project.

6.2.14 Utilities/Service Systems

No significant impacts to utilities and service systems were identified for the proposed project. The Reduced Intensity alternative would generate less demand for water/wastewater services because the facility would be smaller with fewer employees than the proposed project. Water demand would be approximately 61 acre feet per year or 5% of annual demand for 2015 and 4% of annual demand in 2020 as projected in the UWMP for industrial users (see Section 4.14, *Utilities*). Wastewater generated by the project would be approximately 13,517 gpd. This would represent less than 1 percent of the additional capacity (6 mgd) currently under construction at the WRCRWA Reclamation Facility in Corona, CA. This alternative would generate approximately .48 tons of solid waste per day which could be accommodated at either the Badlands or El Sobrante Landfill. Overall impacts would be slightly lower than those of the proposed project and, as with the proposed project, less than significant.

6.3 ALTERNATE SITE – ALTERNATIVE 3

This alternative involves development of the proposed project on a different site. The property discussed as an alternative site is the "Dyt" property located near/west of the intersection of Limonite and Archibald. This property is part of a former dairy farm and is zoned Manufacturing Service Commercial. Warehousing and distribution are permitted outright within the zoning district per Section 120.03.030 of the Eastvale Municipal Code. The site is approximately 23 acres in size and could accommodate the proposed project without the overflow parking element (see Figure 6-1).

This alternative would meet some of the objectives of the project because it would allow for the same basic use as what is proposed. However, it is located approximately 1.5 miles west of I-15 and adjacent to and west of residential development. This alternative would not contribute to the concentration of warehouse uses near existing freeways and interchanges to minimize traffic congestion and reduce air emissions as referenced in the project objectives (see Section 2.5, *Project Objectives*). All other basic project objectives could be met with this alternative.

6.3.1 Aesthetics

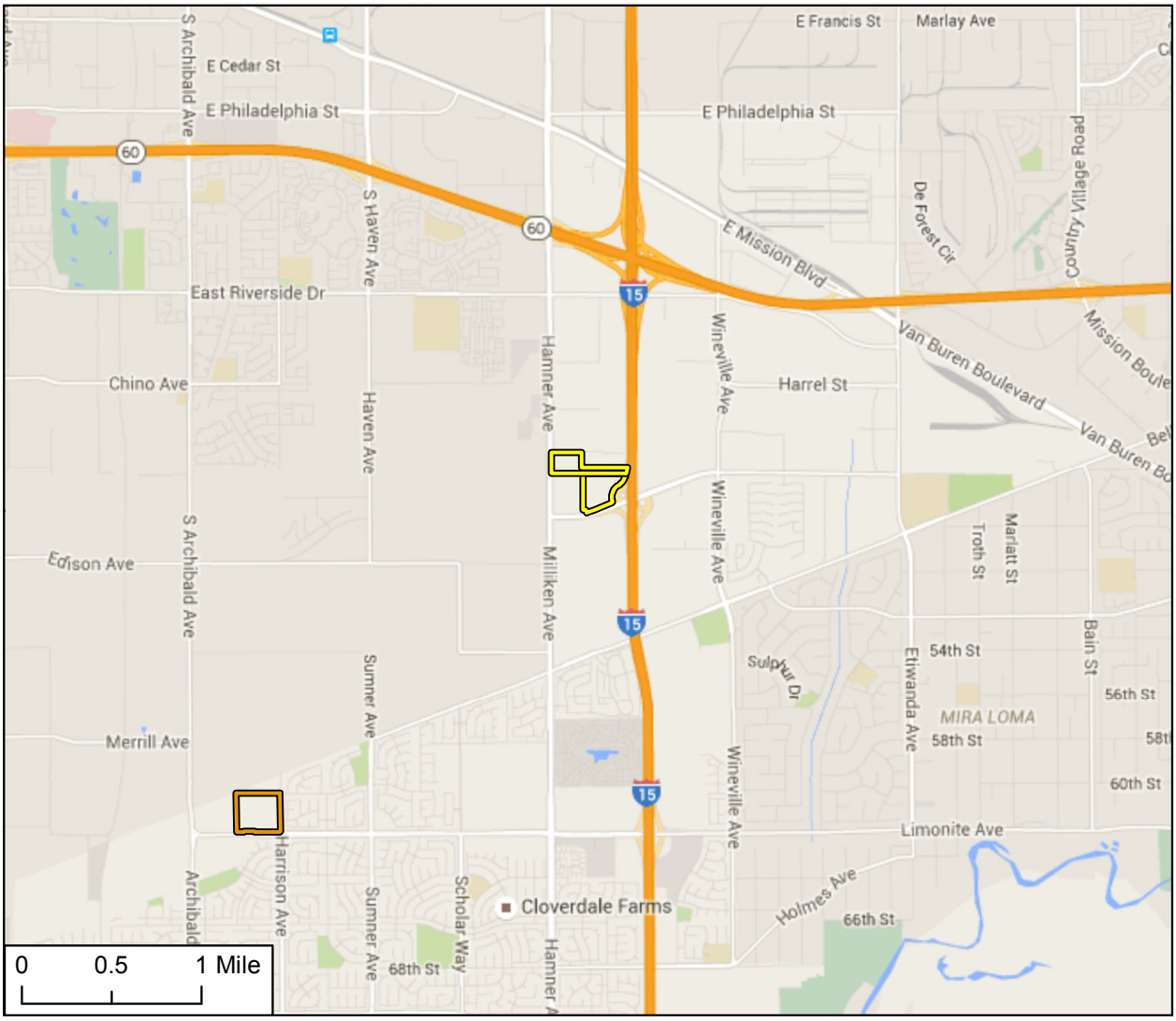
The area surrounding the alternate site is characterized by undeveloped land to the west, south and north, and residential development adjacent to and east of the site. The alternative site is not located along or within the viewshed of a designated scenic corridor. The distant mountains to the north can be seen from the alternate site; however, no scenic views are present looking to or from the site. While development of the alternate site would not be expected to cause a significant visual impact, the warehouse facility would be more visible from residences under this alternative; therefore, impacts would be incrementally greater than those of the proposed project.

6.3.2 Air Quality

The alternative site is located further from I-15 than the proposed site which may result in longer truck trips and incrementally higher emissions overall. Construction emissions would be similar to what is projected for the proposed project and implementation of Mitigation Measures AQ-1 may be required to reduce ROG emissions to less than significant.

6.3.3 Biological Resources

The alternative site has been heavily disturbed. Vegetation in the area is comprised primarily of sparse ruderal species. No wetland species, hydric vegetation or other wetland indicators are visible on the site. Based on existing conditions impacts would be similar to those projected for the project site. As referenced in Section 4.3, *Biological Resources*, no significant and unavoidable impacts to biological resources would occur with the proposed project with the implementation of mitigation measures. This alternative's impacts would likely be similar, though a site-specific biological survey would be needed to verify this preliminary conclusion.



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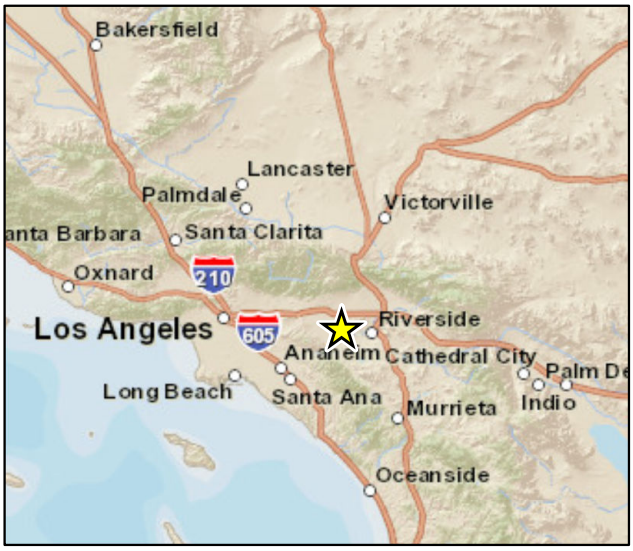
Alternative Site Location

Project Location

N



Alternative Site Location

Figure 6-1

6.3.4 Cultural Resources

The alternative project site has been disturbed and the likelihood that intact cultural resources are present is low; however, a site-specific cultural resources evaluation would be needed to verify whether resources are present. No impacts to known cultural resources would occur with the proposed project; thus, impacts would not be avoided by developing the proposed project on an alternate site. Given the high level of disturbance in proximity to the alternate site, it is unlikely that cultural resources are present or would be adversely affected. Impacts would be similar to the proposed project. Mitigation required for the proposed project would apply. In addition, a site-specific cultural resources study would be required.

6.3.5 Geology and Soils

No impacts to geologic or soil resources would be avoided or reduced by developing the project on the alternate site. Geology and soil characteristics are in this area are similar to those described for the project site. Impacts to geologic or soil resources would be similar to those described for the proposed project. Geology and soil impacts associated with the proposed project and alternative site would be less than significant.

6.3.6 Greenhouse Gas Emissions/Climate Change

While GHG emissions associated with the proposed project are not projected to exceed the significance threshold as discussed in Section 4.6, *Greenhouse Gas Emissions*, GHG emissions would not be reduced with construction and operation of the project at the alternate site. Because the distance from I-15 is greater under this alternative than the proposed project, overall truck trip length may also increase which may increase overall GHG emissions. However, if this were to occur, it is unlikely that the mobile source contribution to overall GHG emissions would cause the GHG threshold to be exceeded. Like the proposed project, GHG impacts would be less than significant.

6.3.7 Hazards & Hazardous Materials

No hazardous materials or conditions are known to be present on the alternate site and, as with the proposed project, this alternative would not create significant impacts due to hazardous materials use, storage, or transport. The overall potential to disturb residences may be slightly greater under this alternative, but impacts would be similar to those of the proposed project and less than significant.

6.3.8 Hydrology and Water Quality

Unlike the project site, there are no existing drainage features located on the alternative site that would have to be relocated to accommodate the development. However, this is not considered a significant impact of the proposed project and no impacts would be avoided or reduced by developing the proposed warehouse on the alternate site. If the alternate site were developed, on-site collection, conveyance and detention facilities similar to those required for the proposed project would be developed in accordance with applicable regulatory requirements. Additionally, construction and post-construction stormwater management requirements would

be implemented at the alternate site to reduce or avoid impacts to water quality. Impacts to hydrology and water quality would be less than significant and similar to the proposed project.

6.3.9 Land Use and Planning

The project site is currently zoned Manufacturing Service Commercial and as referenced above, the proposed use is permitted outright in the zone. Land use entitlements would be similar to those required for the proposed project and no land use or planning impacts would be reduced or avoided by developing on the alternate site. Land use impacts would be similar to those of the proposed project which would be less than significant.

6.3.10 Noise and Vibration

No significant or adverse noise impacts would be reduced or avoided with development of the alternate site rather than the project site. As referenced in Section 4.10, *Noise*, construction activities occurring greater than one-quarter mile from an inhabited residential unit are exempt from the noise ordinance. In this case, residences are located adjacent to and east of the site. Thus, if this alternative were constructed, noise would be subject to control per Section 8.52.050 (9) of the Municipal Code. Further, in addition to the residential uses to the east, residential development occurs along Limonite Avenue, which is the likely the primary route of truck travel to and from site. The addition of truck trips along Limonite Avenue as well as construction and operation of the warehouse would increase noise levels at adjacent residential properties. Noise levels would be subject to Section 8.52.040 of the Eastvale Municipal Code as summarized in Section 4.10, *Noise*. Although impacts are not expected to be significant, overall noise-related impacts would likely be greater under this alternative. Noise impacts associated with the proposed project would be less than significant.

6.3.11 Population and Housing

No impacts to population or housing would be reduced or avoided by developing the project on the alternate site. No housing would be removed or relocated with development of the alternate site. Impacts would be the same as those of the proposed project.

6.3.12 Public Services

No impacts to police or fire services would be reduced or avoided by development of the alternate site. The site would be served by Riverside County Fire Department Station 27 and Riverside County Sheriff's Department. No changes in service requirements or demand would occur with development of the alternative site. Impacts would be the same as those of the proposed project.

6.3.13 Transportation/Traffic

No significant or adverse impacts to transportation or traffic circulation were identified for the proposed project that would be reduced with development of the alternate site. There is no direct access to the alternative site from I-15; thus, employee traffic and trucks would be required to travel on Limonite Avenue or Archibald Avenue to access the warehouse facility. A

total of 1,318 daily trips would be added to the adjacent roadways. It is likely that increased truck traffic would impact operation of intersections along both roadways. Further, because a new access driveway would likely be constructed along Limonite Avenue, a new signalized intersection would be required. These improvements as well as overall operations would require a project specific traffic impact study to determine impacts and potential mitigation requirements. Because the project would increase truck traffic along Limonite Avenue and Archibald Avenue, it is likely that impacts to intersections within these corridors would be greater with the alternate site than the proposed project.

6.3.14 Utilities/Service Systems

No significant or adverse impacts to utilities or service systems would occur as a result of developing the project on the alternate site. Demand for water and wastewater services would be the same as described for the proposed project. Stormwater infrastructure would be constructed to meet site-specific requirements and likely be similar in scope to what was described for the proposed project. Solid waste volumes are also expected to be similar to what was described for the proposed project. Impacts to utilities and service systems would be similar to those of the proposed project and less than significant.

6.4 ALTERNATIVES CONSIDERED BUT NOT ADVANCED

As described below and throughout this EIR, the project does not have any significant impacts that would be reduced by implementing Alternatives 2 or 3 evaluated herein. To avoid sharing primary access with the adjacent W.W. Grainger facility adjacent to and west of the proposed site, construction of primary access to the north was considered. This access road would extend from the northwest corner of the site to Micro Drive between an existing warehouse to the west and the Riverside County Flood Control and Conservation District to the east. This alignment is proposed as the secondary access road described in Section 2.0, *Project Description.* As proposed, the secondary access would utilize an existing driveway along the east side of the warehouse building and access gate located on APN 156-050-025. Parking along the eastern property boundary would be preserved as would the existing perimeter fence and roadway around the adjacent detention basin to the east. Secondary access would be constructed at the southwest corner of the site.

This alternative was not advanced based on feasibility of the overall design. To function as a primary access roadway, it would be designed as a two-lane facility with a dedicated guard shack and gated access. Incorporating two travel lanes would require removal of the parking and landscaping along the eastern property boundary and multiple truck parking spaces located in the southeast corner of the APN 156-050-025. In addition, an easement from SCE would be required for a two-lane driveway. As noted in Section 2.0, *Project Description*, the easement granted by SCE for overflow truck parking and secondary access allows SCE to temporarily suspend access during transmission line inspection/maintenance activities. If this were to occur, primary access would have to shift to the secondary access location. Given the number of logistical challenges that would have to overcome to construct a primary access roadway to the north and the fact that no significant impacts would be avoided or reduced by implementing this alternative, this alternative was not advanced through the environmental review process.

6.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The environmental analysis contained in the EIR has found that the proposed project has no significant environmental impacts that cannot be avoided with mitigation. Nevertheless, as discussed further below, the Reduced Intensity alternative would incrementally reduce one or more of the proposed project's less than significant impacts while meeting several basic project objectives. The No Project alternative would eliminate all site-specific impacts associated with the proposed project, but would not meet any of the basic project objectives.

Alternative 2, the Reduced Intensity Alternative, would reduce project-related impacts as the facility would be approximately 2/3 the size of the proposed project. Consequently, the Reduced Intensity Alternative is considered environmentally superior. This alternative would meet most of the objectives of the project (stated in Section 2.0, *Project Description,* and discussed throughout this alternatives analysis) but to a lesser degree than the project, because it would not maximize development potential.

Table 6-2 indicates whether each alternative's environmental impact is greater, lesser, or similar to the proposed project.

Table 6-2
Comparison of Environmental Impacts of Alternatives to Proposed Project

Issue	Proposed Project	Alternative 1: No Project	Alternative 2: Reduced Intensity	Alternative 3: Alternate Site
Aesthetics	=	+	=/+	=
Air Quality	=	=	+	=/-
Biological Resources	=	=/+	=	=
Cultural Resources	=	=	=	=
Geology/Soils	=	+	=	=
GHG Emissions/ Climate Change	=	+	+	=/-
Hydrology/Water Quality	=	+	=	=
Land Use and Planning	=	=	=	=
Noise	=	+	+	-
Population/Housing	=	=	=	=
Public Services	=	+	+	=
Transportation and Traffic	=	+	+	=/-
Utilities and Service Systems	=	+	+	=
Overall	=	+	=/+	=/-

+Superior to the proposed project (reduced level of impact)
- Less than the proposed project (increased level of impact)
=/+ slightly superior to the proposed project in one more aspects but not significantly superior
=/- slight inferior to the proposed project in one more aspects but not significantly inferior
= Similar level of impact to the proposed project.

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Appendix A

NOP and Comment Letters

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
PLANNING (MS 722)
464 WEST 4th STREET, 6th Floor
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4557
FAX (909) 383-5936
TTY (909) 383-6300
www.dot.ca.gov/dist8

Serious drought
Help save water!

RECEIVED
APR 13 2015
CITY OF EASTVALE

April 6, 2015

Eric Norris
Planner Director
City of Eastvale
Planning/Engineering/Building Department
12363 Limonite Ave, Suite 910
Eastvale, CA 91752

Notice of Preparation of a Draft EIR / LBA Realty: Industrial Development Project APN160-020-033, 156-050-025, and 160-020-023 (Riv 15 PM 50.11) Project No. 14-1077

Mr. Norris,

We have completed our initial review for the above mentioned proposal for the construction and operation of a new 446,173 square-foot industrial warehouse building, parking, and infrastructure on 23.5 acres APN 160-020-033. Included will be the construction of road improvements to allow overflow truck parking and secondary access to the north.

As the owner and operator of the State Highway System (SHS), it is our responsibility to coordinate and consult with local jurisdictions when proposed development may impact our facilities. Under the California Environmental Quality Act (CEQA), we are required to make recommendations to offset associated impacts with the proposed project. Although the project is under the jurisdiction of the City of Eastvale due to the Project's potential impact to State facilities it is also subject to the policies and regulations that govern the SHS.

Our areas of concern, pertaining to State facilities, include hydrology/flooding and transportation/traffic issues in which the initial study identifies as having potentially significant impacts. Due to these potentially significant impacts and because the south portion of the Project area directly abuts SR-79 we recommend the following to be analyzed in the preceding DEIR:

Traffic Operations:

- To accurately evaluate the extent of potential impact to the operational characteristics of the existing highway, a traffic study should be prepared for review.
- A traffic impact study is necessary to determine this proposed project's near-term and long-term impacts to the State facilities – existing and proposed – and to propose appropriate mitigation measures. The study should use as a guideline the *Caltrans Guide for the Preparation of Traffic Impact Studies*, which is located at the following website: http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf

Minimum contents of the traffic impact study are listed in Appendix "A" of the TIS guide.

- All state facilities, including intersections, impacted by the Project area, which include Interstate 15 (I-15) and SR-79, should be analyzed in the traffic study. Where applicable, such as signalized intersections and ramp interchanges, a synchro analysis, merge/diverge analysis, and a queuing analysis is recommended.

- The geographic area examined in the traffic study should include as a minimum all regionally significant arterial system segments and intersections, including State highway facilities where the project will add over 100 peak hour trips. State highway facilities that are experiencing noticeable delays should be analyzed in the scope of the traffic study for projects that add 50 to 100 peak hour trips.

- Mitigation measures to State facilities should be included in the traffic impact analysis. Mitigation identified in the traffic study, subsequent environmental documents, and mitigation monitoring reports, should be coordinated with Caltrans to identify and implement the appropriate mitigation, as well as the appropriate timing of the mitigation. Mitigation improvements should be compatible with Caltrans concepts.

- The lead agency should monitor impacts to insure that roadway segments and intersections remain at an acceptable Level of Service (LOS). Should the LOS reach unacceptable levels, the lead agency should delay the issuance of building permits for any project until the appropriate impact mitigation is implemented.

- The data used in the TIS should not be more than 2 years old.

- Caltrans endeavors that any direct and cumulative impacts to the State highway system be eliminated or reduced to a level of insignificance pursuant to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) standards.

- Traffic Analysis Scenarios should clearly be exhibited as exiting, existing + project, existing + project + ambient growth, and existing + project + ambient growth + cumulative.

- Clearly indicate LOS with and without improvements.

- Proposed improvements should be exhibited in preliminary drawings that indicate the LOS with improvements.

- Submit a hard copy of all Traffic Impact Analysis documents and an electronic Synchro Analysis file.

Additionally, we recommend the traffic study be submitted prior to the circulation of the DEIR to ensure timely review of the submitted materials and a preliminary scoping meeting to discuss any potential issues.

If future development is anticipated to impact State facilities drainage system please consider the following when development occurs:

Hydrology and Grading

- Verify capacity of existing drainage structures within R/W where connections between private and Caltrans systems are proposed.
- Provide mitigation measures that offset drainage impacts to existing State drainage facilities.
- Existing capacity of affected State drainage systems cannot be exceeded. Should 100-year project runoff volumes be determined to exceed the maximum capacity of the existing State drainage facilities, construction of on-site detention basins, new drainage systems or other impact mitigation will be required.
- All existing tributary areas, area drainage patterns and runoff volumes having an impact to adjacent SR-79 drainage facilities must be identified and analyzed in a project hydrology study.
- Future review of project drainage design will include an evaluation of runoff impacts to adjacent State R/W. Where applicable, compliance with pertinent National Pollutant Discharge Elimination System (NPDES)/water quality standards will be required.
- Ensure that "best management practices" (BMP's) used to treat site runoff entering State R/W are in compliance with all applicable National Pollution Discharge Elimination System (NPDES) or State Regional Water Resources Board regulations.
- Project grading and drainage impacts affecting State R/W should be identified and addressed prior to project approval.
- To ensure that proposed site grading and drainage design does not result in an adverse impact to State R/W, we ask that a requirement to review plans and provide written construction clearance be included among the project conditions of approval.
- Prior to issuance of construction permits, please forward copies of site grading and drainage plans when available so that we may determine the extent of project impact to the adjacent State right-of-way.
- To ensure that State R/W impacts associated proposed grading, landscaping, and construction of parking structures and walls are identified, our review of rough and/or precise grading, landscape and building plans will be required.

Encroachment Permit Requirements

Issuance of a Caltrans Encroachment Permit will be required prior to any construction within State R/W. In addition, all work undertaken within SR 18 R/W shall be in compliance to all current design standards, applicable policies, and construction practices. Detailed information regarding permit application and submittal requirements is available at:

Office of Encroachment Permits
California Department of Transportation
464 West Fourth Street, 6th Floor, MS 619
San Bernardino, CA 92401-1400
(909) 383-4526

Prior to your submission for an Encroachment Permit, a follow-up Traffic Study Report letter will be required from the Department of Planning.

We appreciate the opportunity to offer comments concerning this project. If you have any questions regarding this letter, please contact Talvin Dennis at (909) 806-3957 or myself at (909) 383-4557 for assistance

Sincerely,

Mark Roberts

MARK ROBERTS
Office Chief
Intergovernmental Review, Community and Regional Planning

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

Notice of Preparation

RECEIVED
APR 07 2015
CITY OF EASTVALE

March 30, 2015

To: Reviewing Agencies

Re: LBA Realty Eastvale Industrial Development EIR
SCH# 2015031107

Attached for your review and comment is the Notice of Preparation (NOP) for the LBA Realty Eastvale Industrial Development EIR draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Eric Norris
City of Eastvale
12363 Limonite Avenue, Suite 910
Eastvale, CA 91752

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2015031107
Project Title LBA Realty Eastvale Industrial Development EIR
Lead Agency Eastvale, City of

Type NOP Notice of Preparation

Description The project involves construction and operation of a new 446,173 SF industrial warehouse building, parking and infrastructure on APN 160-020-033 (23.5 acres) and construction of road improvements to allow overflow truck parking and secondary access to the north (via easements with Southern California Edison and the neighboring property owner to the north on portions of APNs 156-020 and 160-020-033). The project will modify existing Riverside County Flood Control facilities located along the eastern and southern boundary. The existing open channel will be relocated and covered. An existing detention basin would be relocated to a portion of APN 160-020-023 generally at generally located at the southeast corner of the site. Project improvements would be required to allow shared truck access with the adjacent warehouse facility to the west.

Lead Agency Contact

Name Eric Norris
Agency City of Eastvale
Phone 530 574-4875 **Fax**
email
Address 12363 Limonite Avenue, Suite 910
City Eastvale **State** CA **Zip** 91752

Project Location

County Riverside
City Eastvale
Region
Cross Streets I-15 and Cantu-Galleano Ranch Road
Lat / Long
Parcel No. 160-020-033
Township **Range** **Section** **Base**

Proximity to:

Highways I-15
Airports Chino
Railways
Waterways No
Schools Jurupa Valley HS
Land Use Vacant/existing industrial/SCE easement/Industrial Park/Light Industrial-Business Park

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Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Noise; Population/Housing Balance; Public Services; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Landuse; Cumulative Effects

---

Reviewing Agencies Resources Agency; Department of Parks and Recreation; Resources, Recycling and Recovery; Department of Water Resources; Department of Fish and Wildlife, Region 6 (Inyo & Mono Region); Office of Emergency Services, California; California Highway Patrol; Native American Heritage Commission; Caltrans, District 8; Air Resources Board, Major Industrial Projects; Regional Water Quality Control Board, Region 8

Date Received 03/30/2015 **Start of Review** 03/30/2015 **End of Review** 04/28/2015

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

JB

County: Riverside

SCH# 2015031107

esources Agency

- Resources Agency
  Nadell Gayou
- ☐ Dept. of Boating & Waterways
  Nicole Wong
- ☐ California Coastal Commission
  Elizabeth A. Fuchs
- ☐ Colorado River Board
  Lisa Johansen
- ☐ Dept. of Conservation
  Elizabeth Carpenter
- ☐ California Energy Commission
  Eric Knight
- ☐ Cal Fire
  Dan Foster
- ☐ Central Valley Flood Protection Board
  James Herota
- ☐ Office of Historic Preservation
  Ron Parsons
- Dept of Parks & Recreation
  Environmental Stewardship Section
- ☒ California Department of Resources, Recycling & Recovery
  Sue O'Leary
- ☐ S.F. Bay Conservation & Dev't. Comm.
  Steve McAdam
- ☒ Dept. of Water Resources
  Resources Agency
  Nadell Gayou

Fish and Game

- ☐ Depart. of Fish & Wildlife
  Scott Flint
  Environmental Services Division
- ☐ Fish & Wildlife Region 1
  Donald Koch
- ☐ Fish & Wildlife Region 1E
  Laurie Harnsberger
- ☐ Fish & Wildlife Region 2
  Jeff Drongesen
- ☐ Fish & Wildlife Region 3
  Charles Armor
- ☐ Fish & Wildlife Region 4
  Julie Vance
- ☐ Fish & Wildlife Region 5
  Leslie Newton-Reed
  Habitat Conservation Program
- ☒ Fish & Wildlife Region 6
  Tiffany Ellis
  Habitat Conservation Program
- ☐ Fish & Wildlife Region 6 I/M
  Heidi Sickler
  Inyo/Mono, Habitat Conservation Program
- ☐ Dept. of Fish & Wildlife M
  George Isaac
  Marine Region

Other Departments

- ☐ Food & Agriculture
  Sandra Schubert
  Dept. of Food and Agriculture
- ☐ Depart. of General Services
  Public School Construction
- ☐ Dept. of General Services
  Anna Garbeff
  Environmental Services Section
- ☐ Delta Stewardship Council
  Kevan Samsam
- ☐ Housing & Comm. Dev.
  CEQA Coordinator
  Housing Policy Division

Independent Commissions,Boards

- ☐ Delta Protection Commission
  Michael Machado
- ☒ OES (Office of Emergency Services)
  Dennis Castrillo
- ■ Native American Heritage Comm.
  Debbie Treadway
- ☐ Public Utilities Commission
  Leo Wong
- ☐ Santa Monica Bay Restoration
  Guangyu Wang
- ☐ State Lands Commission
  Jennifer Deleong
- ☐ Tahoe Regional Planning Agency (TRPA)
  Cherry Jacques

Cal State Transportation Agency CalSTA

- ☐ Caltrans - Division of Aeronautics
  Philip Crimmins
- ☐ Caltrans – Planning
  HQ LD-IGR
  Terri Pencovic
- ☒ California Highway Patrol
  Suzann Ikeuchi
  Office of Special Projects

Dept. of Transportation

- ☐ Caltrans, District 1
  Rex Jackman
- ☐ Caltrans, District 2
  Marcelino Gonzalez
- ☐ Caltrans, District 3
  Eric Federicks – South
  Susan Zanchi - North
- ☐ Caltrans, District 4
  Erik Alm
- ☐ Caltrans, District 5
  Larry Newland
- ☐ Caltrans, District 6
  Michael Navarro
- ☐ Caltrans, District 7
  Dianna Watson
- ☒ Caltrans, District 8
  Mark Roberts
- ☐ Caltrans, District 9
  Gayle Rosander
- ☐ Caltrans, District 10
  Tom Dumas
- ☐ Caltrans, District 11
  Jacob Armstrong
- ☐ Caltrans, District 12
  Maureen El Harake

Cal EPA

Air Resources Board

- All Other Projects
  Cathi Slaminski
  - ☐ Transportation Projects
    Nesamani Kalandiyur
  - ☒ Industrial/Energy Projects
    Mike Tollstrup
- ☐ State Water Resources Control Board
  Regional Programs Unit
  Division of Financial Assistance
- ☐ State Water Resources Control Board
  Jeffery Werth
  Division of Drinking Water
- ☐ State Water Resources Control Board
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- ☐ State Water Resouces Control Board
  Phil Crader
  Division of Water Rights
- ☐ Dept. of Toxic Substances Control
  CEQA Tracking Center
- ☐ Department of Pesticide Regulation
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- ☐ RWQCB 1
  Cathleen Hudson
  North Coast Region (1)
- ☐ RWQCB 2
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- ☐ RWQCB 3
  Central Coast Region (3)
- ☐ RWQCB 4
  Teresa Rodgers
  Los Angeles Region (4)
- ☐ RWQCB 5S
  Central Valley Region (5)
  - ☐ RWQCB 5F
    Central Valley Region (5)
    Fresno Branch Office
  - ☐ RWQCB 5R
    Central Valley Region (5)
    Redding Branch Office
- ☐ RWQCB 6
  Lahontan Region (6)
  - ☐ RWQCB 6V
    Lahontan Region (6)
    Victorville Branch Office
- ☐ RWQCB 7
  Colorado River Basin Region (7)
- ☒ RWQCB 8
  Santa Ana Region (8)
- ☐ RWQCB 9
  San Diego Region (9)

☐ Other _____

☐ _____
Conservancy

Last Updated 10/13/2014

NOTICE OF PREPARATION

RECEIVED
MAY 21 2015
CITY OF EASTVALE

RECEIVED
APR 02 2015
RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

Date: March 30, 2015

To: California State Clearinghouse
Responsible and Trustee Agencies
Interested Parties and Organizations
Affected Property Owners

Subject: Notice of Preparation of a Draft Environmental Impact Report

Lead Agency: City of Eastvale
Eric Norris, Planning Director
Planning/Engineering/Building Department
12363 Limonite Avenue, Suite 910
Eastvale, CA 91752

Project Title: LBA Realty: Industrial Development Project

Project Location: Northwest corner Cantu-Galleano Ranch Road and Interstate 15 interchange in Eastvale, CA. Assessor's Parcel Numbers (APN) 160-020-033, 156-050-025, and 160-020-023. See Figure 1 – Vicinity Map.

The proposed project involves the construction and operation of a new 446,173-square-foot industrial warehouse building, parking, and infrastructure on APN 160-020-033 (23.5 acres) and construction of road improvements to allow overflow truck parking and secondary access to the north (via easements with Southern California Edison and the neighboring property owner to the north on portions of APNs 156-050-025 and 160-020-033). See Figure 2 – Site Plan. The parcel to the north is currently developed with an industrial warehouse building and other improvements. In addition, the project will require modifications to the existing Riverside County Flood Control District facilities located along the eastern and southern site boundaries. The existing open drainage channel would be relocated and covered. An existing stormwater detention basin would be relocated to a portion of APN 160-020-023 generally located at the southwest corner of the site. The primary truck access would be via a shared driveway with the existing W. W. Grainger facility located along the north side of Cantu-Galleano Ranch Road adjacent to and east of the existing W.W. Grainger facility. The existing W. W. Grainger entrance on Cantu-Galleano Ranch Road will be closed. Grading and landscaping would be required along the California Department of Transportation (Caltrans) right-of-way east of the site to modify

drainage infrastructure and off-site along the western and southern site boundaries to modify the site entrance.

The City of Eastvale intends to prepare a Draft Environmental Impact Report (EIR) for the proposed LBA Realty: Industrial Development project. In accordance with Section 15082 of the State CEQA Guidelines, the City of Eastvale has prepared this Notice of Preparation to provide responsible agencies and other interested parties with information describing the proposal and its potential environmental effects. Environmental factors that would potentially be affected by the project include:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions/Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use Planning
- Noise
- Population and Housing
- Public Services and Utilities
- Traffic

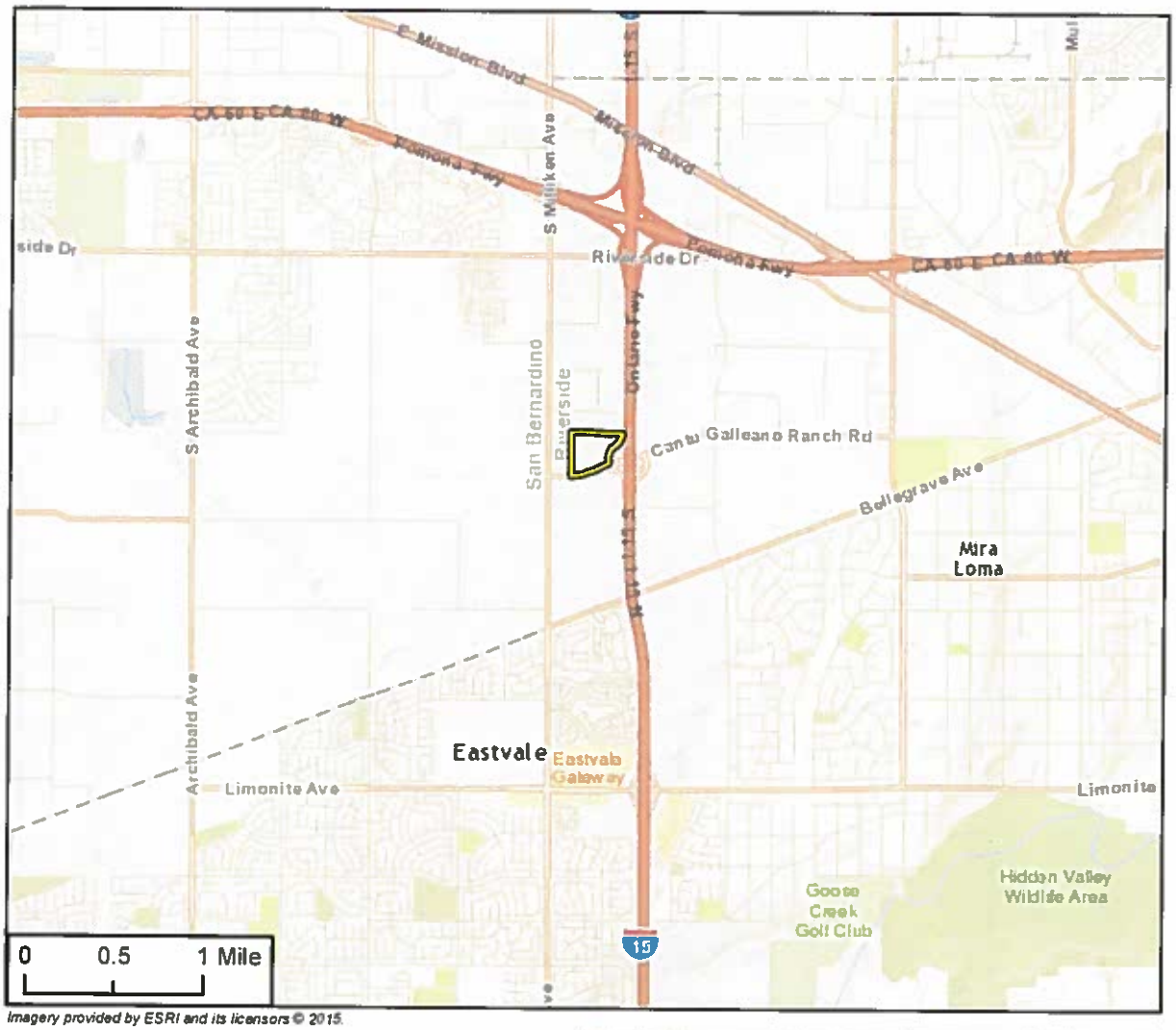
As specified by the State CEQA Guidelines, the Notice of Preparation will be circulated for a 30-day review period **beginning on Monday, March 30, 2015, and ending on Thursday, April 30, 2015**. The City of Eastvale welcomes agency and public input during this period regarding the scope and content of environmental information that must be included in the Draft EIR. A public scoping meeting will be held during the Planning Commission meeting on April 15, 2015, at Rosa Parks Elementary School, 13830 Whispering Hills Drive, Eastvale, CA 92880. Comments may be submitted, in writing, by 5:30 p.m. on Thursday April 30, 2015, and addressed to:

Eric Norris, Planning Director
City of Eastvale, City Planning Department
12363 Limonite Avenue, Suite 910
Limonite, CA 91752
Telephone: (530) 574-4875
E-mail: enorris@eastvaleca.gov

Eric Norris

March 30, 2015

Eric Norris
Planning Director



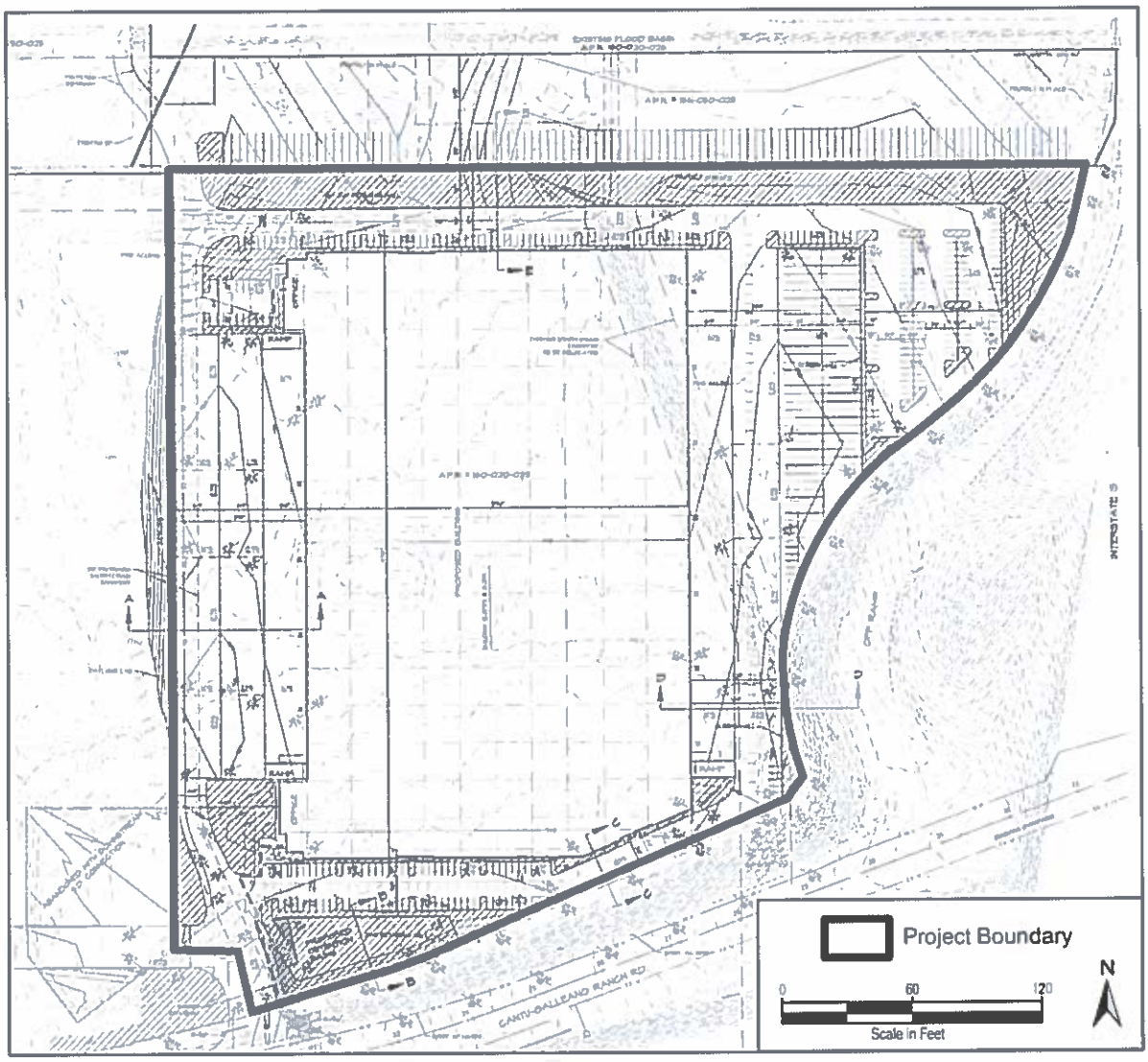
Imagery provided by ESRI and its licensors © 2015.

N

Project Location

Project Vicinity Map

Figure 1



Drawing Source: Albert A. Webb Associates, October 2014.

Site Plan

Figure 2

WARREN D. WILLIAMS
General Manager-Chief Engineer

1995 MARKET STREET
RIVERSIDE, CA 92501
951.955.1200
FAX 951.788.9965
www.rcflood.org

P8\169938

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECEIVED
MAY 21 2015
CITY OF EASTVALE

City of Eastvale
Planning Department
12363 Limonite Avenue, Suite #910
Eastvale, California 91752

Attention: Eric Norris

Ladies and Gentlemen: Re: LBA Reality: Industrial Development Project

The District does not normally recommend conditions for land divisions or other land use cases in incorporated cities. The District also does not plan check city land use cases, or provide State Division of Real Estate letters or other flood hazard reports for such cases. District comments/recommendations for such cases are normally limited to items of specific interest to the District including District Master Drainage Plan facilities, other regional flood control and drainage facilities which could be considered a logical component or extension of a master plan system, and District Area Drainage Plan fees (development mitigation fees). In addition, information of a general nature is provided.

The District has not reviewed the proposed project in detail and the following checked comments do not in any way constitute or imply District approval or endorsement of the proposed project with respect to flood hazard, public health and safety or any other such issue:

____ No comment.

____ This project would not be impacted by District Master Drainage Plan facilities nor are other facilities of regional interest proposed.

_X_ This project involves District Master Plan facilities. The District will accept ownership of such facilities on written request of the City. Facilities must be constructed to District standards, and District plan check and inspection will be required for District acceptance. Plan check, inspection and administrative fees will be required. **Eastvale MDP Line E-1**

_X_ This project proposes channels, storm drains 36 inches or larger in diameter or other facilities that could be considered regional in nature and/or a logical extension of the adopted **Eastvale Master Drainage Plan**. The District would consider accepting ownership of such facilities on written request of the City. Facilities must be constructed to District standards, and District plan check and inspection will be required for District acceptance. Plan check, inspection and administrative fees will be required.

_X_ This project is located within the limits of the District's **Eastvale Area Drainage Plan** for which drainage fees have been adopted; applicable fees should be paid by cashier's check or money order only to the Flood Control District or City prior to issuance of grading permits. Fees to be paid should be at the rate in effect at the time of issuance of the actual permit.

_X_ An encroachment permit shall be obtained for any construction related activities occurring within District right of way or facilities. For further information, contact the District's encroachment permit section at 951.955.1266. **Eastvale MDP Line E-2**

____ The District's previous comments are still valid.

GENERAL INFORMATION

This project may require a National Pollutant Discharge Elimination System (NPDES) permit from the State Water Resources Control Board. Clearance for grading, recordation or other final approval should not be given until the City has determined that the project has been granted a permit or is shown to be exempt.

If this project involves a Federal Emergency Management Agency (FEMA) mapped flood plain, then the City should require the applicant to provide all studies, calculations, plans and other information required to meet FEMA requirements, and should further require that the applicant obtain a Conditional Letter of Map Revision (CLOMR) prior to grading, recordation or other final approval of the project, and a Letter of Map Revision (LOMR) prior to occupancy.

If a natural watercourse or mapped flood plain is impacted by this project, the City should require the applicant to obtain a Section 1602 Agreement from the California Department of Fish and Game and a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers, or written correspondence from these agencies indicating the project is exempt from these requirements. A Clean Water Act Section 401 Water Quality Certification may be required from the local California Regional Water Quality Control Board prior to issuance of the Corps 404 permit.

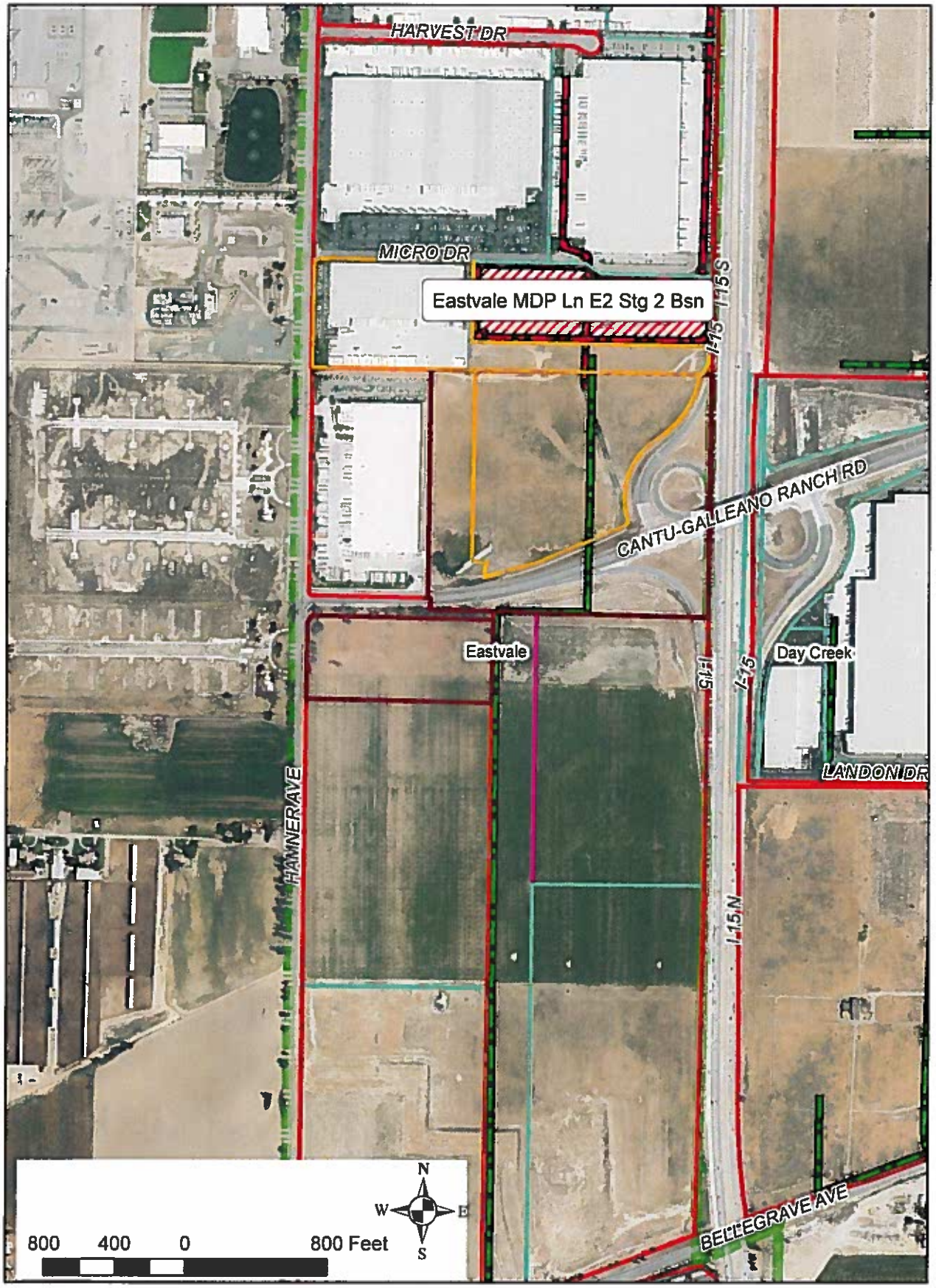
Very truly yours,

HENRY OLIVO
Engineering Project Manager

c: Riverside County Planning Department
Attn: Kristi Lovelady

Date: May 18, 2015

SKM:mcv


HARVEST DR
MICRO DR
Eastvale MDP Ln E2 Stg 2 Bsn
I-15 S
CANTU-GALLEANO RANCH RD
Eastvale
Day Creek
I-15
LANDON DR
HAMNER AVE
I-15 N
BELLEGRAVE AVE
N
W
E
S
800 400 0 800 Feet

Riverside County
Waste Management Department
Hans W. Kernkamp, General Manager-Chief Engineer

April 8, 2015

RECEIVED
APR 14 2015
CITY OF EASTVALE

Eric Norris, Planning Director
City of Eastvale
12363 Limonite Avenue, Suite 910
Eastvale, CA 91752

RE: Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the LBA Realty, Industrial Development Project.

Dear Mr. Norris:

The Riverside County Waste Management Department (RCWMD) has reviewed the NOP for a Draft EIR for the LBA Realty, Industrial Development Project. The project site is located on the northwest corner of Cantu-Galleano Ranch Road and Interstate 15 interchange, within the City of Eastvale (City).

The following comments should be addressed in the forthcoming DEIR:

1. Construction of the proposed Project may substantially increase the quantity of construction and demolition (C&D) waste generated within the City. Should a large quantity of the C&D waste be brought to a County landfill for disposal, it could exceed the landfill's daily permitted capacity, thus a violation of state regulations. The DEIR should quantitatively analyze this potential solid waste impact and discuss feasible mitigation programs.

2. Build-out of the Project may have the potential to generate a substantial amount of waste that might adversely affect solid waste facilities. To assess waste impacts, the DEIR will need to include the projected maximum amount of waste generated at built-out of the Project, using appropriate waste generation factors for the proposed land uses. (Note: Consult the CalRecycle website to determine waste generation factors at:

   www.calrecycle.ca.gov/wastechar/wastegenrates)

3. The following information can be useful in the analysis of solid waste impacts:

   a) The El Sobrante and Badlands landfills are the nearest landfills to the project site.

   El Sobrante Landfill:

   The El Sobrante Landfill is located east of Interstate 15 and Temescal Canyon Road, and south of the City of Corona and Cajalco Road at 10910 Dawson Canyon Road. The landfill is owned and operated by USA Waste of California, a subsidiary of Waste Management, Inc., and encompasses 1,322 acres, of which 645 acres are permitted for landfill operation. According to Solid Waste Facility Permit (SWFP) # AA-33-0217 issued on 09/09/2009, the El Sobrante Landfill has a total disposal capacity of approximately 209.91 million cubic yards and can receive up to 70,000 tons per week (tpw) of refuse. USA Waste must allot at least 28,000 tpw for County refuse. The SWFP allows a maximum of 16,054 tons per day (tpd) of

waste to be accepted into the landfill, due to the limits on vehicle trips. If needed, 5,000 tpd must be reserved for County waste, leaving the maximum commitment of Non-County waste at 11,054 tpd. As of January 1, 2014 (beginning of day), the landfill had a remaining in-County disposal capacity of approximately 36.471 million tons.[1] In 2013, the El Sobrante Landfill accepted a total of 685,611 tons, or approximately 0.685 million tons, of waste generated within Riverside County. The daily average for in-County waste was 2,233 tons during 2013. The landfill is expected to reach capacity in approximately 2045.

Badlands Landfill:

The Badlands Landfill is located northeast of the City of Moreno Valley at 31125 Ironwood Avenue and accessed from State Highway 60 at Theodore Avenue. The landfill is owned and operated by Riverside County. The existing landfill encompasses 1,168.3 acres, of which 150 acres are permitted for refuse disposal and another 96 acres are designated for existing and planned ancillary facilities and activities. The landfill is currently permitted to receive 4,000 tons per day and had an estimated total capacity of approximately 17.620 million tons.[2] As of January 1, 2014 (beginning of day), the landfill had a total remaining disposal capacity of approximately 7.322 million tons.[3] The Badlands Landfill is projected to reach capacity, at the earliest time, in 2024.[4] During 2013, the Badlands Landfill accepted a daily average volume of 1,980 tons and a period total of approximately 607,977 tons. Further landfill expansion potential exists at the Badlands Landfill site.

4. The project proponent is also encouraged to consider incorporating the following measures to help reduce the anticipated project's solid waste impacts and enhance the County's efforts to comply with the State's mandate of 50% solid waste diversion from landfilling.

   - The use of mulch and/or compost in the development and maintenance of landscaped areas within the project boundaries is recommended. Recycle green waste through either onsite composting of grass, i.e., leaving the grass clippings on the lawn, or sending separated green waste to a composting facility.

   - Consider xeriscaping and the use of drought tolerant low maintenance vegetation in all landscaped areas of the project.

   - Hazardous materials are not accepted at the Riverside County landfills. Any hazardous wastes, including paint, used during construction must be properly disposed of at a licensed facility in accordance with local, state and federal regulations. For further information regarding the determination, transport, and disposal of hazardous waste, please contact the Riverside County Department of Health, Environmental Protection and Oversight Division, at 1.888.722.4234.

---

[1] Based on remaining capacity estimated for the prior year and tonnage figures as reported in SiteInfo
[2] Badlands JTD, Addendum No. 5, dated June 2010.
[3] GASB_2013 & SiteInfo
[4] Badlands JTD, Addendum No. 5, dated June 2010.

5. AB 341 focuses on increased commercial waste recycling as a method to reduce greenhouse gas (GHG) emissions. The regulation requires businesses and organizations that generate four or more cubic yards of waste per week and multifamily units of 5 or more, to recycle. A business shall take at least one of the following actions in order to reuse, recycle, compost, or otherwise divert commercial solid waste from disposal:

   - Source separate recyclable and/or compostable material from solid waste and donate or self-haul the material to recycling facilities.
   - Subscribe to a recycling service with their waste hauler.
   - Provide recycling service to their tenants (if commercial or multi-family complex).
   - Demonstrate compliance with the requirements of California Code of Regulations Title 14.

   For more information, please visit:
   www.rivcowm.org/opencms/recycling/recycling_and_compost_business.html#mandatory

6. AB 1826 (effective April 1, 2016) requires businesses that generate 8 cubic yards or more of organic waste per week to arrange for organic waste recycling services. The threshold amount of organic waste generated requiring compliance by businesses is reduced in subsequent years. Businesses subject to AB 1826 shall take at least one of the following actions in order to divert organic waste from disposal:

   - Source separate organic material from all other recyclables and donate or self-haul to a permitted organic waste processing facility.

   - Enter into a contract or work agreement with gardening or landscaping service provider or refuse hauler to ensure the waste generated from those services meet the requirements of AB 1826.

Thank you for the opportunity to review and comment on the Notice of Preparation. We would appreciate a copy of the Draft EIR on CD for review and comment when available. I can be reached at (951) 486-3200 if you have any questions regarding the above comments.

Sincerely,

Jose Merlan
Urban/Regional Planner II

PD# 173496

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

April 10, 2015

RECEIVED
APR 14 2015
CITY OF EASTVALE

Eric Norris, Planning Director
City of Eastvale
Planning/Engineering/Building Department
12363 Limonite Avenue, Suite 910
Eastvale, CA 91752

Notice of Preparation of a CEQA Document for the
Eastvale Industrial Development Project

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The SCAQMD staff's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft CEQA document. Please send the SCAQMD a copy of the CEQA document upon its completion. Note that copies of the Draft EIR that are submitted to the State Clearinghouse are not forwarded to the SCAQMD. Please forward a copy of the Draft EIR directly to SCAQMD at the address in our letterhead. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files. These include original emission calculation spreadsheets and modeling files (not Adobe PDF files). Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. More recent guidance developed since this Handbook was published is also available on SCAQMD's website here: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993). SCAQMD staff also recommends that the lead agency use the CalEEMod land use emissions software. This software has recently been updated to incorporate up-to-date state and locally approved emission factors and methodologies for estimating pollutant emissions from typical land use development. CalEEMod is the only software model maintained by the California Air Pollution Control Officers Association (CAPCOA) and replaces the now outdated URBEMIS. This model is available free of charge at: www.caleemod.com.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD staff requests that the lead agency quantify criteria pollutant emissions and compare the results to the recommended regional significance thresholds found here: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. In addition to analyzing regional air quality impacts, the SCAQMD staff recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("*Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*") can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-

toxics-analysis. An analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants should also be included.

In addition, guidance on siting incompatible land uses (such as placing homes near freeways) can be found in the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Perspective*, which can be found at the following internet address: http://www.arb.ca.gov/ch/handbook.pdf. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate these impacts. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed. Several resources are available to assist the Lead Agency with identifying possible mitigation measures for the project, including:

- Chapter 11 of the SCAQMD *CEQA Air Quality Handbook*
- SCAQMD's CEQA web pages at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies.
- CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* available here: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.
- SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook for controlling construction-related emissions
- Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf?sfvrsn=4.

SCAQMD Recommendation for Truck Trip Rates for High Cube Warehouse Projects

SCAQMD recommends the use of truck trip rates from the Institute of Transportation Engineers (ITE) for high cube warehouse projects located in SCAQMD (i.e. 1.68 average daily vehicle trips per 1,000 s.f. and 0.64 average daily truck trips per 1,000 s.f.). Consistent with CEQA Guidelines, the EIR may use a non-default trip rate if there is substantial evidence indicating another rate is more appropriate for the air quality analysis.

For high cube warehouse projects, the SCAQMD staff has been working on a Warehouse Truck Trip Study to better quantify trip rates associated with local warehouse and distribution projects, as truck emission represent more than 90 percent of air quality impacts from these projects. Details regarding this study can be found online here: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/high-cube-warehouse

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's webpage (http://www.aqmd.gov).

The SCAQMD staff is available to work with the Lead Agency to ensure that project emissions are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at JWong1@aqmd.gov or call me at (909) 396-3176.

Sincerely,

Jillian Wong

Jillian Wong, Ph.D.
Program Supervisor
Planning, Rule Development & Area Sources

SBC150403-03
Control Number

Appendix B

Air Quality/Health Risk Assessment Files

LGA Realty Eastvale Industrial Development Project

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	446.17	1000sqft	10.24	446,170.00	0
Other Non-Asphalt Surfaces	10.00	1000sqft	0.23	10,000.00	0
Parking Lot	447.00	Space	4.02	178,800.00	0
Parking Lot	5.30	Acre	5.30	230,868.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Parking = 319 vehicle stalls + 128 equiv stalls for trailer parking = 447 spaces
Secondary access + overflow parking = 5.3 acres
Retaining wall = 1,000 linear feet * ~10ft assumed disturbance width = 10 ksf

Construction Phase - default phase lengths multiplied by 1.75 to reflect construction schedule June 2016 - December 2018

Demolition - Demo square footage for concrete channel and retention basin estimated based on aerial imagery/approx ground coverage.

Grading - Default disturbance area of 132.5 acres used (accounts for multiple grading passes during construction). All cut/fill would be balanced on site.

Architectural Coating - Modeling also assumes a VOC of 100 g/L for interior paints pursuant to SCAQMD Rule 1113.

Vehicle Trips - Based on 766 total trips (398 passenger and 368 truck) from traffic study (1.72 trips/ksf/day)

Vechicle Emission Factors - Annual fleet mix edited to match traffic study (51.958% passenger cars, 48.042 trucks (assumed 50% MHD and 50% HHD)

Vechicle Emission Factors - Summer fleet mix edited to match traffic study (51.958% passenger cars, 48.042 trucks (assumed 50% MHD and 50% HHD)

Vechicle Emission Factors - Winter fleet mix edited to match traffic study (51.958% passenger cars, 48.042 trucks (assumed 50% MHD and 50% HHD)

Area Coating - Modeling also assumes a VOC of 100 g/L for interior paints pursuant to SCAQMD Rule 1113.

Area Mitigation - Mitigation requiring use of low VOC paints with VOC content not exceeding 50 g/l for interior and exterior painting.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	300.00	525.00
tblConstructionPhase	NumDays	30.00	53.00
tblConstructionPhase	NumDays	20.00	35.00
tblConstructionPhase	NumDays	10.00	18.00
tblConstructionPhase	PhaseEndDate	1/2/2019	12/14/2018
tblConstructionPhase	PhaseStartDate	11/1/2018	10/15/2018
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleEF	HHD	0.04	0.24

tblVehicleEF	HHD	0.04	0.24
tblVehicleEF	HHD	0.04	0.24
tblVehicleEF	LDA	0.46	0.52
tblVehicleEF	LDA	0.46	0.52
tblVehicleEF	LDA	0.46	0.52
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
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tblVehicleEF	LHD2	7.4300e-003	0.00
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tblVehicleEF	MHD	0.01	0.24
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tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	1.72

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	6.5561	74.9042	51.6272	0.1055	18.2675	3.5856	21.2074	9.9840	3.2988	12.6888	0.0000	9,708.3420	9,708.3420	1.9446	0.0000	9,749.1777
2017	5.3482	38.6914	48.3145	0.1055	4.9621	2.0132	6.9753	1.3342	1.8864	3.2207	0.0000	9,468.3141	9,468.3141	0.8283	0.0000	9,485.7082
2018	135.5713	34.4841	45.3865	0.1054	4.9619	1.7141	6.6760	1.3341	1.6071	2.9413	0.0000	9,239.9467	9,239.9467	0.8051	0.0000	9,256.8542
Total	**147.4755**	**148.0797**	**145.3282**	**0.3164**	**28.1914**	**7.3130**	**34.8587**	**12.6524**	**6.7923**	**18.8507**	**0.0000**	**28,416.6028**	**28,416.6028**	**3.5780**	**0.0000**	**28,491.7401**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	6.5561	74.9042	51.6272	0.1055	18.2675	3.5856	21.2074	9.9840	3.2988	12.6888	0.0000	9,708.3420	9,708.3420	1.9446	0.0000	9,749.1777
2017	5.3482	38.6914	48.3145	0.1055	4.9621	2.0132	6.9753	1.3342	1.8864	3.2207	0.0000	9,468.3141	9,468.3141	0.8283	0.0000	9,485.7082
2018	135.5713	34.4841	45.3865	0.1054	4.9619	1.7141	6.6760	1.3341	1.6071	2.9413	0.0000	9,239.9467	9,239.9467	0.8051	0.0000	9,256.8542
Total	**147.4755**	**148.0797**	**145.3282**	**0.3164**	**28.1914**	**7.3130**	**34.8587**	**12.6524**	**6.7923**	**18.8507**	**0.0000**	**28,416.6028**	**28,416.6028**	**3.5780**	**0.0000**	**28,491.7401**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	20.1269	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Energy	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
Mobile	3.4004	36.5182	40.9992	0.1637	7.5072	0.8174	8.3246	2.0691	0.7521	2.8212		14,769.5892	14,769.5892	0.1600		14,772.9484
Total	**23.5555**	**36.7755**	**41.3083**	**0.1652**	**7.5072**	**0.8372**	**8.3445**	**2.0691**	**0.7719**	**2.8411**		**15,077.5410**	**15,077.5410**	**0.1664**	**5.6400e-003**	**15,082.7846**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	17.7474	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Energy	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
Mobile	3.4004	36.5182	40.9992	0.1637	7.5072	0.8174	8.3246	2.0691	0.7521	2.8212		14,769.5892	14,769.5892	0.1600		14,772.9484
Total	**21.1760**	**36.7755**	**41.3083**	**0.1652**	**7.5072**	**0.8372**	**8.3445**	**2.0691**	**0.7719**	**2.8411**		**15,077.5410**	**15,077.5410**	**0.1664**	**5.6400e-003**	**15,082.7846**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**10.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/4/2016	5/31/2016	5	20	
2	Site Preparation	Site Preparation	6/1/2016	6/24/2016	5	18	
3	Grading	Grading	6/25/2016	9/7/2016	5	53	
4	Building Construction	Building Construction	9/8/2016	9/12/2018	5	525	
5	Paving	Paving	9/13/2018	10/31/2018	5	35	
6	Architectural Coating	Architectural Coating	10/15/2018	12/14/2018	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 132.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 702,690; Non-Residential Outdoor: 234,230 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	309.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	364.00	142.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	73.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3675	0.0000	3.3675	0.5099	0.0000	0.5099			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**3.3675**	**2.2921**	**5.6596**	**0.5099**	**2.1365**	**2.6464**		**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2314	4.0940	2.6136	0.0110	0.2695	0.0749	0.3444	0.0738	0.0689	0.1427		1,109.5080	1,109.5080	7.0100e-003		1,109.6552
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0575	0.0679	0.8507	2.0100e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		166.4372	166.4372	7.1800e-003		166.5880
Total	**0.2888**	**4.1619**	**3.4642**	**0.0130**	**0.4372**	**0.0760**	**0.5132**	**0.1183**	**0.0699**	**0.1882**		**1,275.9453**	**1,275.9453**	**0.0142**		**1,276.2432**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3675	0.0000	3.3675	0.5099	0.0000	0.5099			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**3.3675**	**2.2921**	**5.6596**	**0.5099**	**2.1365**	**2.6464**	**0.0000**	**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2314	4.0940	2.6136	0.0110	0.2695	0.0749	0.3444	0.0738	0.0689	0.1427		1,109.5080	1,109.5080	7.0100e-003		1,109.6552
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0575	0.0679	0.8507	2.0100e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		166.4372	166.4372	7.1800e-003		166.5880
Total	**0.2888**	**4.1619**	**3.4642**	**0.0130**	**0.4372**	**0.0760**	**0.5132**	**0.1183**	**0.0699**	**0.1882**		**1,275.9453**	**1,275.9453**	**0.0142**		**1,276.2432**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0814	1.0208	2.4100e-003	0.2012	1.2600e-003	0.2025	0.0534	1.1600e-003	0.0545		199.7247	199.7247	8.6100e-003		199.9056
Total	**0.0690**	**0.0814**	**1.0208**	**2.4100e-003**	**0.2012**	**1.2600e-003**	**0.2025**	**0.0534**	**1.1600e-003**	**0.0545**		**199.7247**	**199.7247**	**8.6100e-003**		**199.9056**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**	**0.0000**	**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0814	1.0208	2.4100e-003	0.2012	1.2600e-003	0.2025	0.0534	1.1600e-003	0.0545		199.7247	199.7247	8.6100e-003		199.9056
Total	**0.0690**	**0.0814**	**1.0208**	**2.4100e-003**	**0.2012**	**1.2600e-003**	**0.2025**	**0.0534**	**1.1600e-003**	**0.0545**		**199.7247**	**199.7247**	**8.6100e-003**		**199.9056**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975		6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**8.6733**	**3.5842**	**12.2576**	**3.5965**	**3.2975**	**6.8940**		**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0766	0.0905	1.1342	2.6800e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2800e-003	0.0606		221.9163	221.9163	9.5700e-003		222.1173
Total	**0.0766**	**0.0905**	**1.1342**	**2.6800e-003**	**0.2236**	**1.4000e-003**	**0.2250**	**0.0593**	**1.2800e-003**	**0.0606**		**221.9163**	**221.9163**	**9.5700e-003**		**222.1173**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975	0.0000	6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**8.6733**	**3.5842**	**12.2576**	**3.5965**	**3.2975**	**6.8940**	**0.0000**	**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0766	0.0905	1.1342	2.6800e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2800e-003	0.0606		221.9163	221.9163	9.5700e-003		222.1173
Total	**0.0766**	**0.0905**	**1.1342**	**2.6800e-003**	**0.2236**	**1.4000e-003**	**0.2250**	**0.0593**	**1.2800e-003**	**0.0606**		**221.9163**	**221.9163**	**9.5700e-003**		**222.1173**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**		**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1043	11.9160	12.4779	0.0299	0.8934	0.2313	1.1247	0.2552	0.2127	0.4679		3,000.1785	3,000.1785	0.0195		3,000.5885
Worker	1.3947	1.6469	20.6427	0.0488	4.0687	0.0254	4.0941	1.0790	0.0234	1.1024		4,038.8771	4,038.8771	0.1742		4,042.5354
Total	**2.4990**	**13.5629**	**33.1206**	**0.0787**	**4.9621**	**0.2567**	**5.2188**	**1.3342**	**0.2361**	**1.5703**		**7,039.0556**	**7,039.0556**	**0.1937**		**7,043.1238**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**	**0.0000**	**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1043	11.9160	12.4779	0.0299	0.8934	0.2313	1.1247	0.2552	0.2127	0.4679		3,000.1785	3,000.1785	0.0195		3,000.5885
Worker	1.3947	1.6469	20.6427	0.0488	4.0687	0.0254	4.0941	1.0790	0.0234	1.1024		4,038.8771	4,038.8771	0.1742		4,042.5354
Total	**2.4990**	**13.5629**	**33.1206**	**0.0787**	**4.9621**	**0.2567**	**5.2188**	**1.3342**	**0.2361**	**1.5703**		**7,039.0556**	**7,039.0556**	**0.1937**		**7,043.1238**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9964	10.8080	11.6466	0.0298	0.8934	0.2073	1.1007	0.2552	0.1906	0.4458		2,949.5199	2,949.5199	0.0188		2,949.9149
Worker	1.2494	1.4777	18.5388	0.0488	4.0687	0.0247	4.0934	1.0790	0.0228	1.1019		3,878.9889	3,878.9889	0.1598		3,882.3443
Total	**2.2458**	**12.2857**	**30.1853**	**0.0787**	**4.9621**	**0.2320**	**5.1941**	**1.3342**	**0.2135**	**1.5477**		**6,828.5088**	**6,828.5088**	**0.1786**		**6,832.2592**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9964	10.8080	11.6466	0.0298	0.8934	0.2073	1.1007	0.2552	0.1906	0.4458		2,949.5199	2,949.5199	0.0188		2,949.9149
Worker	1.2494	1.4777	18.5388	0.0488	4.0687	0.0247	4.0934	1.0790	0.0228	1.1019		3,878.9889	3,878.9889	0.1598		3,882.3443
Total	**2.2458**	**12.2857**	**30.1853**	**0.0787**	**4.9621**	**0.2320**	**5.1941**	**1.3342**	**0.2135**	**1.5477**		**6,828.5088**	**6,828.5088**	**0.1786**		**6,832.2592**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9224	9.8873	11.0844	0.0298	0.8932	0.1955	1.0887	0.2551	0.1798	0.4349		2,898.1982	2,898.1982	0.0187		2,898.5902
Worker	1.1261	1.3359	16.7694	0.0488	4.0687	0.0244	4.0930	1.0790	0.0226	1.1016		3,731.8095	3,731.8095	0.1478		3,734.9123
Total	**2.0485**	**11.2232**	**27.8538**	**0.0786**	**4.9619**	**0.2198**	**5.1817**	**1.3341**	**0.2024**	**1.5365**		**6,630.0077**	**6,630.0077**	**0.1664**		**6,633.5025**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9224	9.8873	11.0844	0.0298	0.8932	0.1955	1.0887	0.2551	0.1798	0.4349		2,898.1982	2,898.1982	0.0187		2,898.5902
Worker	1.1261	1.3359	16.7694	0.0488	4.0687	0.0244	4.0930	1.0790	0.0226	1.1016		3,731.8095	3,731.8095	0.1478		3,734.9123
Total	**2.0485**	**11.2232**	**27.8538**	**0.0786**	**4.9619**	**0.2198**	**5.1817**	**1.3341**	**0.2024**	**1.5365**		**6,630.0077**	**6,630.0077**	**0.1664**		**6,633.5025**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.6977					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3091**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0464	0.0551	0.6911	2.0100e-003	0.1677	1.0000e-003	0.1687	0.0445	9.3000e-004	0.0454		153.7834	153.7834	6.0900e-003		153.9112
Total	**0.0464**	**0.0551**	**0.6911**	**2.0100e-003**	**0.1677**	**1.0000e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**153.7834**	**153.7834**	**6.0900e-003**		**153.9112**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635	0.0000	2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.6977					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3091**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**	**0.0000**	**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0464	0.0551	0.6911	2.0100e-003	0.1677	1.0000e-003	0.1687	0.0445	9.3000e-004	0.0454		153.7834	153.7834	6.0900e-003		153.9112
Total	**0.0464**	**0.0551**	**0.6911**	**2.0100e-003**	**0.1677**	**1.0000e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**153.7834**	**153.7834**	**6.0900e-003**		**153.9112**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	132.6913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**132.9899**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2258	0.2679	3.3631	9.7900e-003	0.8160	4.8900e-003	0.8209	0.2164	4.5200e-003	0.2209		748.4124	748.4124	0.0296		749.0346
Total	**0.2258**	**0.2679**	**3.3631**	**9.7900e-003**	**0.8160**	**4.8900e-003**	**0.8209**	**0.2164**	**4.5200e-003**	**0.2209**		**748.4124**	**748.4124**	**0.0296**		**749.0346**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	132.6913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**132.9899**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2258	0.2679	3.3631	9.7900e-003	0.8160	4.8900e-003	0.8209	0.2164	4.5200e-003	0.2209		748.4124	748.4124	0.0296		749.0346
Total	**0.2258**	**0.2679**	**3.3631**	**9.7900e-003**	**0.8160**	**4.8900e-003**	**0.8209**	**0.2164**	**4.5200e-003**	**0.2209**		**748.4124**	**748.4124**	**0.0296**		**749.0346**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.4004	36.5182	40.9992	0.1637	7.5072	0.8174	8.3246	2.0691	0.7521	2.8212		14,769.5892	14,769.5892	0.1600		14,772.9484
Unmitigated	3.4004	36.5182	40.9992	0.1637	7.5072	0.8174	8.3246	2.0691	0.7521	2.8212		14,769.5892	14,769.5892	0.1600		14,772.9484

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	767.41	0.00	0.00	2,349,223	2,349,223
Total	767.41	0.00	0.00	2,349,223	2,349,223

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.519580	0.000000	0.000000	0.000000	0.000000	0.000000	0.240210	0.240210	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
NaturalGas Unmitigated	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	2615.9	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0282**	**0.2565**	**0.2154**	**1.5400e-003**		**0.0195**	**0.0195**		**0.0195**	**0.0195**		**307.7530**	**307.7530**	**5.9000e-003**	**5.6400e-003**	**309.6260**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Unrefrigerated Warehouse-No Rail	2.6159	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0282**	**0.2565**	**0.2154**	**1.5400e-003**		**0.0195**	**0.0195**		**0.0195**	**0.0195**		**307.7530**	**307.7530**	**5.9000e-003**	**5.6400e-003**	**309.6260**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	17.7474	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Unmitigated	20.1269	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.9744					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.1436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.8800e-003	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Total	**20.1269**	**8.7000e-004**	**0.0937**	**1.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**		**0.1988**	**0.1988**	**5.4000e-004**		**0.2101**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5949					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.1436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.8800e-003	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Total	**17.7474**	**8.7000e-004**	**0.0937**	**1.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**		**0.1988**	**0.1988**	**5.4000e-004**		**0.2101**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

LGA Realty Eastvale Industrial Development Project

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	446.17	1000sqft	10.24	446,170.00	0
Other Non-Asphalt Surfaces	10.00	1000sqft	0.23	10,000.00	0
Parking Lot	447.00	Space	4.02	178,800.00	0
Parking Lot	5.30	Acre	5.30	230,868.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Parking = 319 vehicle stalls + 128 equiv stalls for trailer parking = 447 spaces
Secondary access + overflow parking = 5.3 acres
Retaining wall = 1,000 linear feet * ~10ft assumed disturbance width = 10 ksf

Construction Phase - default phase lengths multiplied by 1.75 to reflect construction schedule June 2016 - December 2018

Demolition - Demo square footage for concrete channel and retention basin estimated based on aerial imagery/approx ground coverage.

Grading - Default disturbance area of 132.5 acres used (accounts for multiple grading passes during construction). All cut/fill would be balanced on site.

Architectural Coating - Modeling also assumes a VOC of 100 g/L for interior paints pursuant to SCAQMD Rule 1113.

Vehicle Trips - Based on 766 total trips (398 passenger and 368 truck) from traffic study (1.72 trips/ksf/day)

Vechicle Emission Factors - Annual fleet mix edited to match traffic study (51.958% passenger cars, 48.042 trucks (assumed 50% MHD and 50% HHD)

Vechicle Emission Factors - Summer fleet mix edited to match traffic study (51.958% passenger cars, 48.042 trucks (assumed 50% MHD and 50% HHD)

Vechicle Emission Factors - Winter fleet mix edited to match traffic study (51.958% passenger cars, 48.042 trucks (assumed 50% MHD and 50% HHD)

Area Coating - Modeling also assumes a VOC of 100 g/L for interior paints pursuant to SCAQMD Rule 1113.

Area Mitigation - Mitigation requiring use of low VOC paints with VOC content not exceeding 50 g/l for interior and exterior painting.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	300.00	525.00
tblConstructionPhase	NumDays	30.00	53.00
tblConstructionPhase	NumDays	20.00	35.00
tblConstructionPhase	NumDays	10.00	18.00
tblConstructionPhase	PhaseEndDate	1/2/2019	12/14/2018
tblConstructionPhase	PhaseStartDate	11/1/2018	10/15/2018
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleEF	HHD	0.04	0.24

tblVehicleEF	HHD	0.04	0.24
tblVehicleEF	HHD	0.04	0.24
tblVehicleEF	LDA	0.46	0.52
tblVehicleEF	LDA	0.46	0.52
tblVehicleEF	LDA	0.46	0.52
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD2	7.4300e-003	0.00
tblVehicleEF	LHD2	7.4300e-003	0.00
tblVehicleEF	LHD2	7.4300e-003	0.00
tblVehicleEF	MCY	6.4950e-003	0.00
tblVehicleEF	MCY	6.4950e-003	0.00
tblVehicleEF	MCY	6.4950e-003	0.00
tblVehicleEF	MDV	0.17	0.00
tblVehicleEF	MDV	0.17	0.00
tblVehicleEF	MDV	0.17	0.00
tblVehicleEF	MH	3.2600e-003	0.00
tblVehicleEF	MH	3.2600e-003	0.00
tblVehicleEF	MH	3.2600e-003	0.00
tblVehicleEF	MHD	0.01	0.24
tblVehicleEF	MHD	0.01	0.24

tblVehicleEF	MHD	0.01	0.24
tblVehicleEF	OBUS	9.1700e-004	0.00
tblVehicleEF	OBUS	9.1700e-004	0.00
tblVehicleEF	OBUS	9.1700e-004	0.00
tblVehicleEF	SBUS	8.4700e-004	0.00
tblVehicleEF	SBUS	8.4700e-004	0.00
tblVehicleEF	SBUS	8.4700e-004	0.00
tblVehicleEF	UBUS	1.0550e-003	0.00
tblVehicleEF	UBUS	1.0550e-003	0.00
tblVehicleEF	UBUS	1.0550e-003	0.00
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	1.72

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	6.5526	74.9101	50.4808	0.1010	18.2675	3.5856	21.2074	9.9840	3.2988	12.6888	0.0000	9,334.4125	9,334.4125	1.9446	0.0000	9,375.2482
2017	5.3518	39.0498	47.4573	0.1010	4.9621	2.0150	6.9771	1.3342	1.8880	3.2223	0.0000	9,108.0997	9,108.0997	0.8290	0.0000	9,125.5079
2018	135.5573	34.8030	44.7600	0.1009	4.9619	1.7157	6.6776	1.3341	1.6086	2.9427	0.0000	8,892.5263	8,892.5263	0.8058	0.0000	8,909.4482
Total	**147.4617**	**148.7630**	**142.6981**	**0.3029**	**28.1914**	**7.3163**	**34.8620**	**12.6524**	**6.7954**	**18.8538**	**0.0000**	**27,335.0385**	**27,335.0385**	**3.5793**	**0.0000**	**27,410.2043**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	6.5526	74.9101	50.4808	0.1010	18.2675	3.5856	21.2074	9.9840	3.2988	12.6888	0.0000	9,334.4125	9,334.4125	1.9446	0.0000	9,375.2482
2017	5.3518	39.0498	47.4573	0.1010	4.9621	2.0150	6.9771	1.3342	1.8880	3.2223	0.0000	9,108.0997	9,108.0997	0.8290	0.0000	9,125.5079
2018	135.5573	34.8030	44.7600	0.1009	4.9619	1.7157	6.6776	1.3341	1.6086	2.9427	0.0000	8,892.5263	8,892.5263	0.8058	0.0000	8,909.4482
Total	**147.4617**	**148.7630**	**142.6981**	**0.3029**	**28.1914**	**7.3163**	**34.8620**	**12.6524**	**6.7954**	**18.8538**	**0.0000**	**27,335.0385**	**27,335.0385**	**3.5793**	**0.0000**	**27,410.2043**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	20.1269	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Energy	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
Mobile	3.4996	37.6356	44.2377	0.1597	7.5072	0.8212	8.3284	2.0691	0.7556	2.8247		14,468.1843	14,468.1843	0.1618		14,471.5817
Total	**23.6547**	**37.8930**	**44.5467**	**0.1612**	**7.5072**	**0.8410**	**8.3482**	**2.0691**	**0.7754**	**2.8445**		**14,776.1362**	**14,776.1362**	**0.1682**	**5.6400e-003**	**14,781.4179**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	17.7474	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Energy	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
Mobile	3.4996	37.6356	44.2377	0.1597	7.5072	0.8212	8.3284	2.0691	0.7556	2.8247		14,468.1843	14,468.1843	0.1618		14,471.5817
Total	**21.2752**	**37.8930**	**44.5467**	**0.1612**	**7.5072**	**0.8410**	**8.3482**	**2.0691**	**0.7754**	**2.8445**		**14,776.1362**	**14,776.1362**	**0.1682**	**5.6400e-003**	**14,781.4179**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**10.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/4/2016	5/31/2016	5	20	
2	Site Preparation	Site Preparation	6/1/2016	6/24/2016	5	18	
3	Grading	Grading	6/25/2016	9/7/2016	5	53	
4	Building Construction	Building Construction	9/8/2016	9/12/2018	5	525	
5	Paving	Paving	9/13/2018	10/31/2018	5	35	
6	Architectural Coating	Architectural Coating	10/15/2018	12/14/2018	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 132.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 702,690; Non-Residential Outdoor: 234,230 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	309.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	364.00	142.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	73.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3675	0.0000	3.3675	0.5099	0.0000	0.5099			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**3.3675**	**2.2921**	**5.6596**	**0.5099**	**2.1365**	**2.6464**		**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2408	4.2500	2.8749	0.0110	0.2695	0.0751	0.3446	0.0738	0.0691	0.1429		1,106.7780	1,106.7780	7.1200e-003		1,106.9275
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0548	0.0723	0.7330	1.8400e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		152.0980	152.0980	7.1800e-003		152.2488
Total	**0.2956**	**4.3223**	**3.6078**	**0.0128**	**0.4372**	**0.0761**	**0.5133**	**0.1183**	**0.0700**	**0.1883**		**1,258.8760**	**1,258.8760**	**0.0143**		**1,259.1763**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3675	0.0000	3.3675	0.5099	0.0000	0.5099			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**3.3675**	**2.2921**	**5.6596**	**0.5099**	**2.1365**	**2.6464**	**0.0000**	**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2408	4.2500	2.8749	0.0110	0.2695	0.0751	0.3446	0.0738	0.0691	0.1429		1,106.7780	1,106.7780	7.1200e-003		1,106.9275
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0548	0.0723	0.7330	1.8400e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		152.0980	152.0980	7.1800e-003		152.2488
Total	**0.2956**	**4.3223**	**3.6078**	**0.0128**	**0.4372**	**0.0761**	**0.5133**	**0.1183**	**0.0700**	**0.1883**		**1,258.8760**	**1,258.8760**	**0.0143**		**1,259.1763**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0658	0.0868	0.8796	2.2000e-003	0.2012	1.2600e-003	0.2025	0.0534	1.1600e-003	0.0545		182.5176	182.5176	8.6100e-003		182.6986
Total	**0.0658**	**0.0868**	**0.8796**	**2.2000e-003**	**0.2012**	**1.2600e-003**	**0.2025**	**0.0534**	**1.1600e-003**	**0.0545**		**182.5176**	**182.5176**	**8.6100e-003**		**182.6986**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**	**0.0000**	**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0658	0.0868	0.8796	2.2000e-003	0.2012	1.2600e-003	0.2025	0.0534	1.1600e-003	0.0545		182.5176	182.5176	8.6100e-003		182.6986
Total	**0.0658**	**0.0868**	**0.8796**	**2.2000e-003**	**0.2012**	**1.2600e-003**	**0.2025**	**0.0534**	**1.1600e-003**	**0.0545**		**182.5176**	**182.5176**	**8.6100e-003**		**182.6986**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975		6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**8.6733**	**3.5842**	**12.2576**	**3.5965**	**3.2975**	**6.8940**		**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0731	0.0964	0.9773	2.4500e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2800e-003	0.0606		202.7974	202.7974	9.5700e-003		202.9984
Total	**0.0731**	**0.0964**	**0.9773**	**2.4500e-003**	**0.2236**	**1.4000e-003**	**0.2250**	**0.0593**	**1.2800e-003**	**0.0606**		**202.7974**	**202.7974**	**9.5700e-003**		**202.9984**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975	0.0000	6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**8.6733**	**3.5842**	**12.2576**	**3.5965**	**3.2975**	**6.8940**	**0.0000**	**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0731	0.0964	0.9773	2.4500e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2800e-003	0.0606		202.7974	202.7974	9.5700e-003		202.9984
Total	**0.0731**	**0.0964**	**0.9773**	**2.4500e-003**	**0.2236**	**1.4000e-003**	**0.2250**	**0.0593**	**1.2800e-003**	**0.0606**		**202.7974**	**202.7974**	**9.5700e-003**		**202.9984**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**		**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1770	12.2153	14.1874	0.0297	0.8934	0.2334	1.1268	0.2552	0.2146	0.4698		2,974.2138	2,974.2138	0.0202		2,974.6375
Worker	1.3305	1.7544	17.7868	0.0446	4.0687	0.0254	4.0941	1.0790	0.0234	1.1024		3,690.9124	3,690.9124	0.1742		3,694.5706
Total	**2.5075**	**13.9697**	**31.9742**	**0.0742**	**4.9621**	**0.2588**	**5.2209**	**1.3342**	**0.2380**	**1.5722**		**6,665.1261**	**6,665.1261**	**0.1944**		**6,669.2082**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**	**0.0000**	**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1770	12.2153	14.1874	0.0297	0.8934	0.2334	1.1268	0.2552	0.2146	0.4698		2,974.2138	2,974.2138	0.0202		2,974.6375
Worker	1.3305	1.7544	17.7868	0.0446	4.0687	0.0254	4.0941	1.0790	0.0234	1.1024		3,690.9124	3,690.9124	0.1742		3,694.5706
Total	**2.5075**	**13.9697**	**31.9742**	**0.0742**	**4.9621**	**0.2588**	**5.2209**	**1.3342**	**0.2380**	**1.5722**		**6,665.1261**	**6,665.1261**	**0.1944**		**6,669.2082**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0608	11.0715	13.4009	0.0296	0.8934	0.2090	1.1025	0.2552	0.1923	0.4475		2,923.9132	2,923.9132	0.0195		2,924.3223
Worker	1.1886	1.5727	15.9272	0.0446	4.0687	0.0247	4.0934	1.0790	0.0228	1.1019		3,544.3812	3,544.3812	0.1598		3,547.7366
Total	**2.2494**	**12.6442**	**29.3282**	**0.0741**	**4.9621**	**0.2338**	**5.1959**	**1.3342**	**0.2151**	**1.5493**		**6,468.2944**	**6,468.2944**	**0.1793**		**6,472.0589**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0608	11.0715	13.4009	0.0296	0.8934	0.2090	1.1025	0.2552	0.1923	0.4475		2,923.9132	2,923.9132	0.0195		2,924.3223
Worker	1.1886	1.5727	15.9272	0.0446	4.0687	0.0247	4.0934	1.0790	0.0228	1.1019		3,544.3812	3,544.3812	0.1598		3,547.7366
Total	**2.2494**	**12.6442**	**29.3282**	**0.0741**	**4.9621**	**0.2338**	**5.1959**	**1.3342**	**0.2151**	**1.5493**		**6,468.2944**	**6,468.2944**	**0.1793**		**6,472.0589**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9807	10.1217	12.8637	0.0295	0.8932	0.1971	1.0903	0.2551	0.1813	0.4364		2,872.9675	2,872.9675	0.0194		2,873.3739
Worker	1.0685	1.4205	14.3636	0.0445	4.0687	0.0244	4.0930	1.0790	0.0226	1.1016		3,409.6198	3,409.6198	0.1478		3,412.7226
Total	**2.0492**	**11.5422**	**27.2273**	**0.0741**	**4.9619**	**0.2214**	**5.1833**	**1.3341**	**0.2038**	**1.5380**		**6,282.5873**	**6,282.5873**	**0.1671**		**6,286.0965**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9807	10.1217	12.8637	0.0295	0.8932	0.1971	1.0903	0.2551	0.1813	0.4364		2,872.9675	2,872.9675	0.0194		2,873.3739
Worker	1.0685	1.4205	14.3636	0.0445	4.0687	0.0244	4.0930	1.0790	0.0226	1.1016		3,409.6198	3,409.6198	0.1478		3,412.7226
Total	**2.0492**	**11.5422**	**27.2273**	**0.0741**	**4.9619**	**0.2214**	**5.1833**	**1.3341**	**0.2038**	**1.5380**		**6,282.5873**	**6,282.5873**	**0.1671**		**6,286.0965**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.6977					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3091**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0440	0.0585	0.5919	1.8400e-003	0.1677	1.0000e-003	0.1687	0.0445	9.3000e-004	0.0454		140.5063	140.5063	6.0900e-003		140.6342
Total	**0.0440**	**0.0585**	**0.5919**	**1.8400e-003**	**0.1677**	**1.0000e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**140.5063**	**140.5063**	**6.0900e-003**		**140.6342**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635	0.0000	2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.6977					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3091**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**	**0.0000**	**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0440	0.0585	0.5919	1.8400e-003	0.1677	1.0000e-003	0.1687	0.0445	9.3000e-004	0.0454		140.5063	140.5063	6.0900e-003		140.6342
Total	**0.0440**	**0.0585**	**0.5919**	**1.8400e-003**	**0.1677**	**1.0000e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**140.5063**	**140.5063**	**6.0900e-003**		**140.6342**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	132.6913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**132.9899**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2143	0.2849	2.8806	8.9300e-003	0.8160	4.8900e-003	0.8209	0.2164	4.5200e-003	0.2209		683.7974	683.7974	0.0296		684.4196
Total	**0.2143**	**0.2849**	**2.8806**	**8.9300e-003**	**0.8160**	**4.8900e-003**	**0.8209**	**0.2164**	**4.5200e-003**	**0.2209**		**683.7974**	**683.7974**	**0.0296**		**684.4196**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	132.6913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**132.9899**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2143	0.2849	2.8806	8.9300e-003	0.8160	4.8900e-003	0.8209	0.2164	4.5200e-003	0.2209		683.7974	683.7974	0.0296		684.4196
Total	**0.2143**	**0.2849**	**2.8806**	**8.9300e-003**	**0.8160**	**4.8900e-003**	**0.8209**	**0.2164**	**4.5200e-003**	**0.2209**		**683.7974**	**683.7974**	**0.0296**		**684.4196**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.4996	37.6356	44.2377	0.1597	7.5072	0.8212	8.3284	2.0691	0.7556	2.8247		14,468.1843	14,468.1843	0.1618		14,471.5817
Unmitigated	3.4996	37.6356	44.2377	0.1597	7.5072	0.8212	8.3284	2.0691	0.7556	2.8247		14,468.1843	14,468.1843	0.1618		14,471.5817

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	767.41	0.00	0.00	2,349,223	2,349,223
Total	767.41	0.00	0.00	2,349,223	2,349,223

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.519580	0.000000	0.000000	0.000000	0.000000	0.000000	0.240210	0.240210	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
NaturalGas Unmitigated	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	2615.9	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0282**	**0.2565**	**0.2154**	**1.5400e-003**		**0.0195**	**0.0195**		**0.0195**	**0.0195**		**307.7530**	**307.7530**	**5.9000e-003**	**5.6400e-003**	**309.6260**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	2.6159	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0282**	**0.2565**	**0.2154**	**1.5400e-003**		**0.0195**	**0.0195**		**0.0195**	**0.0195**		**307.7530**	**307.7530**	**5.9000e-003**	**5.6400e-003**	**309.6260**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	17.7474	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Unmitigated	20.1269	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.9744					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.1436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.8800e-003	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Total	**20.1269**	**8.7000e-004**	**0.0937**	**1.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**		**0.1988**	**0.1988**	**5.4000e-004**		**0.2101**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5949					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.1436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.8800e-003	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Total	**17.7474**	**8.7000e-004**	**0.0937**	**1.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**		**0.1988**	**0.1988**	**5.4000e-004**		**0.2101**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

LGA Realty Eastvale Industrial Development Project

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	446.17	1000sqft	10.24	446,170.00	0
Other Non-Asphalt Surfaces	10.00	1000sqft	0.23	10,000.00	0
Parking Lot	447.00	Space	4.02	178,800.00	0
Parking Lot	5.30	Acre	5.30	230,868.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Parking = 319 vehicle stalls + 128 equiv stalls for trailer parking = 447 spaces
Secondary access + overflow parking = 5.3 acres
Retaining wall = 1,000 linear feet * ~10ft assumed disturbance width = 10 ksf

Construction Phase - default phase lengths multiplied by 1.75 to reflect construction schedule June 2016 - December 2018

Demolition - Demo square footage for concrete channel and retention basin estimated based on aerial imagery/approx ground coverage.

Grading - Default disturbance area of 132.5 acres used (accounts for multiple grading passes during construction). All cut/fill would be balanced on site.

Architectural Coating - Modeling also assumes a VOC of 100 g/L for interior paints pursuant to SCAQMD Rule 1113. Mitigation requiring use of low VOC paints with VOC content not exceeding 50 g/l for interior and exterior painting.

Vehicle Trips - Based on 766 total trips (398 passenger and 368 truck) from traffic study (1.72 trips/ksf/day)

Vechicle Emission Factors - Annual fleet mix edited to match traffic study (51.958% passenger cars, 48.042 trucks (assumed 50% MHD and 50% HHD)

Vechicle Emission Factors - Summer fleet mix edited to match traffic study (51.958% passenger cars, 48.042 trucks (assumed 50% MHD and 50% HHD)

Vechicle Emission Factors - Winter fleet mix edited to match traffic study (51.958% passenger cars, 48.042 trucks (assumed 50% MHD and 50% HHD)

Area Coating - Modeling also assumes a VOC of 100 g/L for interior paints pursuant to SCAQMD Rule 1113.

Area Mitigation - Mitigation requiring use of low VOC paints with VOC content not exceeding 50 g/l for interior and exterior painting.

Energy Mitigation - Mitigation requiring 15% exceedance of Title 24 energy efficiency standards.

Water Mitigation - Mitigation requiring use of reclaimed water for outdoor applications, water-efficient irrigation systems for landscaping, and low flow fixtures for all faucets, toilets, and showers.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	300.00	525.00
tblConstructionPhase	NumDays	30.00	53.00
tblConstructionPhase	NumDays	20.00	35.00

tblConstructionPhase	NumDays	10.00	18.00
tblConstructionPhase	PhaseEndDate	1/2/2019	12/14/2018
tblConstructionPhase	PhaseStartDate	11/1/2018	10/15/2018
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleEF	HHD	0.04	0.24
tblVehicleEF	HHD	0.04	0.24
tblVehicleEF	HHD	0.04	0.24
tblVehicleEF	LDA	0.46	0.52
tblVehicleEF	LDA	0.46	0.52
tblVehicleEF	LDA	0.46	0.52
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD2	7.4300e-003	0.00
tblVehicleEF	LHD2	7.4300e-003	0.00
tblVehicleEF	LHD2	7.4300e-003	0.00
tblVehicleEF	MCY	6.4950e-003	0.00
tblVehicleEF	MCY	6.4950e-003	0.00
tblVehicleEF	MCY	6.4950e-003	0.00
tblVehicleEF	MDV	0.17	0.00
tblVehicleEF	MDV	0.17	0.00
tblVehicleEF	MDV	0.17	0.00

tblVehicleEF	MH	3.2600e-003	0.00
tblVehicleEF	MH	3.2600e-003	0.00
tblVehicleEF	MH	3.2600e-003	0.00
tblVehicleEF	MHD	0.01	0.24
tblVehicleEF	MHD	0.01	0.24
tblVehicleEF	MHD	0.01	0.24
tblVehicleEF	OBUS	9.1700e-004	0.00
tblVehicleEF	OBUS	9.1700e-004	0.00
tblVehicleEF	OBUS	9.1700e-004	0.00
tblVehicleEF	SBUS	8.4700e-004	0.00
tblVehicleEF	SBUS	8.4700e-004	0.00
tblVehicleEF	SBUS	8.4700e-004	0.00
tblVehicleEF	UBUS	1.0550e-003	0.00
tblVehicleEF	UBUS	1.0550e-003	0.00
tblVehicleEF	UBUS	1.0550e-003	0.00
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	1.72

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	6.5561	74.9042	51.6272	0.1055	18.2675	3.5856	21.2074	9.9840	3.2988	12.6888	0.0000	9,708.3420	9,708.3420	1.9446	0.0000	9,749.1777
2017	5.3482	38.6914	48.3145	0.1055	4.9621	2.0132	6.9753	1.3342	1.8864	3.2207	0.0000	9,468.3141	9,468.3141	0.8283	0.0000	9,485.7082
2018	51.1313	34.4841	45.3865	0.1054	4.9619	1.7141	6.6760	1.3341	1.6071	2.9413	0.0000	9,239.9467	9,239.9467	0.8051	0.0000	9,256.8542
Total	**63.0356**	**148.0797**	**145.3282**	**0.3164**	**28.1914**	**7.3130**	**34.8587**	**12.6524**	**6.7923**	**18.8507**	**0.0000**	**28,416.6028**	**28,416.6028**	**3.5780**	**0.0000**	**28,491.7401**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	6.5561	74.9042	51.6272	0.1055	18.2675	3.5856	21.2074	9.9840	3.2988	12.6888	0.0000	9,708.3420	9,708.3420	1.9446	0.0000	9,749.1777
2017	5.3482	38.6914	48.3145	0.1055	4.9621	2.0132	6.9753	1.3342	1.8864	3.2207	0.0000	9,468.3141	9,468.3141	0.8283	0.0000	9,485.7082
2018	51.1313	34.4841	45.3865	0.1054	4.9619	1.7141	6.6760	1.3341	1.6071	2.9413	0.0000	9,239.9467	9,239.9467	0.8051	0.0000	9,256.8542
Total	**63.0356**	**148.0797**	**145.3282**	**0.3164**	**28.1914**	**7.3130**	**34.8587**	**12.6524**	**6.7923**	**18.8507**	**0.0000**	**28,416.6028**	**28,416.6028**	**3.5780**	**0.0000**	**28,491.7401**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	20.1269	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Energy	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
Mobile	3.4004	36.5182	40.9992	0.1637	7.5072	0.8174	8.3246	2.0691	0.7521	2.8212		14,769.5892	14,769.5892	0.1600		14,772.9484
Total	**23.5555**	**36.7755**	**41.3083**	**0.1652**	**7.5072**	**0.8372**	**8.3445**	**2.0691**	**0.7719**	**2.8411**		**15,077.5410**	**15,077.5410**	**0.1664**	**5.6400e-003**	**15,082.7846**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	17.7474	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Energy	0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2372	262.2372	5.0300e-003	4.8100e-003	263.8332
Mobile	3.4004	36.5182	40.9992	0.1637	7.5072	0.8174	8.3246	2.0691	0.7521	2.8212		14,769.5892	14,769.5892	0.1600		14,772.9484
Total	**21.1718**	**36.7376**	**41.2764**	**0.1650**	**7.5072**	**0.8343**	**8.3416**	**2.0691**	**0.7690**	**2.8382**		**15,032.0252**	**15,032.0252**	**0.1655**	**4.8100e-003**	**15,036.9917**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**10.12**	**0.10**	**0.08**	**0.14**	**0.00**	**0.34**	**0.03**	**0.00**	**0.37**	**0.10**	**0.00**	**0.30**	**0.30**	**0.52**	**14.72**	**0.30**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/4/2016	5/31/2016	5	20	
2	Site Preparation	Site Preparation	6/1/2016	6/24/2016	5	18	
3	Grading	Grading	6/25/2016	9/7/2016	5	53	
4	Building Construction	Building Construction	9/8/2016	9/12/2018	5	525	
5	Paving	Paving	9/13/2018	10/31/2018	5	35	
6	Architectural Coating	Architectural Coating	10/15/2018	12/14/2018	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 132.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 702,690; Non-Residential Outdoor: 234,230 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	309.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	364.00	142.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	73.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3675	0.0000	3.3675	0.5099	0.0000	0.5099			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**3.3675**	**2.2921**	**5.6596**	**0.5099**	**2.1365**	**2.6464**		**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2314	4.0940	2.6136	0.0110	0.2695	0.0749	0.3444	0.0738	0.0689	0.1427		1,109.5080	1,109.5080	7.0100e-003		1,109.6552
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0575	0.0679	0.8507	2.0100e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		166.4372	166.4372	7.1800e-003		166.5880
Total	**0.2888**	**4.1619**	**3.4642**	**0.0130**	**0.4372**	**0.0760**	**0.5132**	**0.1183**	**0.0699**	**0.1882**		**1,275.9453**	**1,275.9453**	**0.0142**		**1,276.2432**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3675	0.0000	3.3675	0.5099	0.0000	0.5099			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**3.3675**	**2.2921**	**5.6596**	**0.5099**	**2.1365**	**2.6464**	**0.0000**	**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2314	4.0940	2.6136	0.0110	0.2695	0.0749	0.3444	0.0738	0.0689	0.1427		1,109.5080	1,109.5080	7.0100e-003		1,109.6552
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0575	0.0679	0.8507	2.0100e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		166.4372	166.4372	7.1800e-003		166.5880
Total	**0.2888**	**4.1619**	**3.4642**	**0.0130**	**0.4372**	**0.0760**	**0.5132**	**0.1183**	**0.0699**	**0.1882**		**1,275.9453**	**1,275.9453**	**0.0142**		**1,276.2432**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0814	1.0208	2.4100e-003	0.2012	1.2600e-003	0.2025	0.0534	1.1600e-003	0.0545		199.7247	199.7247	8.6100e-003		199.9056
Total	**0.0690**	**0.0814**	**1.0208**	**2.4100e-003**	**0.2012**	**1.2600e-003**	**0.2025**	**0.0534**	**1.1600e-003**	**0.0545**		**199.7247**	**199.7247**	**8.6100e-003**		**199.9056**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**	**0.0000**	**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0814	1.0208	2.4100e-003	0.2012	1.2600e-003	0.2025	0.0534	1.1600e-003	0.0545		199.7247	199.7247	8.6100e-003		199.9056
Total	**0.0690**	**0.0814**	**1.0208**	**2.4100e-003**	**0.2012**	**1.2600e-003**	**0.2025**	**0.0534**	**1.1600e-003**	**0.0545**		**199.7247**	**199.7247**	**8.6100e-003**		**199.9056**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975		6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**8.6733**	**3.5842**	**12.2576**	**3.5965**	**3.2975**	**6.8940**		**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0766	0.0905	1.1342	2.6800e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2800e-003	0.0606		221.9163	221.9163	9.5700e-003		222.1173
Total	**0.0766**	**0.0905**	**1.1342**	**2.6800e-003**	**0.2236**	**1.4000e-003**	**0.2250**	**0.0593**	**1.2800e-003**	**0.0606**		**221.9163**	**221.9163**	**9.5700e-003**		**222.1173**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975	0.0000	6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**8.6733**	**3.5842**	**12.2576**	**3.5965**	**3.2975**	**6.8940**	**0.0000**	**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0766	0.0905	1.1342	2.6800e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2800e-003	0.0606		221.9163	221.9163	9.5700e-003		222.1173
Total	**0.0766**	**0.0905**	**1.1342**	**2.6800e-003**	**0.2236**	**1.4000e-003**	**0.2250**	**0.0593**	**1.2800e-003**	**0.0606**		**221.9163**	**221.9163**	**9.5700e-003**		**222.1173**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**		**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1043	11.9160	12.4779	0.0299	0.8934	0.2313	1.1247	0.2552	0.2127	0.4679		3,000.1785	3,000.1785	0.0195		3,000.5885
Worker	1.3947	1.6469	20.6427	0.0488	4.0687	0.0254	4.0941	1.0790	0.0234	1.1024		4,038.8771	4,038.8771	0.1742		4,042.5354
Total	**2.4990**	**13.5629**	**33.1206**	**0.0787**	**4.9621**	**0.2567**	**5.2188**	**1.3342**	**0.2361**	**1.5703**		**7,039.0556**	**7,039.0556**	**0.1937**		**7,043.1238**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**	**0.0000**	**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1043	11.9160	12.4779	0.0299	0.8934	0.2313	1.1247	0.2552	0.2127	0.4679		3,000.1785	3,000.1785	0.0195		3,000.5885
Worker	1.3947	1.6469	20.6427	0.0488	4.0687	0.0254	4.0941	1.0790	0.0234	1.1024		4,038.8771	4,038.8771	0.1742		4,042.5354
Total	**2.4990**	**13.5629**	**33.1206**	**0.0787**	**4.9621**	**0.2567**	**5.2188**	**1.3342**	**0.2361**	**1.5703**		**7,039.0556**	**7,039.0556**	**0.1937**		**7,043.1238**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9964	10.8080	11.6466	0.0298	0.8934	0.2073	1.1007	0.2552	0.1906	0.4458		2,949.5199	2,949.5199	0.0188		2,949.9149
Worker	1.2494	1.4777	18.5388	0.0488	4.0687	0.0247	4.0934	1.0790	0.0228	1.1019		3,878.9889	3,878.9889	0.1598		3,882.3443
Total	**2.2458**	**12.2857**	**30.1853**	**0.0787**	**4.9621**	**0.2320**	**5.1941**	**1.3342**	**0.2135**	**1.5477**		**6,828.5088**	**6,828.5088**	**0.1786**		**6,832.2592**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9964	10.8080	11.6466	0.0298	0.8934	0.2073	1.1007	0.2552	0.1906	0.4458		2,949.5199	2,949.5199	0.0188		2,949.9149
Worker	1.2494	1.4777	18.5388	0.0488	4.0687	0.0247	4.0934	1.0790	0.0228	1.1019		3,878.9889	3,878.9889	0.1598		3,882.3443
Total	**2.2458**	**12.2857**	**30.1853**	**0.0787**	**4.9621**	**0.2320**	**5.1941**	**1.3342**	**0.2135**	**1.5477**		**6,828.5088**	**6,828.5088**	**0.1786**		**6,832.2592**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9224	9.8873	11.0844	0.0298	0.8932	0.1955	1.0887	0.2551	0.1798	0.4349		2,898.1982	2,898.1982	0.0187		2,898.5902
Worker	1.1261	1.3359	16.7694	0.0488	4.0687	0.0244	4.0930	1.0790	0.0226	1.1016		3,731.8095	3,731.8095	0.1478		3,734.9123
Total	**2.0485**	**11.2232**	**27.8538**	**0.0786**	**4.9619**	**0.2198**	**5.1817**	**1.3341**	**0.2024**	**1.5365**		**6,630.0077**	**6,630.0077**	**0.1664**		**6,633.5025**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9224	9.8873	11.0844	0.0298	0.8932	0.1955	1.0887	0.2551	0.1798	0.4349		2,898.1982	2,898.1982	0.0187		2,898.5902
Worker	1.1261	1.3359	16.7694	0.0488	4.0687	0.0244	4.0930	1.0790	0.0226	1.1016		3,731.8095	3,731.8095	0.1478		3,734.9123
Total	**2.0485**	**11.2232**	**27.8538**	**0.0786**	**4.9619**	**0.2198**	**5.1817**	**1.3341**	**0.2024**	**1.5365**		**6,630.0077**	**6,630.0077**	**0.1664**		**6,633.5025**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.6977					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3091**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0464	0.0551	0.6911	2.0100e-003	0.1677	1.0000e-003	0.1687	0.0445	9.3000e-004	0.0454		153.7834	153.7834	6.0900e-003		153.9112
Total	**0.0464**	**0.0551**	**0.6911**	**2.0100e-003**	**0.1677**	**1.0000e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**153.7834**	**153.7834**	**6.0900e-003**		**153.9112**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635	0.0000	2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.6977					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3091**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**	**0.0000**	**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0464	0.0551	0.6911	2.0100e-003	0.1677	1.0000e-003	0.1687	0.0445	9.3000e-004	0.0454		153.7834	153.7834	6.0900e-003		153.9112
Total	**0.0464**	**0.0551**	**0.6911**	**2.0100e-003**	**0.1677**	**1.0000e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**153.7834**	**153.7834**	**6.0900e-003**		**153.9112**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	48.2514					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**48.5500**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2258	0.2679	3.3631	9.7900e-003	0.8160	4.8900e-003	0.8209	0.2164	4.5200e-003	0.2209		748.4124	748.4124	0.0296		749.0346
Total	**0.2258**	**0.2679**	**3.3631**	**9.7900e-003**	**0.8160**	**4.8900e-003**	**0.8209**	**0.2164**	**4.5200e-003**	**0.2209**		**748.4124**	**748.4124**	**0.0296**		**749.0346**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	48.2514					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**48.5500**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2258	0.2679	3.3631	9.7900e-003	0.8160	4.8900e-003	0.8209	0.2164	4.5200e-003	0.2209		748.4124	748.4124	0.0296		749.0346
Total	**0.2258**	**0.2679**	**3.3631**	**9.7900e-003**	**0.8160**	**4.8900e-003**	**0.8209**	**0.2164**	**4.5200e-003**	**0.2209**		**748.4124**	**748.4124**	**0.0296**		**749.0346**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.4004	36.5182	40.9992	0.1637	7.5072	0.8174	8.3246	2.0691	0.7521	2.8212		14,769.5892	14,769.5892	0.1600		14,772.9484
Unmitigated	3.4004	36.5182	40.9992	0.1637	7.5072	0.8174	8.3246	2.0691	0.7521	2.8212		14,769.5892	14,769.5892	0.1600		14,772.9484

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	767.41	0.00	0.00	2,349,223	2,349,223
Total	767.41	0.00	0.00	2,349,223	2,349,223

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.519580	0.000000	0.000000	0.000000	0.000000	0.000000	0.240210	0.240210	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2372	262.2372	5.0300e-003	4.8100e-003	263.8332
NaturalGas Unmitigated	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	2615.9	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0282**	**0.2565**	**0.2154**	**1.5400e-003**		**0.0195**	**0.0195**		**0.0195**	**0.0195**		**307.7530**	**307.7530**	**5.9000e-003**	**5.6400e-003**	**309.6260**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Unrefrigerated Warehouse-No Rail	2.22902	0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2372	262.2372	5.0300e-003	4.8100e-003	263.8332
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0240**	**0.2185**	**0.1836**	**1.3100e-003**		**0.0166**	**0.0166**		**0.0166**	**0.0166**		**262.2372**	**262.2372**	**5.0300e-003**	**4.8100e-003**	**263.8332**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	17.7474	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Unmitigated	20.1269	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.9744					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.1436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.8800e-003	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Total	**20.1269**	**8.7000e-004**	**0.0937**	**1.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**		**0.1988**	**0.1988**	**5.4000e-004**		**0.2101**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5949					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.1436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.8800e-003	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Total	**17.7474**	**8.7000e-004**	**0.0937**	**1.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**		**0.1988**	**0.1988**	**5.4000e-004**		**0.2101**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

LGA Realty Eastvale Industrial Development Project

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	446.17	1000sqft	10.24	446,170.00	0
Other Non-Asphalt Surfaces	10.00	1000sqft	0.23	10,000.00	0
Parking Lot	447.00	Space	4.02	178,800.00	0
Parking Lot	5.30	Acre	5.30	230,868.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Parking = 319 vehicle stalls + 128 equiv stalls for trailer parking = 447 spaces
Secondary access + overflow parking = 5.3 acres
Retaining wall = 1,000 linear feet * ~10ft assumed disturbance width = 10 ksf

Construction Phase - default phase lengths multiplied by 1.75 to reflect construction schedule June 2016 - December 2018

Demolition - Demo square footage for concrete channel and retention basin estimated based on aerial imagery/approx ground coverage.

Grading - Default disturbance area of 132.5 acres used (accounts for multiple grading passes during construction). All cut/fill would be balanced on site.

Architectural Coating - Modeling also assumes a VOC of 100 g/L for interior paints pursuant to SCAQMD Rule 1113. Mitigation requiring use of low VOC paints with VOC content not exceeding 50 g/l for interior and exterior painting.

Vehicle Trips - Based on 766 total trips (398 passenger and 368 truck) from traffic study (1.72 trips/ksf/day)

Vechicle Emission Factors - Annual fleet mix edited to match traffic study (51.958% passenger cars, 48.042 trucks (assumed 50% MHD and 50% HHD)

Vechicle Emission Factors - Summer fleet mix edited to match traffic study (51.958% passenger cars, 48.042 trucks (assumed 50% MHD and 50% HHD)

Vechicle Emission Factors - Winter fleet mix edited to match traffic study (51.958% passenger cars, 48.042 trucks (assumed 50% MHD and 50% HHD)

Area Coating - Modeling also assumes a VOC of 100 g/L for interior paints pursuant to SCAQMD Rule 1113.

Area Mitigation - Mitigation requiring use of low VOC paints with VOC content not exceeding 50 g/l for interior and exterior painting.

Energy Mitigation - Mitigation requiring 15% exceedance of Title 24 energy efficiency standards.

Water Mitigation - Mitigation requiring use of reclaimed water for outdoor applications, water-efficient irrigation systems for landscaping, and low flow fixtures for all faucets, toilets, and showers.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	300.00	525.00
tblConstructionPhase	NumDays	30.00	53.00
tblConstructionPhase	NumDays	20.00	35.00

tblConstructionPhase	NumDays	10.00	18.00
tblConstructionPhase	PhaseEndDate	1/2/2019	12/14/2018
tblConstructionPhase	PhaseStartDate	11/1/2018	10/15/2018
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleEF	HHD	0.04	0.24
tblVehicleEF	HHD	0.04	0.24
tblVehicleEF	HHD	0.04	0.24
tblVehicleEF	LDA	0.46	0.52
tblVehicleEF	LDA	0.46	0.52
tblVehicleEF	LDA	0.46	0.52
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD2	7.4300e-003	0.00
tblVehicleEF	LHD2	7.4300e-003	0.00
tblVehicleEF	LHD2	7.4300e-003	0.00
tblVehicleEF	MCY	6.4950e-003	0.00
tblVehicleEF	MCY	6.4950e-003	0.00
tblVehicleEF	MCY	6.4950e-003	0.00
tblVehicleEF	MDV	0.17	0.00
tblVehicleEF	MDV	0.17	0.00
tblVehicleEF	MDV	0.17	0.00

tblVehicleEF	MH	3.2600e-003	0.00
tblVehicleEF	MH	3.2600e-003	0.00
tblVehicleEF	MH	3.2600e-003	0.00
tblVehicleEF	MHD	0.01	0.24
tblVehicleEF	MHD	0.01	0.24
tblVehicleEF	MHD	0.01	0.24
tblVehicleEF	OBUS	9.1700e-004	0.00
tblVehicleEF	OBUS	9.1700e-004	0.00
tblVehicleEF	OBUS	9.1700e-004	0.00
tblVehicleEF	SBUS	8.4700e-004	0.00
tblVehicleEF	SBUS	8.4700e-004	0.00
tblVehicleEF	SBUS	8.4700e-004	0.00
tblVehicleEF	UBUS	1.0550e-003	0.00
tblVehicleEF	UBUS	1.0550e-003	0.00
tblVehicleEF	UBUS	1.0550e-003	0.00
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	1.72

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	6.5526	74.9101	50.4808	0.1010	18.2675	3.5856	21.2074	9.9840	3.2988	12.6888	0.0000	9,334.4125	9,334.4125	1.9446	0.0000	9,375.2482
2017	5.3518	39.0498	47.4573	0.1010	4.9621	2.0150	6.9771	1.3342	1.8880	3.2223	0.0000	9,108.0997	9,108.0997	0.8290	0.0000	9,125.5079
2018	51.1174	34.8030	44.7600	0.1009	4.9619	1.7157	6.6776	1.3341	1.6086	2.9427	0.0000	8,892.5263	8,892.5263	0.8058	0.0000	8,909.4482
Total	**63.0218**	**148.7630**	**142.6981**	**0.3029**	**28.1914**	**7.3163**	**34.8620**	**12.6524**	**6.7954**	**18.8538**	**0.0000**	**27,335.0385**	**27,335.0385**	**3.5793**	**0.0000**	**27,410.2043**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	6.5526	74.9101	50.4808	0.1010	18.2675	3.5856	21.2074	9.9840	3.2988	12.6888	0.0000	9,334.4125	9,334.4125	1.9446	0.0000	9,375.2482
2017	5.3518	39.0498	47.4573	0.1010	4.9621	2.0150	6.9771	1.3342	1.8880	3.2223	0.0000	9,108.0997	9,108.0997	0.8290	0.0000	9,125.5079
2018	51.1174	34.8030	44.7600	0.1009	4.9619	1.7157	6.6776	1.3341	1.6086	2.9427	0.0000	8,892.5263	8,892.5263	0.8058	0.0000	8,909.4482
Total	**63.0218**	**148.7630**	**142.6981**	**0.3029**	**28.1914**	**7.3163**	**34.8620**	**12.6524**	**6.7954**	**18.8538**	**0.0000**	**27,335.0385**	**27,335.0385**	**3.5793**	**0.0000**	**27,410.2043**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	20.1269	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Energy	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
Mobile	3.4996	37.6356	44.2377	0.1597	7.5072	0.8212	8.3284	2.0691	0.7556	2.8247		14,468.1843	14,468.1843	0.1618		14,471.5817
Total	**23.6547**	**37.8930**	**44.5467**	**0.1612**	**7.5072**	**0.8410**	**8.3482**	**2.0691**	**0.7754**	**2.8445**		**14,776.1362**	**14,776.1362**	**0.1682**	**5.6400e-003**	**14,781.4179**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	17.7474	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Energy	0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2372	262.2372	5.0300e-003	4.8100e-003	263.8332
Mobile	3.4996	37.6356	44.2377	0.1597	7.5072	0.8212	8.3284	2.0691	0.7556	2.8247		14,468.1843	14,468.1843	0.1618		14,471.5817
Total	**21.2710**	**37.8550**	**44.5149**	**0.1610**	**7.5072**	**0.8381**	**8.3453**	**2.0691**	**0.7725**	**2.8417**		**14,730.6203**	**14,730.6203**	**0.1674**	**4.8100e-003**	**14,735.6250**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**10.08**	**0.10**	**0.07**	**0.14**	**0.00**	**0.34**	**0.03**	**0.00**	**0.37**	**0.10**	**0.00**	**0.31**	**0.31**	**0.52**	**14.72**	**0.31**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/4/2016	5/31/2016	5	20	
2	Site Preparation	Site Preparation	6/1/2016	6/24/2016	5	18	
3	Grading	Grading	6/25/2016	9/7/2016	5	53	
4	Building Construction	Building Construction	9/8/2016	9/12/2018	5	525	
5	Paving	Paving	9/13/2018	10/31/2018	5	35	
6	Architectural Coating	Architectural Coating	10/15/2018	12/14/2018	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 132.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 702,690; Non-Residential Outdoor: 234,230 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	309.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	364.00	142.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	73.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3675	0.0000	3.3675	0.5099	0.0000	0.5099			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**3.3675**	**2.2921**	**5.6596**	**0.5099**	**2.1365**	**2.6464**		**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2408	4.2500	2.8749	0.0110	0.2695	0.0751	0.3446	0.0738	0.0691	0.1429		1,106.7780	1,106.7780	7.1200e-003		1,106.9275
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0548	0.0723	0.7330	1.8400e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		152.0980	152.0980	7.1800e-003		152.2488
Total	**0.2956**	**4.3223**	**3.6078**	**0.0128**	**0.4372**	**0.0761**	**0.5133**	**0.1183**	**0.0700**	**0.1883**		**1,258.8760**	**1,258.8760**	**0.0143**		**1,259.1763**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3675	0.0000	3.3675	0.5099	0.0000	0.5099			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**3.3675**	**2.2921**	**5.6596**	**0.5099**	**2.1365**	**2.6464**	**0.0000**	**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2408	4.2500	2.8749	0.0110	0.2695	0.0751	0.3446	0.0738	0.0691	0.1429		1,106.7780	1,106.7780	7.1200e-003		1,106.9275
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0548	0.0723	0.7330	1.8400e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		152.0980	152.0980	7.1800e-003		152.2488
Total	**0.2956**	**4.3223**	**3.6078**	**0.0128**	**0.4372**	**0.0761**	**0.5133**	**0.1183**	**0.0700**	**0.1883**		**1,258.8760**	**1,258.8760**	**0.0143**		**1,259.1763**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0658	0.0868	0.8796	2.2000e-003	0.2012	1.2600e-003	0.2025	0.0534	1.1600e-003	0.0545		182.5176	182.5176	8.6100e-003		182.6986
Total	**0.0658**	**0.0868**	**0.8796**	**2.2000e-003**	**0.2012**	**1.2600e-003**	**0.2025**	**0.0534**	**1.1600e-003**	**0.0545**		**182.5176**	**182.5176**	**8.6100e-003**		**182.6986**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**	**0.0000**	**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0658	0.0868	0.8796	2.2000e-003	0.2012	1.2600e-003	0.2025	0.0534	1.1600e-003	0.0545		182.5176	182.5176	8.6100e-003		182.6986
Total	**0.0658**	**0.0868**	**0.8796**	**2.2000e-003**	**0.2012**	**1.2600e-003**	**0.2025**	**0.0534**	**1.1600e-003**	**0.0545**		**182.5176**	**182.5176**	**8.6100e-003**		**182.6986**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975		6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**8.6733**	**3.5842**	**12.2576**	**3.5965**	**3.2975**	**6.8940**		**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0731	0.0964	0.9773	2.4500e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2800e-003	0.0606		202.7974	202.7974	9.5700e-003		202.9984
Total	**0.0731**	**0.0964**	**0.9773**	**2.4500e-003**	**0.2236**	**1.4000e-003**	**0.2250**	**0.0593**	**1.2800e-003**	**0.0606**		**202.7974**	**202.7974**	**9.5700e-003**		**202.9984**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975	0.0000	6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**8.6733**	**3.5842**	**12.2576**	**3.5965**	**3.2975**	**6.8940**	**0.0000**	**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0731	0.0964	0.9773	2.4500e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2800e-003	0.0606		202.7974	202.7974	9.5700e-003		202.9984
Total	**0.0731**	**0.0964**	**0.9773**	**2.4500e-003**	**0.2236**	**1.4000e-003**	**0.2250**	**0.0593**	**1.2800e-003**	**0.0606**		**202.7974**	**202.7974**	**9.5700e-003**		**202.9984**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**		**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1770	12.2153	14.1874	0.0297	0.8934	0.2334	1.1268	0.2552	0.2146	0.4698		2,974.2138	2,974.2138	0.0202		2,974.6375
Worker	1.3305	1.7544	17.7868	0.0446	4.0687	0.0254	4.0941	1.0790	0.0234	1.1024		3,690.9124	3,690.9124	0.1742		3,694.5706
Total	**2.5075**	**13.9697**	**31.9742**	**0.0742**	**4.9621**	**0.2588**	**5.2209**	**1.3342**	**0.2380**	**1.5722**		**6,665.1261**	**6,665.1261**	**0.1944**		**6,669.2082**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**	**0.0000**	**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1770	12.2153	14.1874	0.0297	0.8934	0.2334	1.1268	0.2552	0.2146	0.4698		2,974.2138	2,974.2138	0.0202		2,974.6375
Worker	1.3305	1.7544	17.7868	0.0446	4.0687	0.0254	4.0941	1.0790	0.0234	1.1024		3,690.9124	3,690.9124	0.1742		3,694.5706
Total	**2.5075**	**13.9697**	**31.9742**	**0.0742**	**4.9621**	**0.2588**	**5.2209**	**1.3342**	**0.2380**	**1.5722**		**6,665.1261**	**6,665.1261**	**0.1944**		**6,669.2082**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0608	11.0715	13.4009	0.0296	0.8934	0.2090	1.1025	0.2552	0.1923	0.4475		2,923.9132	2,923.9132	0.0195		2,924.3223
Worker	1.1886	1.5727	15.9272	0.0446	4.0687	0.0247	4.0934	1.0790	0.0228	1.1019		3,544.3812	3,544.3812	0.1598		3,547.7366
Total	**2.2494**	**12.6442**	**29.3282**	**0.0741**	**4.9621**	**0.2338**	**5.1959**	**1.3342**	**0.2151**	**1.5493**		**6,468.2944**	**6,468.2944**	**0.1793**		**6,472.0589**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0608	11.0715	13.4009	0.0296	0.8934	0.2090	1.1025	0.2552	0.1923	0.4475		2,923.9132	2,923.9132	0.0195		2,924.3223
Worker	1.1886	1.5727	15.9272	0.0446	4.0687	0.0247	4.0934	1.0790	0.0228	1.1019		3,544.3812	3,544.3812	0.1598		3,547.7366
Total	**2.2494**	**12.6442**	**29.3282**	**0.0741**	**4.9621**	**0.2338**	**5.1959**	**1.3342**	**0.2151**	**1.5493**		**6,468.2944**	**6,468.2944**	**0.1793**		**6,472.0589**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9807	10.1217	12.8637	0.0295	0.8932	0.1971	1.0903	0.2551	0.1813	0.4364		2,872.9675	2,872.9675	0.0194		2,873.3739
Worker	1.0685	1.4205	14.3636	0.0445	4.0687	0.0244	4.0930	1.0790	0.0226	1.1016		3,409.6198	3,409.6198	0.1478		3,412.7226
Total	**2.0492**	**11.5422**	**27.2273**	**0.0741**	**4.9619**	**0.2214**	**5.1833**	**1.3341**	**0.2038**	**1.5380**		**6,282.5873**	**6,282.5873**	**0.1671**		**6,286.0965**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9807	10.1217	12.8637	0.0295	0.8932	0.1971	1.0903	0.2551	0.1813	0.4364		2,872.9675	2,872.9675	0.0194		2,873.3739
Worker	1.0685	1.4205	14.3636	0.0445	4.0687	0.0244	4.0930	1.0790	0.0226	1.1016		3,409.6198	3,409.6198	0.1478		3,412.7226
Total	**2.0492**	**11.5422**	**27.2273**	**0.0741**	**4.9619**	**0.2214**	**5.1833**	**1.3341**	**0.2038**	**1.5380**		**6,282.5873**	**6,282.5873**	**0.1671**		**6,286.0965**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.6977					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3091**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0440	0.0585	0.5919	1.8400e-003	0.1677	1.0000e-003	0.1687	0.0445	9.3000e-004	0.0454		140.5063	140.5063	6.0900e-003		140.6342
Total	**0.0440**	**0.0585**	**0.5919**	**1.8400e-003**	**0.1677**	**1.0000e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**140.5063**	**140.5063**	**6.0900e-003**		**140.6342**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635	0.0000	2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.6977					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3091**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**	**0.0000**	**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0440	0.0585	0.5919	1.8400e-003	0.1677	1.0000e-003	0.1687	0.0445	9.3000e-004	0.0454		140.5063	140.5063	6.0900e-003		140.6342
Total	**0.0440**	**0.0585**	**0.5919**	**1.8400e-003**	**0.1677**	**1.0000e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**140.5063**	**140.5063**	**6.0900e-003**		**140.6342**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	48.2514					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**48.5500**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2143	0.2849	2.8806	8.9300e-003	0.8160	4.8900e-003	0.8209	0.2164	4.5200e-003	0.2209		683.7974	683.7974	0.0296		684.4196
Total	**0.2143**	**0.2849**	**2.8806**	**8.9300e-003**	**0.8160**	**4.8900e-003**	**0.8209**	**0.2164**	**4.5200e-003**	**0.2209**		**683.7974**	**683.7974**	**0.0296**		**684.4196**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	48.2514					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**48.5500**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2143	0.2849	2.8806	8.9300e-003	0.8160	4.8900e-003	0.8209	0.2164	4.5200e-003	0.2209		683.7974	683.7974	0.0296		684.4196
Total	**0.2143**	**0.2849**	**2.8806**	**8.9300e-003**	**0.8160**	**4.8900e-003**	**0.8209**	**0.2164**	**4.5200e-003**	**0.2209**		**683.7974**	**683.7974**	**0.0296**		**684.4196**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.4996	37.6356	44.2377	0.1597	7.5072	0.8212	8.3284	2.0691	0.7556	2.8247		14,468.1843	14,468.1843	0.1618		14,471.5817
Unmitigated	3.4996	37.6356	44.2377	0.1597	7.5072	0.8212	8.3284	2.0691	0.7556	2.8247		14,468.1843	14,468.1843	0.1618		14,471.5817

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	767.41	0.00	0.00	2,349,223	2,349,223
Total	767.41	0.00	0.00	2,349,223	2,349,223

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.519580	0.000000	0.000000	0.000000	0.000000	0.000000	0.240210	0.240210	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2372	262.2372	5.0300e-003	4.8100e-003	263.8332
NaturalGas Unmitigated	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	2615.9	0.0282	0.2565	0.2154	1.5400e-003		0.0195	0.0195		0.0195	0.0195		307.7530	307.7530	5.9000e-003	5.6400e-003	309.6260
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0282**	**0.2565**	**0.2154**	**1.5400e-003**		**0.0195**	**0.0195**		**0.0195**	**0.0195**		**307.7530**	**307.7530**	**5.9000e-003**	**5.6400e-003**	**309.6260**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	2.22902	0.0240	0.2185	0.1836	1.3100e-003		0.0166	0.0166		0.0166	0.0166		262.2372	262.2372	5.0300e-003	4.8100e-003	263.8332
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0240**	**0.2185**	**0.1836**	**1.3100e-003**		**0.0166**	**0.0166**		**0.0166**	**0.0166**		**262.2372**	**262.2372**	**5.0300e-003**	**4.8100e-003**	**263.8332**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	17.7474	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Unmitigated	20.1269	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.9744					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.1436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.8800e-003	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Total	**20.1269**	**8.7000e-004**	**0.0937**	**1.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**		**0.1988**	**0.1988**	**5.4000e-004**		**0.2101**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5949					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.1436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.8800e-003	8.7000e-004	0.0937	1.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		0.1988	0.1988	5.4000e-004		0.2101
Total	**17.7474**	**8.7000e-004**	**0.0937**	**1.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**		**0.1988**	**0.1988**	**5.4000e-004**		**0.2101**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Derivation of Emission Rates for Project Idling Emissions

Site Width	68.0 feet	Truck length	
Site Length	630 feet	Dock length	
Time Frame	11 hrs	6 am to 5 pm	

Emissions per Area Segment

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grms/day	8.4	5.9	0.6	21.6	0.0	43.3
grms/hr	0.4	0.2	0.0	0.9	0.0	1.8
grms/sec *	9.733E-05	6.812E-05	6.469E-06	2.503E-04	0.000E+00	5.009E-04
lbs/year	6.76664	4.73641	0.44976	17.40471	0.00000	34.82835
lbs/hour	0.00077	0.00054	0.00005	0.00199	0.00000	0.00398

* Emission factor to be multiplied by X/Q to obtain concentration.

Derivation of Emission Rates for Area Sources I-15 Cumulative No Project

Freeway width	40.0	feet
Distance	5280	feet
sq ft/mile	211200	sf
sq m/mile	19631	sqm
Each segment at	400.0	feet long

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day *	520.2	157.5	34.5	68.3	7.8	192.2
grams/mi/sec	6.02E-03	1.82E-03	3.99E-04	7.91E-04	9.07E-05	2.22E-03
grms/sec/sqm	3.07E-07	9.29E-08	2.03E-08	4.03E-08	4.62E-09	1.13E-07

* Total emissions per mile calculated using the above speciation factors.

Emissions per Area Segment

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grms/day	39.4	11.9	2.6	5.2	0.6	14.6
grms/hr	1.6	0.5	0.1	0.2	0.0	0.6
grms/sec *	4.561E-04	1.381E-04	3.022E-05	5.993E-05	6.869E-06	1.685E-04
lbs/year	31.71	9.60	2.10	4.17	0.48	11.71
lbs/hour	0.00362	0.00110	0.00024	0.00048	0.00005	0.00134

* Emission factor to be multiplied by X/Q to obtain concentration.

Derivation of Emission Rates for Area Sources I-15 Project Only

Freeway width	40.0	feet	12.192	m
Distance	5280	feet	1609.344	m
sq ft/mile	211200	sf	64373.76	m
sq m/mile	19631	sqm		
Each segment at	400.0	feet long	121.92	m

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day *	3.1	0.7	0.2	0.4	0.0	1.0
grams/mi/sec	3.63E-05	8.63E-06	1.87E-06	4.34E-06	4.20E-07	1.17E-05
grms/sec/sqm	1.85E-09	4.40E-10	9.50E-11	2.21E-10	2.14E-11	5.94E-10

* Total emissions per mile calculated using the above speciation factors.

Emissions per Area Segment

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grms/day	0.2	0.1	0.0	0.0	0.0	0.1
grms/hr	0.0	0.0	0.0	0.0	0.0	0.0
grms/sec *	2.749E-06	6.537E-07	1.413E-07	3.291E-07	3.182E-08	8.834E-07
lbs/year	0.19	0.05	0.01	0.02	0.002	0.06
lbs/hour	0.00002	0.00001	0.000001	0.000003	0.0000003	0.00001

* Emission factor to be multiplied by X/Q to obtain concentration.

Derivation of Emission Rates for Area Sources SR-60 Cumulative No Project

Freeway width	90.0	feet
Distance	5280	feet
sq ft/mile	475200	sf
sq m/mile	44170	sqm
Each segment at	900.0	feet long

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day *	770.2	127.4	26.8	82.6	5.9	207.2
grams/mi/sec	8.91E-03	1.47E-03	3.11E-04	9.56E-04	6.85E-05	2.40E-03
grms/sec/sqm	2.02E-07	3.34E-08	7.03E-09	2.16E-08	1.55E-09	5.43E-08

* Total emissions per mile calculated using the above speciation factors.

Emissions per Area Segment

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grms/day	131.3	21.7	4.6	14.1	1.0	35.3
grms/hr	5.5	0.9	0.2	0.6	0.0	1.5
grms/sec *	1.519E-03	2.514E-04	5.296E-05	1.630E-04	1.168E-05	4.087E-04
lbs/year	105.64	17.48	3.68	11.33	0.81	28.42
lbs/hour	0.01206	0.00200	0.00042	0.00129	0.00009	0.00324

* Emission factor to be multiplied by X/Q to obtain concentration.

Derivation of Emission Rates for Area Sources SR-60 Project Only

Freeway width	90.0	feet	27.432	m
Distance	5280	feet	1609.344	m
sq ft/mile	475200	sf		
sq m/mile	44170	sqm		
Each segment at	900.0	feet long	274.32	m

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day *	5.0	0.3	0.1	0.4	0.0	1.0
grams/mi/sec	5.78E-05	3.43E-06	6.12E-07	5.14E-06	1.15E-07	1.11E-05
grms/sec/sqm	1.31E-09	7.77E-11	1.39E-11	1.16E-10	2.60E-12	2.51E-10

* Total emissions per mile calculated using the above speciation factors.

Emissions per Area Segment

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grms/day	0.9	0.1	0.0	0.1	0.0	0.2
grms/hr	0.0	0.0	0.0	0.0	0.0	0.0
grms/sec *	9.856E-06	5.852E-07	1.043E-07	8.758E-07	1.956E-08	1.891E-06
lbs/year	0.69	0.04	0.01	0.06	0.001	0.13
lbs/hour	0.00008	0.000005	0.000001	0.00001	0.0000002	0.00002

* Emission factor to be multiplied by X/Q to obtain concentration.

Appendix C

Biological Resources Report

City of Eastvale

Eastvale Industrial Development Project

BUOW Habitat Assessment

June 2015

BUOW HABITAT ASSESSMENT

EASTVALE INDUSTRIAL DEVELOPMENT PROJECT
CITY OF EASTVALE, RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

City of Eastvale
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June 2015

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Rincon Consultants, Inc.

2015 *BUOW Habitat Assessment – Eastvale Industrial Development Project, City of Eastvale, Riverside County, California.* Rincon Consultants Project No. 14-01130.

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1.0 INTRODUCTION

This report documents the findings of a habitat assessment and focused surveys for western burrowing owl (*Athene cunicularia hypogea*; BUOW) for the proposed Eastvale Industrial Development Project. The proposed project is located within the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP), - Jurupa Area Plan, within Cell Group A, Sub Unit 3 (Delhi Sands Area), Criteria Cells 118 and 168. Per Riverside County Integrated Project (RCIP) Conservation Summary Report (Riverside County Land Information System 2014), the MSHCP identifies this area as requiring habitat assessments for western BUOW.

1.1 PROJECT LOCATION

The project site is generally located within the City of Eastvale, and bordered by Cantu Galleano Ranch Road (aka Barba Avenue) to the south, S. Milliken Avenue to the west, the I-15 Freeway to the east and Micro Drive to the north (Figure 1). Specifically, project related improvements would occur on all or a portion of two separate and contiguous parcels: APN 160-020-033 (23 acres) and APN 156-050-025 (18 acres). These two parcels are depicted in Township 2 South, Range 6 West, Section 18 of the U.S. Geological Survey (USGS) *Guasti, California* 7.5-minute topographic quadrangle (Figure 2).

1.2 PROJECT DESCRIPTION

The proposed project involves the construction and operation of a new 446,173 square foot industrial warehouse building, parking, utility and stormwater infrastructure and landscaping on APN 160-020-033, and construction of overflow truck parking and a secondary access roadway on a portion of APN 156-050-025 (18 acres). In addition, the project will require removal and replacement of an existing Riverside County Flood Control District conveyance channel located generally in the center of the subject property and along the eastern and southern site boundary. The existing open drainage channel which conveys water across the site from a detention basin adjacent to and north of the property would be replaced with a new structure located along the western site boundary and covered with a parking area. An existing stormwater detention basin would be relocated from near the western site boundary to the southwest corner of the site. The basin would receive drainage from the relocated conveyance channel and new drainage infrastructure located along the western boundary of the site. The stormwater would be conveyed under Cantu-Galleano Ranch Road to an existing detention basin.

Primary truck access to the proposed warehouse would be via a shared driveway and gated security area located along the north side of Cantu- Galleano Ranch Road adjacent to and east of the existing W.W. Grainger facility. Grading and landscaping would be required along and within the California Department of Transportation right-of-way along the eastern site boundary to modify drainage infrastructure and along the western and southern site boundaries to relocate the conveyance channel, detention basin and modify the site entrance.

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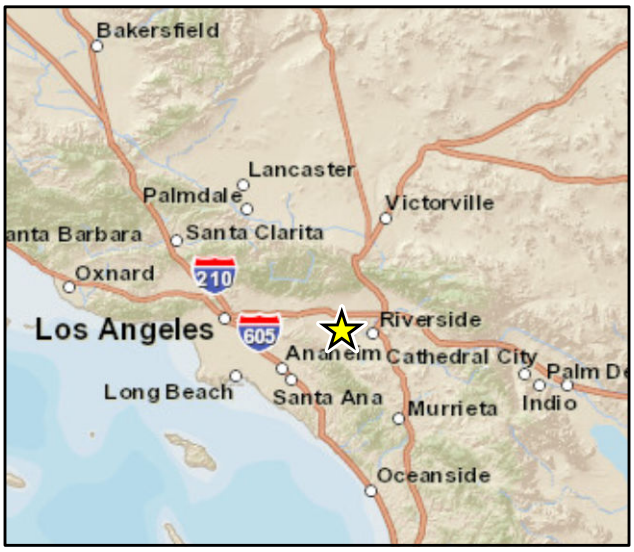
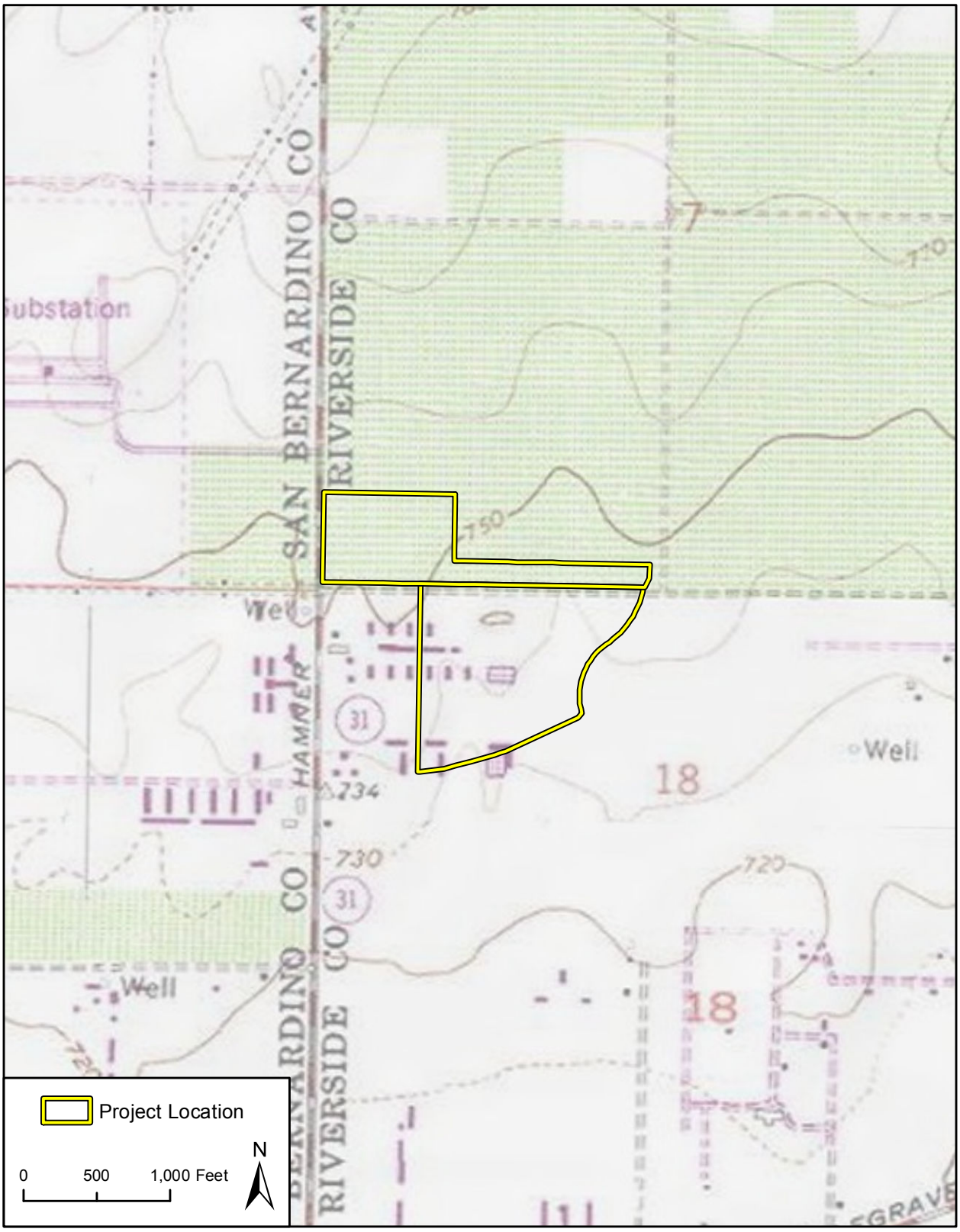
N

Project Location



Regional Location of Project

Figure 1



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Project Location on USGS Topographical Map Figure 2

2.0 BACKGROUND

2.1 MSHCP REQUIREMENTS

The MSHCP is a comprehensive, multi-jurisdictional Habitat Conservation Plan focusing on conservation of species and their associated habitats in western Riverside County. According to the MSHCP, surveys for the BUOW are to be conducted as part of the environmental review process. The MSHCP Additional Surveys Needs and Procedures (Section 6.3.2) identifies specific BUOW survey areas within the MSHCP Plan Area (BUOW Survey Area Map, Figure 6-4 of the MSHCP, Volume I). The MSHCP also identifies species-specific objectives for the BUOW surveys if suitable habitat occurs on a proposed project site.

Under the MSHCP, "if a site (including adjacent buffer areas) supports three or more pairs of BUOWs, supports greater than 35 acres of suitable habitat, and is non-contiguous with MSHCP Conservation Area lands, at least 90 percent of the area with long-term conservation value and BUOW pairs will be conserved onsite." If it is determined that the 90 percent threshold cannot be met, the permittee(s) must submit a Determination of Biologically Equivalent or Superior Preservation (DBESP) to provide information on how the proposed plan would protect the nesting owls.

2.2 WESTERN BUOW

2.2.1 Biology

BUOW is a small (less than 12 inches tall), long-legged owl with a short tail and a wing span of approximately 20-24 inches. They are mostly brown with numerous white or tan spots on the head, with white eyebrows just above bright yellow eyes. The chest and abdomen are white with variable brown spotting or barring, depending on the subspecies. Males and females are similar in size and appearance, and display little sexual dimorphism. Juvenile owls are similar in appearance to adults, but they lack most of the white spotting above and brown barring below.

Unlike most owls, BUOWs are often active during the day, although they tend to avoid the midday heat. However, like many other kinds of owls, BUOWs do most of their hunting from dusk until dawn. BUOWs perch during daylight at the entrance to their burrow or on low posts.

Nesting occurs from March through August. BUOWs form a pair-bond for more than one year and exhibit high site fidelity, reusing the same burrow year after year (Haug et al. 1993). The female remains inside the burrow during most of the egg laying and incubation period and is fed by the male throughout brooding. BUOWs are opportunistic feeders, consuming a diet that includes arthropods, small mammals, and birds, and occasionally amphibians and reptiles.

2.2.2 Habitat Description and Range

BUOWs use a variety of natural and modified habitats for nesting and foraging that is typically characterized by low growing vegetation. BUOW habitat includes, but is not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover,.

BUOWs typically use burrows made by fossorial mammals, such as squirrels, badgers, coyotes, foxes, and even turtles or tortoises. These are burrows usually found in dry, level, open terrain such as prairie, plains, desert, and grassland, shrub lands with low height vegetation, golf-courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas. The abundance of available burrows seems to be a critical habitat requirement. Favored locations are those in relatively sandy sites (presumably for ease of modification and drainage), areas with low vegetation around the burrows (to facilitate the owl's view and hunting success), holes at the bottom of vertical cuts with a slight downward slope from the entrance and slightly elevated locations to avoid flooding; and areas with available perches such as fences, utility poles, posts, or even raised rodent mounds located nearby.

There are two races of BUOW in North America. The western BUOW (*A. c. hypugaea*) is primarily restricted to the western United States and Mexico and was once abundant and widely distributed within coastal southern California. It has declined in counties such as Los Angeles, Orange, San Diego, Riverside, and San Bernardino. Urbanization has greatly reduced the amount of suitable habitat for this species. Other contributions to the decline of BUOWs include the poisoning of squirrels and prairie dogs, collisions with automobiles, and shooting.

2.2.3 Legal Status and Protection

The BUOW is federally protected by the Migratory Bird Treaty Act in the United States, Canada and Mexico. BUOWs are listed as Endangered in Canada and Threatened in Mexico. They are considered by the U.S. Fish and Wildlife Service (USFWS) to be a Bird of Conservation Concern at the national level, in three USFWS regions, and in nine Bird Conservation Regions. At the state level, BUOWs are listed as Endangered in Minnesota, Threatened in Colorado, and as a Species of Concern in Arizona, California, Florida, Montana, Oklahoma, Oregon, Utah, Washington, and Wyoming.

3.0 METHODOLOGY

3.1 LITERATURE REVIEW

Prior to the field visit, a literature review was conducted to better characterize the nature and extent of effects to potentially suitable BUOW habitat and BUOW individuals on site. The literature review included a review of readily available literature regarding BUOW and a literature review of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), to determine the closest recorded species locations. Site plans provided by the client, aerial photographs, topographic maps, and soil survey maps were also

examined. Specific literature reviewed for the subject analysis is provided in the reference section of this document.

3.2 FOCUSED SURVEYS

The survey for the western BOUW was conducted following the *BUOW Survey Instructions for the Western Riverside MSHCP*, dated March 2006. Surveys were conducted during weather conducive to observing owls outside their burrows and detecting BUOW sign. Surveys were not conducted during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F.

3.2.1 Habitat Assessment

The survey for potential burrows and BUOW sign was conducted by walking through suitable habitat throughout the survey area. The specific survey area included the project parcels and a 500-foot buffer to account for adjacent burrows and foraging habitat outside the project site and impacts from factors such as noise and vibration due to heavy equipment, which could indirectly affect BUOW during project construction. Pedestrian survey transects were spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines were no more than 100 feet and when necessary were reduced to account for differences in terrain, vegetation density, and ground surface visibility. All suitable burrows were thoroughly examined for presence of sign and suitable perches were inspected for BUOW pellets and whitewash. Areas of particular interest included all topographic relief, areas characterized by low growing vegetation, grasslands, shrub lands with low density shrub cover, earthen berms, and any large debris or rock piles. Burrow openings large enough to provide entry for BUOWs were carefully checked for prey remains, cast pellets, white-wash, feathers, or any other indication of BUOW presence. Potential burrows, BUOW individuals and/or sign (if observed) were recorded and mapped using GPS coordinates.

3.2.2 Crepuscular BOUW Surveys

Following the results of the focused burrow survey, four additional crepuscular BUOW surveys were conducted within the suitable habitat areas. Only areas identified in the initial survey as having potential burrows and adjacent foraging habitat for owls were surveyed during the four crepuscular surveys. Crepuscular surveys were conducted in the morning one hour before sunrise to two hours after sunrise or in the early evening two hours before sunset to one hour after sunset. Four surveys were conducted on four separate days during the nesting season (March through August). Upon arrival at the survey area and prior to initiating the walking surveys, the surveyors scanned all suitable habitats, location of mapped burrows, owl sign and owls, including perch locations using binoculars to ascertain owl presence. A survey for owls and owl sign was then conducted by visiting potential burrows mapped during the focused burrow survey.

4.0 EXISTING CONDITIONS

4.1 ENVIRONMENTAL SETTING

The project site is located in the City of Eastvale, within Riverside County, California. At an elevation range of approximately 730 to 740 feet above mean sea level, the topography of the project site is characterized by relatively flat fallow agricultural fields. The climate of the region is classified as Mediterranean: generally dry in the summer with mild, wet winters. The average annual rainfall in the region is about 11 inches, most of it occurring between November and March.

4.2 GENERAL LAND USES AND CONDITION

With the exception of the Grainger Building, and Southern California Edison (SCE) transmission corridor, and a detention basin, the site is undeveloped and generally consists of disturbed areas with patches of native vegetation. The vegetation is generally comprised of a mosaic of various non-native ruderal (weedy) species. An excavated drainage feature transverses the center and southern boundary of the project site. This drainage has small pockets of southern willow scrub and mulefat scrub. Habitat on the project site is low in quality. Based on the most recent soil survey for Riverside County (United States Department of Agriculture, natural Resources Conservation Service 2015b), the site consists primarily of three mapped soil types: Gorgonio loamy sand, deep, 2 to 8 percent slopes (GIC), Delhi fine sand, 2 to 15 percent slopes, wind-eroded (DaD2), and Hilmar loamy sand, 0 to 2 percent slopes, eroded (HhA2). Vegetation communities and soils are described in more detail in Section 3 of the *MSHCP Consistency Analysis and Habitat Assessment* (Rincon 2015a).

Land use immediately adjacent to the project site includes industrial development to the north, west, and southeast. Fallow agricultural lands are located across I-15 to the east and active agricultural lands are located across Cantu-Galleano Ranch Road to the south.

5.0 SURVEY RESULTS

5.1 BUOW HABITAT ASSESSMENT

The BUOW habitat assessment was conducted by Rincon biologist Jennifer Kendrick and Christina McAdams on April 21, 2015, between the hours of 0930-1400. Weather conditions during the survey were overcast with an average temperature ranging from 59 to 63 degrees Fahrenheit and winds of 8-13 miles per hour. There had been no recorded rain in the region for a minimum of 7 days prior to initiating the BUOW surveys. No BUOW was observed within the survey area.

The survey area contains elements of suitable habitat for BUOW, including flat, open areas occupied by non-native herbs and grasses, agricultural areas, earthen levees and berms, manmade concrete and cement structures, and vacant urban lots. Portions of the survey area are

also partially surrounded by fences, which provide prime perching substrate for BUOW to attain good visibility. Several desert cottontail (*Sylvilagus audubonii*) and California ground squirrel (*Otospermophilus beecheyi*) burrows were identified during the habitat assessment that may provide suitable habitat for BUOW. Figure 3 shows the suitable BUOW burrows that were identified. No suitable BUOW habitat was identified within APN 156-050-025. One potential BUOW burrow was identified within APN 160-020-033, and two potential burrows were identified within the 150-meter buffer. One burrow was located at the top bank of the drainage channel surrounded by large rocky debris and riprap. The additional two burrows were located outside the parcel boundary on the embankment of the I-15 on/off ramp.

5.1 CREPUSCULAR BOUW SURVEYS

Rincon biologists focused on portions of the survey area identified during the focused burrow survey that contain potential habitat. The four focused BUOW surveys were conducted on April 28, April 29, May 6, and May 13, 2015. No BUOWs, or evidence of BUOWs, were observed during the BUOW survey. The weather data and results of each focused BUOW survey are summarized in Table 1 below.

Table 1: Survey Dates, Times, and Conditions

Survey Number	Date	Time	Staff	Conditions
1	04-28-15	1800-1900	Christina McAdams Jennifer Kendrick	Approximately 84 °F (beginning of survey) to 88 °F (end of survey); clear, wind 5-10 mph
2	04-29-15	1732-1900	Christina McAdams	Approximately 88 °F (beginning of survey) to 90 °F (end of survey); clear, wind 5-10 mph
3	05-06-15	0700-0800	Jillian Moore	Approximately 58 °F (beginning of survey) to 62 °F (end of survey); clear sky, wind 4-6 mph
4	05-13-15	0545-0645	Jillian Moore	Approximately 51 °F (beginning of survey) to 56 °F (end of survey); overcast, wind 6-12 mph

6.0 CONCLUSIONS AND RECCOMENDATIONS

No BUOWs or sign of BUOW was observed within the survey area during the focused BUOW surveys. Therefore, BUOWs are currently considered absent from the project site and buffer area. However, due to suitable habitat within the project site, and the potential for BUOW to move onto the site during winter migration or during the next nesting season per Objective 6 of the MSHCP BUOW Species Account, to avoid direct mortality of any owls that may be using habitat within the impact area, a 30-day pre-construction survey shall be conducted prior to ground disturbing activities.

Per Objective 6 of the MSHCP BUOW Species Account, to avoid direct mortality of any owls that may be using habitat within the impact area, a 30-day pre-construction survey shall be

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Burrowing Owl Habitat Assessment Figure 3

conducted prior to ground disturbing activities. The pre-construction surveys shall be conducted by a qualified biologist within the development footprint and a 150 meter (500-foot) buffer within 30 days of grading or other significant site disturbance.

If owls are not occupying habitat within the disturbance area during the pre-construction surveys, the proposed disturbance activities may proceed. A burrow is considered occupied when there is confirmed use by BUOW. In the event that owls are discovered and may be affected by the proposed project, avoidance measures will be developed in compliance with the MSHCP and in coordination with the CDFW and/or Western Riverside County RCA.

7.0 LIMITATIONS, ASSUMPTIONS, AND USE RELIANCE

A BUOW habitat assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. In addition, general biological (or protocol) surveys do not guarantee that BUOW are not present and will not be discovered in the future within the site. In particular, BUOW are mobile species and could occupy the site on a transient basis, or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, review of CNDDB, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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9.0 CERTIFICATION AND LIST OF PREPARERS

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: 6/29/15 Signed: _____
Jillian S. Moore, Biologist

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  - Jillian Moore
  - Jennifer Kendrick, Associate Biologist

Appendix A

Site Photographs

Photograph 1. View of suitable BUOW burrow located at the top bank of the drainage channel within APN 160-020-033.

Photograph 2. View of surrounding habitat (burrow is surrounded by large rocky debris and riprap).

Photograph 3. View of suitable BUOW burrow outside the parcel boundary on the embankment of the I-15 on/off ramp.

Photograph 4. View of suitable BUOW burrow outside the parcel boundary on the embankment of the I-15 on/off ramp.

City of Eastvale

Eastvale Industrial Development Project

MSHCP Consistency Analysis and Habitat Assessment

June 2015

MSHCP Consistency Analysis and Habitat Assessment

EASTVALE INDUSTRIAL DEVELOPMENT PROJECT
CITY OF EASTVALE, RIVERSIDE COUNTY, CALIFORNIA

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June 2015

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2015 *MSHCP Consistency Analysis and Habitat Assessment – Eastvale Industrial Development Project, City of Eastvale, Riverside County, California.* Rincon Consultants Project No. 14-01130.

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1.0 INTRODUCTION

This report documents the findings of a Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis and Habitat Assessment to comply with the conditions of the MSHCP. This assessment was completed to document existing site conditions and to determine potential impacts to special-status biological resources for the Eastvale Industrial Development Project (project), located in the City of Eastvale, Riverside County, California. The report also contains the results of an MSHCP-required Habitat Assessment for western burrowing owl (*Athene cunicularia;* BUOW) (Rincon Consultants, 2015), results of a Jurisdictional Delineation Report (Rincon Consultants, 2015) and includes an analysis of potential project-related impacts to the project site.

1.1 PROJECT LOCATION

The project site is generally located within the City of Eastvale, and bordered by Cantu-Galleano Ranch Road (aka Barba Avenue) to the south, S. Milliken Avenue to the west, the I-15 Freeway to the east and Micro Drive to the north (Figure 1). Specifically, project related improvements would occur on all or a portion of two separate and contiguous parcels generally located northwest of the Interstate 15/Cantu-Galleano Ranch Road interchange in the City of Eastvale, Riverside County, CA. Micro Drive is located on the north side of APN 156-050-025 and is proposed to be secondary access for the proposed project.

Land use immediately adjacent to the property includes industrial development to the north (including a Riverside County Flood Control District detention basin along the northeast corner), west (including an existing W.W. Grainger warehouse facility), and southeast. Fallow agricultural lands are located across I-15 to the east and active agricultural lands are located across Cantu-Galleano Ranch Road to the south.

1.2 PROJECT DESCRIPTION

The proposed project involves the construction and operation of a new 446,173 square foot industrial warehouse building, parking, utility and stormwater infrastructure and landscaping on APN 160-020-033 (23 acres) and construction of overflow truck parking and a secondary access roadway on a portion of APN 156-050-025 (18 acres) located adjacent to and north of the subject property. A portion of APN 156-050-025 is currently developed with an industrial warehouse building, parking and infrastructure improvements.

In addition, the project will require removal and replacement of an existing Riverside County Flood Control District conveyance channel located generally in the center of the subject property and along the eastern and southern site boundary. The existing open drainage channel conveys water from an off-site detention basin through culverts under APN 156-050-025 south approximately 850 feet through APN 160-020-033 toward Cantu-Galleano Ranch Road. This channel would be replaced with a new structure located along the western site boundary and covered with a parking area. An existing stormwater detention basin would be relocated from near the western site boundary to the southwest corner of the site. The basin would receive drainage from the relocated conveyance channel and new drainage infrastructure located along

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N

Project Location

Regional Location of Project

Figure 1

the western boundary of the site. The stormwater would be conveyed under Cantu-Galleano Road to an existing detention basin.

Primary truck access to the proposed warehouse would be via a shared driveway and gated security area located along the north side of Cantu-Galleano Ranch Road adjacent to and east of the existing W.W. Grainger facility. Grading and landscaping would be required along and within the California Department of Transportation right-of-way along the eastern site boundary to modify drainage infrastructure and along the western and southern site boundaries to relocate the conveyance channel, detention basin and modify the site entrance. All cut and fill would be balanced on-site.

2.0 METHODOLOGY

The proposed project was analyzed to determine consistency with the requirements set forth in the Western Riverside County MSHCP. First, the Riverside County Integrated Project (RCIP) Conservation Summary Report (Riverside County Land Information System 2014) was reviewed to assess the habitat and determine survey requirements for the site (Appendix A). Per the RCIP generator, the project site is located within the MSHCP -Jurupa Area Plan, within Cell Group A, Sub Unit 3, Criteria Cells 118 and 168. The MSHCP identifies this area as requiring habitat assessments for western BUOW, Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*), and Narrow Endemic Plant Species, specifically San Diego Ambrosia (*Ambrosia pumilla*), Brand's phacelia (*Phacelia stellaris*), and San Miguel savory (*Clinopodium chandleri*).

To ensure consistency with the requirements set forth in the MSHCP (RCIP 2003), including survey requirements for inadequately covered species, the project site was assessed, and geographic information systems (GIS) software was used to map the site in relation to MSHCP areas, including criteria cells, conservation areas, and wildlife movement corridors and linkages; survey areas for plant, bird, mammal, and amphibian species; Criteria Area Species Survey Area (CASSA); and the Narrow Endemic Plant Survey Area (NEPSA).

In addition, the MSHCP requires an assessment of the potentially significant project effects on riparian/riverine areas and vernal pools, if applicable. 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 Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools. The MSHCP also requires an assessment be conducted of potential indirect impacts to existing or proposed MSHCP conservation areas that may exist on or adjacent to the site, and require a potential edge effect or urban/wildlands interface analysis.

2.1 LITERATURE REVIEW

Prior to the field survey, Rincon conducted a literature review to better characterize the nature and extent of biological resources on and adjacent to the site. The literature review included an evaluation of current and historical aerial photographs of the site (Google Earth 2015), regional and site specific topographic maps (*Guasti, California* USGS 7.5-minute topographic quadrangle), geologic maps, climatic data, and other available background information.

The California Natural Diversity Data Base (CNDDB), Biogeographic Information and Observation System (BIOS – http://www.bios.dfg.ca.gov) and United States Fish and Wildlife Service (USFWS) Critical Habitat Portal (http://criticalhabitat.fws.gov) was reviewed to determine if any special-status wildlife, plant or vegetation communities were previously recorded on site. The *National Wetlands Inventory* (NWI) (USFWS 2015) was reviewed to determine if any wetland and/or non-wetland waters had been previously documented and mapped on or in the vicinity of the proposed study area. Other resources included the California Native Plant Society (CNPS) online *Inventory of Rare and Endangered Plants of California* (2015), California Department of Fish and Wildlife (CDFW) *Special Animals List* (March 2015), and CDFW *Special Vascular Plants, Bryophytes, and Lichens List* (April 2015).

2.2 FIELD RECONNAISSANCE SURVEY

Rincon biologists Jillian Moore and Dan Rosie conducted the site visit on March 27, 2015, between 1000 and 1330 hours. The purpose of the field reconnaissance survey was to document existing site conditions and assess the potential presence of special-status biological resources, including special-status plant and wildlife species, plant communities, jurisdictional features, and habitat for nesting birds. The field biologist surveyed the 41-acre study area on foot. Where portions of the study area were inaccessible on foot (e.g., fenced off development), the biologist visually inspected these areas with binoculars (10 x 40). Weather conditions during the survey included an average temperature of approximately 75 to 88 degrees Fahrenheit (°F), winds of zero to five miles per hour, and clear skies.

2.2.1 Vegetation Mapping

Vegetation communities observed on-site were mapped on a site-specific aerial photograph. Vegetation was generally classified using the systems provided in the *Preliminary Descriptions of the Terrestrial Communities of California* (Holland 1986), and modified using *A Manual of California Vegetation, Second Edition* (MCV) (Sawyer et al. 2009) as necessary to reflect the existing site conditions.

2.2.2 Flora

All plant species observed in the survey area were noted, and plants that could not be identified in the field were identified later using taxonomic keys. The reconnaissance survey included a directed search for special-status plants that would have been apparent at the time of the survey. Floral nomenclature for native and non-native plants follows Baldwin et al. (2012) as updated by The Jepson Online Interchange (University of California, Berkeley 2014).

2.2.3 Fauna

Animal species observed directly or detected from calls, tracks, scat, nests, or other sign in the survey area were noted. The survey was performed during the day; therefore, the identification of nocturnal animals was limited to sign if present on-site. Zoological nomenclature for birds is in accordance with the American Ornithologists' Union Checklist (2015); for mammals, Wilson & DeeAnn M. Reeder (2005); and for amphibians and reptiles, Crother (2012).

2.2.4 Jurisdictional Waters

A formal assessment and delineation of jurisdictional waters and wetlands was conducted and a Jurisdictional Delineation Report was prepared, which is provided under separate cover

(Rincon 2015a). Methodologies practiced during the delineation of jurisdictional features are detailed in the Jurisdictional Delineation Report.

2.2.5 Habitat Assessments

The MSHCP identifies the project area as requiring habitat assessments for western BUOW, Delhi Sands flower-loving fly, and three Narrow Endemic Plant Species (San Diego Ambrosia, Brand's phacelia, and San Miguel savory). A BUOW habitat assessment survey was conducted on April 21, 2015 and a BUOW Habitat Assessment was prepared, which is provided under separate cover (Rincon 2015b). Methodology and survey results of the habitat assessment and focused crepuscular surveys are detailed in the BUOW Habitat Assessment. Habitat assessments for Delhi Sands flower-loving fly to occur on site were conducted by Cambell Bio Consulting in March of 1997, by Thomas Olsen Associates in 1999, by Ecological Science Inc. in July of 2004, and by Noreas Environmental Engineering and Science in 2012. Methodology and survey results are detailed in the 1997, 2004, and 2012 reports. A habitat assessment for Narrow Endemic Plant Species was conducted on March 27, 2015, concurrently with the general field reconnaissance survey. Methodology and survey results of the habitat assessment for Narrow Endemic Plant Species is detailed in Section 4.4.1 below.

2.2.6 Riparian/Riverine/Vernal Pools and Fairy Shrimp Habitat Methods

MSHCP Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, describes the process through which protection of riparian/riverine areas, vernal pools, and fairy shrimp species will occur within the MSHCP Area. Protection of these resources is important for a number of MSHCP conservation objectives. An assessment of a project's potentially significant effects on riparian/riverine areas, vernal pools, and fairy shrimp habitat is required. Guidelines for determining whether or not these resources exist on site are described as follows:

- **Riparian/Riverine Areas** include "lands which contain habitat dominated by trees, shrubs, persistent emergent, or emergent mosses and lichens which occur close to or which depend upon soil moisture from a nearby fresh water source or areas with fresh water flow during all or a portion of the year." Riparian/riverine areas under the MSHCP also include drainage areas that are vegetated or have upland (non-riparian/riverine) vegetation that drain directly into an area that is described for conservation under the MSHCP (or areas already conserved).

- **Vernal Pools** are described by the MSHCP as "seasonal wetlands that occur in depression areas that have wetland indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indictors of hydrology and /or vegetation during the drier portion of the growing season."

- **Listed Fairy Shrimp Habitat,** as described under MSHCP Section 6.1.2, is habitat for Riverside fairy shrimp (*Streptocephalus woottoni*), vernal pool fairy shrimp (*Branchinecta lynchi*), or Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*), and includes ephemeral pools, artificially created habitat, and/or other features determined appropriate by a qualified biologist.

Any riparian/riverine habitat and vernal pools within the study area were identified, mapped, and recorded during the general biological survey and jurisdictional delineation.

3.0 EXISTING CONDITIONS

This section provides a brief discussion of the existing conditions observed on-site. Site photographs are located in Appendix B.

3.1 TOPOGRAPHY AND SOILS

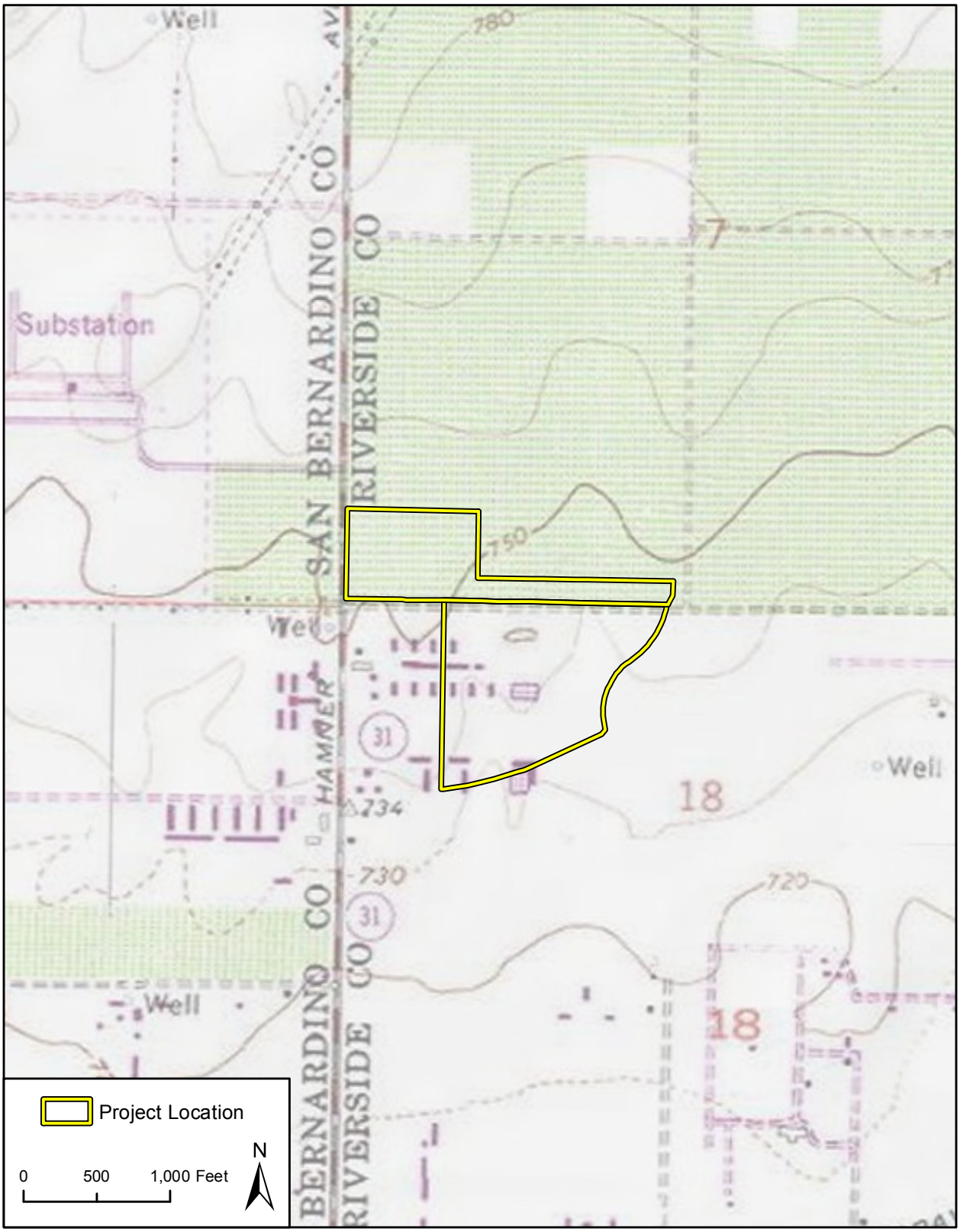
The project site is depicted in Township 2 South, Range 6 West, Section 18 of the U.S. Geological Survey (USGS) *Guasti, California* 7.5-minute topographic quadrangle (Figure 2). At an elevation range of approximately 730 to 740 feet above mean sea level, the topography of the project site is characterized by relatively flat fallow agricultural fields. The climate of the region is classified as Mediterranean: generally dry in the summer with mild, wet winters. The average annual rainfall in the region is about 15 inches, most of it occurring between November and March.

Based on the most recent soil survey for Riverside County (United States Department of Agriculture, natural Resources Conservation Service 2015b), the site consists primarily of three mapped soil types: Gorgonio loamy sand, deep, 2 to 8 percent slopes (GIC), Delhi fine sand, 2 to 15 percent slopes, wind-eroded (DaD2), and Hilmar loamy sand, 0 to 2 percent slopes, eroded (HhA2). These soil units, as mapped by the USDA, are depicted on Figure 3.

Gorgonio loamy sand. Gorgonio loamy sand is the dominant mapped soil type associated with Portion A of the excavated drainage. Gorgonio soils are formed in coarse textured alluvium derived from granite, granodiorite, schist, and related rocks. The soils are somewhat stratified with dominant textures being loamy sand and loamy fine sand with minor strata of loam, sandy loam, and fine sandy loam. Natural plant cover on this soil is typically comprised of annual grasses and forbs with a few scattered oak trees. Gorgonio loamy sand is not listed as a hydric soil on the NRCS Hydric Soils.

Hilmar loamy sand. Hilmar loamy sand is the dominant mapped soil type associated with Portion B of the excavated drainage. Hilmar soils formed in alluvium derived largely from granitic rock sources. Usually, the sandy upper part of the profile are wind modified. Natural plant cover on this soil is typically comprised of annual grasses and salt grass; however, these soils are more often cultivated. Hilmar loamy sand is not listed as a hydric soil on the NRCS Hydric Soils.

Delhi fine sand. Delhi fine sand is the dominant mapped soil type within the two parcels. The Delhi series consists of very deep, somewhat excessively drained soils formed in wind modified alluvium derived from granitic rock sources on floodplains, alluvial fans and terraces. Natural plant cover on this soil is typically comprised of annual grasses and forbs with buckwheat (*Eriogonum*) and a few shrubs and trees. Delhi fine sand is not listed as a hydric soil on the NRCS Hydric Soils.



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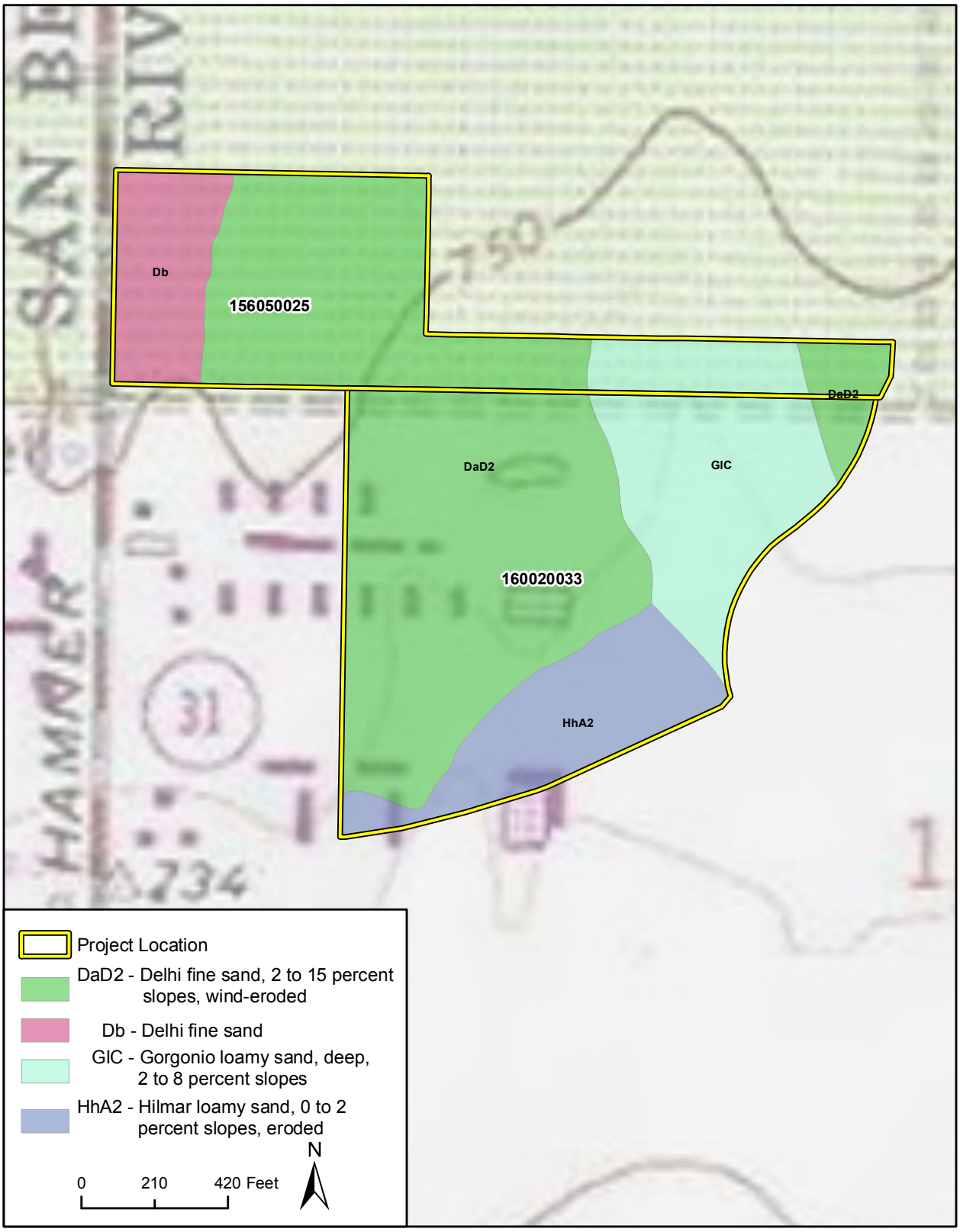
Project Location on USGS Topographical Map Figure 2



Imagery provided by National Geographic Society, ESRI and its licensors © 2015. Additional layers from: U.S. Department of Agriculture, Natural Resources Conservation Service, September 17, 2014.

USDA Soils Map

Figure 3

3.2 VEGETATION

Five terrestrial vegetation communities and/or land cover types were identified within the study area. These include southern willow scrub, mule fat scrub, eucalyptus woodland, non-vegetated floodplain or channel, disturbed habitat, and urban/developed lands. Riparian scrubs and unvegetated channels are typically jurisdictional and discussed in more detail below. Figure 4 provides locations of each vegetation community/habitat type in the survey area. Table 1 lists the vegetation communities/land cover types and their acreages. Appendix C provides a list of all plant species observed on site during the March 2015 field survey.

Table 1: Vegetation Community/Land Cover Type

Vegetation Community/Land Cover Type by Holland (Holland Code)	Vegetation Community/Land Cover Type by Sawyer et al.	Acreage Within Project Site
Southern Willow Scrub (63320)	*Salix lasiolepis* shrubland alliance	0.16
Mule Fat Scrub (63310)	*Baccharis salicifolia* shrubland alliance	0.35
Eucalyptus Woodland (79100)	*Eucalyptus (globulus, camaldulensis)* woodland semi-natural alliance	0.33
Non-Vegetated Floodplain or Channel (64200)	–	1.28
Disturbed Habitat (11300)	–	32.91
Urban/Developed Lands (1200)	–	14.27
	Total Acreage	**49.30**

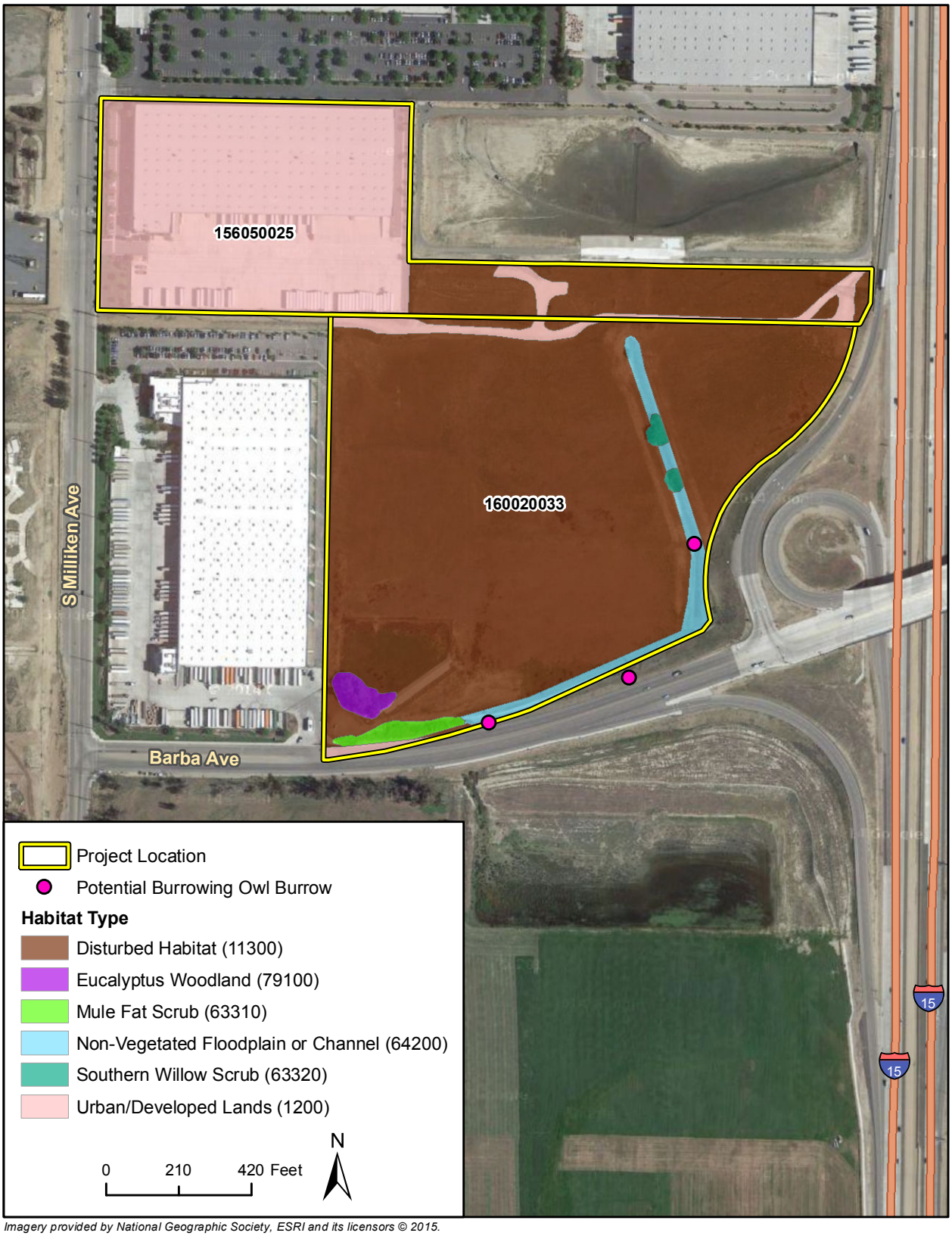
3.2.1 Southern Willow Scrub (63320)

Southern willow scrub is considered a sensitive wetland habitat by CDFW and other resource agencies. This community is typically comprised of dense thickets dominated by broad-leafed, winter-deciduous trees such as willows (*Salix* spp.), and often scattered with Fremont cottonwoods (*Populus fremontii*), and sycamores (*Platanus racemosa*). The habitat is typically found along major drainages but also occurs in smaller drainages. The density of the willows typically prevents a dense understory of smaller plants from growing. Representative species typically grow in loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows. This community requires repeated flooding to prevent succession to community dominated by sycamores and cottonwoods (Holland 1986).

Approximately 0.16 acre of disturbed southern willow scrub, *Salix lasiolepis* shrubland alliance, as described by Sawyer et al. (2009), occurs in a small portion of the excavated channel. Specifically, it includes a few solitary stands of arroyo willow (*Salix lasiolepis*) and Goodding's black willow (*Salix gooddingii*). *Salix lasiolepis* shrubland alliance is classified as a special-status natural community with the G4/S4 ranking (CDFW 2010).

3.2.2 Mule Fat Scrub (63310)

Mule fat scrub is considered a sensitive wetland habitat by CDFW and U.S. Army Corps of Engineers (USACE). Mule fat scrub is a tall, herbaceous riparian scrub strongly dominated by mulefat (*Baccharis salicifolia*). This plant



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Existing Biological Resources

Figure 4

community is an early seral plant community that occurs along drainages with a fairly coarse substrate and a moderate depth to the water table. Mule fat scrub is developed and maintained from flooding or other disturbance but may change through successional processes, to willow-cottonwood or sycamore-dominated riparian forest/woodland, in the absence of disturbance. The community can also occur where dominant riparian scrubs and woodlands are disturbed or open, and integrates with the willow scrub on site. Mule fat scrub typically occurs at elevations below 2000 feet (Holland 1986).

Approximately 0.35 acre of disturbed mulefat scrub, *Baccharis salicifolia* shrubland alliance, as described by Sawyer et al. (2009), occurs along the southern boundary of the study area. Specifically, it is dominated by mulefat with black elderberry (*Sambucus nigra*;), Goodding's black willow. Minor ruderal species such as cheeseweed (*Malva parviflora*), Bermuda grass (*Cynodon dactylon*), short podded mustard (*Hirschfeldia incana*), and ripgut brome (*Bromus diandrus*) also present. This vegetation community is classified as a special-status natural community with the G5/S4 ranking (CDFW 2010).

3.2.3 Eucalyptus Woodland (79100)

Bluegum eucalyptus (*Eucalyptus globulus*) is native to Tasmania and southeastern Australia. It was introduced into California in 1856 and into Hawaii in approximately 1865. It has naturalized in both states. The planted range in California extends from Humboldt County south to San Diego County, with best growth in the coastal fog belt near San Francisco. Most dense bluegum eucalyptus stands in California are almost devoid of understory vegetation, except for a few hardy grasses. Eucalyptus species produces a large amount of leaf and bark litter, the chemical and physical characteristics of which limit the ability of other species to grow in the understory, thus decreasing floristic diversity in the understory. In its native habitat bluegum eucalyptus grows in pure stands and in mixtures with many other eucalyptus species. In California, it has been planted with redgum eucalyptus (*E. camaldulensis*).

Approximately 0.33 acres of eucalyptus woodland, *Eucalyptus (globulus, camaldulensis)* woodland semi-natural alliance, as described by Sawyer et al. (2009), occurs within the southwest corner of the study area, adjacent to the existing detention basin. Mulefat and ruderal non-natives occur within the understory.

3.2.4 Non-Vegetated Floodplain or Channel (64200)

Non-vegetated floodplains or channels include the sandy, gravelly, or rocky fringe of waterways or flood channels which are unvegetated on a relatively permanent basis. As described above, small portions of the drainage channel within APN 160-020-033 are sparsely vegetated with riparian vegetation (willow and mulefat), however for the most part, the drainage is otherwise unvegetated and/or concrete lined. At the time of the field survey, the majority of the drainage was filled with tumbleweed. Unvegetated streambed occurs on approximately 1.28 acres of the project.

3.2.5 Urban/Developed Lands (12000)

Urban/developed lands are areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and

landscaped areas that often require irrigation. Areas where no natural land is evident due to a large amount of debris or other materials being placed upon it may also be considered Urban/Developed (Holland 1986, Oberbauer 1996).

The survey area contains approximately 14.27 acres of developed areas, including the industrial warehouse building on the western portion of APN 156-050-025, access roads, and SCE utility poles. No vegetation was observed within the urban/developed land within the survey area.

3.2.6 Disturbed Habitat (12000)

Disturbed habitats are areas that have been physically disturbed (by previous legal human activity) and are no longer recognizable as a native or naturalized vegetation association, but continue to retain a soil substrate. Examples of disturbed land include areas that have been graded, repeatedly cleared for fuel management purposes, and/or have experienced repeated use that prevents natural revegetation (i.e., dirt parking lots, trails that have been present for several decades), recently graded firebreaks, graded construction pads, construction staging areas, off-road vehicle trails, and old home sites (Holland 1986, Oberbauer 1996).

Approximately 32.91 acres of disturbed habitat occurs within the survey area. These areas show evidence of frequent and repeated disturbance from agriculture, vehicle use, and clearing/grading. The disturbed habitat communities on-site are dominated primarily by ruderal, non-native, annual species such as London rocket (*Sisymbrium irio*), basia (*Basia hyssopifloia*), Russian thistle (*Salsola tragus*) and foxtail barley (*Hordeum murinum*).

3.3 GENERAL WILDLIFE

The project site provides habitat for wildlife species that commonly occur within urban and fallow agricultural areas of Riverside County. Avian species observed/detected on or adjacent to the site include red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), Anna's hummingbird (*Calypte anna*), northern mockingbird (*Mimus polyglottos*), Brewer's blackbird (*Euphagus cyanocephalus*), red-winged blackbird (*Agelaius phoeniceus*), bushtit (*Psaltriparus minimus*), American crow (*Corvus brachyrhynchos*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), black phoebe (*Sayornis nigricans*), Cassin's kingbird (*Tyrannus vociferans*), song sparrow (*Melospiza melodia*), and yellow warbler (*Dendroica petechial*), lesser goldfinch (*Spinus psaltria*), turkey vulture (*Cathartes aura*), common yellowthroat (*Geothlypis trichas*),brown-headed cowbird (*Molothrus ater*), orange crowned warbler (*Vermivora celata*), white crowned warbler (*Zonotrichia leucophrys*)

Three mammalian species, California ground squirrel (*Otospermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), and coyote (*Canis latrans*) were also either observed or detected (through observation of their sign) on the study area during the survey. While not directly detected or observed, striped skunk (*Mephitis mephitis*), jack rabbit (*Lepus californicus*), opossum (*Didelphis virginiana*), pocket gopher (*Thomomys bottae*), and field mice are expected to occur.

Three reptilian species, western fence lizard (*Sceloporus occidentalis*) and side-blotched lizard (*Uta stansburyana*), and granite spiny lizard (*Sceloporus orcutti*) were observed during the assessment. In addition, common amphibian and reptile species such as western toad (*Bufo*

boreas), tree frogs (*Pseudacris* sp.), Pacific rattlesnake (*Crotalus viridis*), Pacific gopher snake (*Pituophis catenifer*), and alligator lizard (*Elgaria multicarinata*), are likely to occur.

Invertabrates, including painted lady (*Vanessa cardui*), Sara orangetip (*Anthocharis sara*), and checkered white (*Pontia protodice*) were readily observed throughout the site. No fish species were observed during the site visit. Given that year-round stream flow is not present, no fish species are expected to occur.

4.0 WESTERN RIVERSIDE COUNTY MSHCP CONSISTENCY ANALYSIS

4.1 FEE AREAS

Per Riverside County Ordinance No. 810 new development affects the environment directly through construction activity and cumulatively through population bases that result from development. Therefore, pursuant to Section 8.5, Local Funding Program, of the MSHCP; the Cities and County have implemented a Development Mitigation Fee. This fee is one of the primary sources of funding for the implementation of the MSHCP.

4.2 CRITERIA CELLS

The proposed project is located within the MSHCP-Jurupa Area Plan, within Cell Group A, Sub Unit 3, Criteria Cells 118 and 168. Management within Criteria Cells 118 and 168 focuses on maintaining Core and Linkage Habitat for the Delhi Sands flower-loving fly and conservation of Delhi sands soil series occurring within agricultural lands along the western and northeastern boundary of the Jurupa Area Plan to support known locations of the Delhi Sands flower-loving fly.

4.3 URBAN/WILDLANDS INTERFACE GUIDELINES

According to Section 6.1.4 of the MSHCP, the Urban/Wildlands Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. These guidelines are intended to reduce the indirect effects of development on areas described for conservation. Consistency with these guidelines must be considered for projects within or near the MSHCP Conservation Area, or other special-status habitats, such as Public/Quasi-Public (PQP) Reserves or other areas set aside for conservation purposes.

As previously mentioned, the project site is located within Criteria Cells 118 and 168; however, the site is not located with an MSHCP Conservation Area or other special-status habitats. The project site is primarily disturbed and/or developed and is bounded by industrial development to the north, west, and southeast; I-15 to the east; and active agricultural lands across Cantu-Galleano Ranch Road to the south.

4.4 HABITAT ASSESSMENT

The MSHCP establishes habitat assessment requirements for certain plant, bird, mammal, and amphibian species. Per the RCIP generator, the project site falls within the required habitat assessment area for three Narrow Endemic Plant Species and two wildlife species (BUOW and Delhi Sands flower-loving fly). Therefore, all other species requiring a habitat assessment, as well as fully-covered MSHCP species, are not discussed further in this report.

4.4.1 Narrow Endemic Plant Species

The proposed project lies within the required habitat assessment area for three (3) Narrow Endemic Plant Species: San Diego ambrosia, Brand's phacelia, and San Miguel savory. Table 2 depicts the Narrow Endemic Plant Species' individual attributes and habitat affinities that must be addressed during habitat suitability assessments (Riverside County, 2003).

Table 2: Narrow Endemic Plant Species Attributes and Habitat Affinities

Common Name (Scientific Name)	Habitat	Special Considerations
San Diego ambrosia (*Ambrosia pumila*)	Perennial. Blooms April – October, although appears to be primarily a clonal species that does not, under current conditions, favor sexual reproduction. Open floodplain terraces or on the watershed margins of vernal pools. This species occurs in a variety of associations dominated by sparse non-native grasslands or ruderal habitat in association with river terraces, vernal pools, and alkali playas. Garretson gravelly fine sandy loams when in association with floodplains, and on Las Posas loam near silty, alkaline soils of the Willows series	A portion of San Diego ambrosia populations remain dormant in dry years and because of its vegetative similarity with other *Ambrosia* spp., it is difficult to inventory in terms of identification, number of individuals, and true spatial extent of populations. Additional multi-year surveys are usually necessary to determine presence or absence of the species in superficially suitable habitats.
Brand's phacelia (*Phacelia stellaris*)	Annual. Blooms March – June. Sandy washes and/or benches in alluvial flood plains.	This species is generally dependent on periodic flooding and sediment transport. Population size may vary from year to year depending upon rainfall.
San Miguel savory (*Clinopodium chandleri*)	Perennial. Blooms March- May. Coastal sage scrub, chaparral, cismontane woodland, riparian woodland, and valley and foothill grasslands. Rocky gabbroic and metavolcanic substrates.	—

A habitat assessment for Narrow Endemic Plant Species was conducted on March 27, 2015, concurrently with the general field reconnaissance survey. Based on the site visit, habitat for San Miguel Savory and Brand's phacelia is absent from the site. However, marginally suitable habitat for San Diego ambrosia exists within the survey area, due to the presence of the drainage channel and areas characterized by sparse non-native and ruderal habitat.

Focused special-status plant surveys were conducted within the study area in June 2012 by Noreas Environmental Engineering and Science. The focused surveys were specifically intended to determine the presence/absence of San Diego ambrosia within the study area. No

San Diego ambrosia, or any other plant species protected under the MSHCP or either federal or state Endangered Species Acts were observed within the study area during the June 2012 survey. Furthermore, no San Diego ambrosia was observed during the March 27, 2015 field survey. Given the lack of occurrence during the field surveys, disturbed conditions of vegetation, and the presence of sandy soils, the project site is not expected to support San Diego ambrosia.

4.4.2 BUOW

Western BUOW, a California Species of Special Concern (SSC) use a variety of natural and modified habitats for nesting and foraging that is typically characterized by low growing vegetation. BUOW habitat includes, but is not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf-courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas.

As required by the RCIP, a BUOW habitat assessment was conducted by Rincon biologists Christina McAdams and Jennifer Kendrick on April 21, 2015. The survey area contains elements of suitable habitat for BUOW, including flat, open areas occupied by non-native herbs and grasses, earthen levees and berms, manmade concrete and cement structures, an excavated drainage, and vacant urban lots. Portions of the survey area are also partially surrounded by fences, which provide prime perching substrate for BUOW to attain good visibility. In summary, several suitable burrows were identified during the habitat assessment and focused survey. No suitable BUOW habitat was identified within APN 156-050-025. One potential BUOW burrow was identified within APN 160-020-033, and two potential burrows were identified within the 150-meter buffer. One burrow was located at the top bank of the drainage channel surrounded by large rocky debris and riprap. The additional two burrows were located outside the parcel boundary on the embankment of the I-15 on/off ramp.

Because of the presence of potential habitat for BUOW, focused crepuscular surveys were conducted. Rincon biologists focused on portions of the survey area identified during the focused burrow survey that contain potential habitat. The four focused BUOW surveys were conducted on April 28, April 29, May 6, and May 13, 2015. No BUOWs, or evidence of BUOWs, were observed during the BUOW survey. Methodology and survey results of the habitat assessment and focused crepuscular surveys are provided under separate scope (Rincon 2015b).

4.4.3 Delhi Sands Flower-Loving Fly

The Delhi Sands flower-loving fly (DSFLF), a federally endangered species, is restricted to the Delhi Sands formation, an area of ancient inland dunes located in an irregular 40 square mile area, in southwestern San Bernardino and northwestern Riverside Counties. The DSFLF is frequently associated with certain plants: California buckwheat (*Eriogonum fasciculatum*), California croton (*Croton californicus*), annual bursage (*Ambrosia acanthicarpa*) and telegraph weed (*Heterotheca grandiflora*).

As previously mentioned, the project site has been identified as containing inclusions of the Delhi series soils. Per *Table 9-2 Species Conservation Summary* of the MSHCP, species-specific conservation objectives for Delhi Sands flower-loving fly include project-by-project surveys in

accordance with USFWS *Interim General Survey Guidelines for the Delhi Sands flower-loving fly* are required. As such, evaluations for the potential for Delhi Sands flower-loving fly to occur on site was conducted by Cambell Bio Consulting in March of 1997, by Thomas Olsen Associates in 1999, by Ecological Science Inc. in July of 2004, and by Noreas Environmental Engineering and Science in 2012. The evaluation found that the project site does not contain open wind-blown sandy areas or native scrub habitats suitable to support the Delhi Sands flower-loving fly and that the absence of these areas lower the possibility for the Delhi Sands flower-loving from utilizing the project site.

4.5 RIPARIAN/RIVERINE HABITAT AND VERNAL POOLS

The field reconnaissance survey noted one main ephemeral drainage feature within the project site that conveys surface flows. This drainage is an excavated drainage channel that conveys water from an off-site detention basin through culverts under APN 156-050-025 south approximately 850 feet through APN 160-020-033 toward Cantu-Galleano Ranch Road (herein, referred to as Portion A). From Cantu-Galleano Ranch Road the channel (herein, referred to as Portion B) makes a 45° turn, conveying stormflow approximately 250 feet southwest through a concrete channel to a second culvert that traverses under Cantu-Galleano Ranch Road into the off-site Line E Detention Basin.

Because of the presence of potential jurisdictional features, a formal jurisdictional delineation was conducted to determine the location and extent of potentially jurisdictional features within the project site and to analyze project impacts. A detailed discussion of this feature is provided in the Jurisdictional Delineation Report (Rincon 2015a). In summary CDFW, Regional Water Quality Control Board (RWQCB), and USACE jurisdictional resources are potentially present on site (see Table 3). Final jurisdictional determinations of the boundaries of waters and riparian habitats are made by each agency, typically at the time that authorizations to impact such features are requested.

Table 3: Resource Agency Jurisdiction Within the Study Area

Resource Agency	Approximate Acres (linear feet)
USACE	
Wetland Waters	0.05
Non-wetland Waters	0.15
Total	0.20
CDFW and RWQCB	
Streambed (Non-Vegetated Channel)	0.41(1,413 lf)
Riparian Habitat	0.50 (542 lf)
Total	0.91 (1,955 linear feet)

Small portions of the drainage channel are sparsely vegetated with riparian vegetation (willow and mulefat), however for the most part, the drainage is otherwise unvegetated and/or

concrete lined. In addition, the riparian habitat is highly constrained by development and/or disturbance and lacks structural complexity (i.e., dense, canopied, riparian-associated vegetation) and acreage required by special-status riparian species such as least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus*).

Per Section 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools) of the MSHCP, suitable habitat for fairy shrimp (i.e. Riverside, vernal pool, and Santa Rosa fairy shrimp), is defined as vernal pools, stock ponds, ephemeral ponds, or other human-modified depressions. With the exception of wetlands created for the purpose of providing wetlands habitat resulting from human actions to create open waters, or from the alteration of natural stream courses, areas demonstrating characteristic habitat for fairy shrimp as described above, which are artificially created, are not considered suitable to support these species per the MSHCP. No vernal pools as defined by MSHCP were observed on site and while ponding of the excavated drainage channel was observed during one of the crepuscular BUOW surveys, several days after a rain event, per definition of the MSHCP, the man-made channel would not constitute habitat for listed fairy shrimp.

5.0 RECOMMENDATIONS

As described above, the proposed project has been assessed for general accordance with the MSHCP in regards to protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, (MSHCP Section 6.1.2); policies for the Protection of Narrow Endemic Plant Species (MSHCP Section 6.1.3); survey requirements/habitat assessments (MSHCP Section 6.3.2); and Urban/Wildlands Interface Guidelines (MSHCP Section 6.1.4). Furthermore, the project has been evaluated for compatibility with conservation objectives for Criteria Cells 118 and 168, specifically those measures associated with Delhi sands flower-loving fly. As such, Rincon has determined that the measures described in Sections 5.1-5.3 below will be required to further comply with the MSHCP.

5.1 DEVELOPMENT MITIGATION FEE

The MSHCP calls for an annual consumer price index (CPI) adjustment to local development mitigation fees collected to fund the implementation of the Plan. Fee ordinances adopted by the County and Cities reflect this requirement. Each year, the Regional Conservation Authority (RCA) informs the County and Cities of the CPI adjustment. Based on the CPI increase from December 2013 to December 2014, MSHCP fees would increase 0.726% effective July 1, 2015. As such, a fee of $6,597 per acre of commercial or industrial development has been set for 2015.

5.2 PROTECTION OF BUOW AND NESTING BIRDS

The site provides potential habitat for BUOW as well as other native birds protected by California Fish and Game Code (CFGC) Section 3503 and the Migratory Bird Treaty Act (MBTA). As such, the following actions should be performed prior to project implementation to ensure compliance with applicable biological regulations:

- If project activities occur during the nesting season, which is typically February through August, but can vary based on annual climatic conditions, geographic location, and avian species requirements; or if potential nesting activity is observed by qualified project personnel, then a nesting bird survey should be conducted by a qualified biologist within one (1) week of proposed construction activities. If active nests of protected native species are located, construction work should be delayed until after the nesting season or until the young are no longer dependent upon the nest site. Construction in the vicinity of an active nest should be conducted at the discretion of a biological monitor.

- A pre-construction presence/absence survey for western BUOW shall be conducted in suitable habitat within 500 feet of the proposed construction/development site. Surveys shall be conducted within 30 days prior to disturbance and in accordance with the CDFW and California BUOW Consortium guidelines. In the event that owls are discovered and may be affected by the proposed project, avoidance measures will be developed in compliance with the MSHCP and in coordination with the CDFW and/or Western Riverside County RCA.

5.3 RIPARIAN/RIVERINE HABITAT

As mentioned in the Jurisdictional Delineation Report (Rincon 2015a), the excavated channel lacks a significant nexus. Therefore, USACE is not expected to apply jurisdiction to this feature; however, concurrence through an Approved Jurisdictional Determination is recommended. The site does contain potential CDFW and RWQCB jurisdictional resources. As such, any proposed development in areas identified as jurisdictional features may be subject to the notification/permit requirements of the RWQCB pursuant to Porter-Cologne Water Quality Control Act (Porter-Cologne) and CDFW pursuant to Section 1600 et seq. of the California Fish and Game Code (CFGC).

6.0 LIMITATIONS, ASSUMPTIONS, AND USE RELIANCE

A Western Riverside County MSHCP consistency analysis, BUOW habitat assessment, and jurisdictional delineation has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis, or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional evaluation, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

7.0 CERTIFICATION AND LIST OF PREPARERS

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: 6/29/15 Signed: _____
Jillian S. Moore

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Appendix A

The Riverside County Integrated Project (RCIP) Conservation Summary Report

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
156050025	118	A	17.5	Jurupa	SU3 - Delhi Sands Area
160020033	168	Independent	23.45	Jurupa	SU3 - Delhi Sands Area
160020033	118	A	0.08	Jurupa	SU3 - Delhi Sands Area

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
156050025	NO	**YES**	NO	NO	**YES**	NO
160020033	NO	**YES**	NO	NO	**YES**	NO

Burrowing Owl

Burrowing owl.

Narrow Endemic Plant Species

7) San Diego ambrosia, Brand's Phacelia, San Miguel savory

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

Background

The final MSHCP was approved by the County Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004 and implementation of the MSHCP began on June 23, 2004.

For more information concerning the MSHCP, contact your local city or the County of Riverside for the unincorporated areas. Additionally, the Western Riverside County Regional Conservation

Authority (RCA), which oversees all the cities and County implementation of the MSHCP, can be reached at:

Western Riverside County Regional Conservation Authority
3403 10th Street, Suite 320
Riverside, CA 92501

Phone: 951-955-9700
Fax: 951-955-8873

www.wrc-rca.org

Introduction

As urbanization has increased within western Riverside County, state and federal regulations have required that public and private developers obtain "Take permits" from Wildlife Agencies for impacts to endangered, threatened, and rare species and their Habitats. This process, however, has resulted in costly delays in public and private Development projects and an assemblage of unconnected Habitat areas designated on a project-by-project basis. This piecemeal and uncoordinated effort to mitigate the effects of Development does not sustain wildlife mobility, genetic flow, or ecosystem health, which require large, interconnected natural areas.

A variety of capitalized terms are used in this report. Definitions for those terms are provided at the end of this report.

The MSHCP is a criteria-based plan, focused on preserving individual species through Habitat conservation. The MSHCP is one element of the Riverside County Integrated Project (RCIP), a comprehensive regional planning effort begun in 1999.The purpose of the RCIP is to integrate all aspects of land use, transportation, and conservation planning and implementation in order to develop a comprehensive vision for the future of the County. The overall goal of the MSHCP is rooted in the RCIP Vision Statement and supporting policy directives. The MSHCP will enhance maintenance of biological diversity and ecosystem processes while allowing future economic growth. Preserving a quality of life characterized by well-managed and well-planned growth integrated with an open-space system is a component of the RCIP vision. The MSHCP proposes to conserve approximately 500,000 acres and 146 different species. Approximately 347,000 acres are anticipated to be conserved on existing Public/Quasi-Public Lands, with additional contributions on approximately 153,000 acres from willing sellers. The overall goal of the MSHCP can be supported by the following:

Biological Goal: In the MSHCP Plan Area, conserve Covered Species and their Habitats.

Economic Goal: Improve the future economic development in the County by providing an

efficient, streamlined regulatory process through which Development can proceed in an efficient way. The MSHCP and the General Plan will provide the County with a clearly articulated blueprint describing where future Development should and should not occur.

Social Goal: Provide for permanent open space, community edges, and recreational opportunities, which contribute to maintaining the community character of Western Riverside County.

This report has been generated to summarize the guidance in the MSHCP Plan that pertains to this property. Guidelines have been incorporated in the MSHCP Plan to allow applicants to evaluate the application of the MSHCP Criteria within specific locations in the MSHCP Plan Area. Guidance is provided through Area Plan Subunits, Cell Criteria, Cores and Linkages and identification of survey requirements. The guidance and Criteria incorporate flexibility at a variety of levels. The information within this report is composed of three parts: a summary table, Reserve Assembly guidance and survey requirements within the MSHCP Plan Area. The summary table provides specific information on this property to help determine whether it is located within the MSHCP Criteria Area or any survey areas. The Reserve Assembly guidance provides direction on assembly of the MSHCP Conservation Area if the property is within the Criteria Area. The survey requirements section describes the surveys that must be conducted on the property if Habitat is present for certain identified species within the Criteria Area or mapped survey areas.

Reserve Assembly Guidance within the Criteria Area

The Reserve Assembly guidance only pertains to properties that are within the Criteria Area. Please check the summary table to determine whether this property is within the Criteria Area. If it is located inside of the Criteria Area, please read both this section and the section about survey requirements within the MSHCP Plan Area. If the property is located outside the Criteria Area, only read the survey requirements within the MSHCP Plan Area section.

The Area Plan Subunits, Cell Criteria and Cores and Linkages provide guidance on assembly of the MSHCP Conservation Area. The Area Plan Subunits section lists Planning Species and Biological Issues and Considerations that are important to Reserve Assembly within a specific Area Plan Subunit. The Cell Criteria identify applicable Cores or Linkages and describe the focus of desired conservation within a particular Cell or Cell Group. Cores and Linkages guidance includes dimensional data and biological considerations within each identified Core or Linkage.

The following is the Area Plan text and Cell Criteria that pertains specifically to this property. The Area Plan text includes the target acreage for conservation within the entire Area Plan, identification of Cores and Linkages within the entire Area Plan and Area Plan Subunit Planning Species and Biological Issues and Considerations. It is important to keep in mind that the Area Plan Subunits, Cell Criteria and Cores and Linkages are drafted to provide guidance for a geographic area that is much larger than an individual property. The guidance is intended to provide context for an individual property and, therefore, all of the guidance and Criteria do not apply to each individual property.

3.3.6 Jurupa Area Plan

This section identifies target acreages, applicable Cores and Linkages, Area Plan Subunits and Criteria for the Jurupa Area Plan. For a summary of the methodology and map resources used to develop the target acreages and Criteria for the MSHCP Conservation Area, including this Area Plan, see Section 3.3.1.

Target Acreages

The target conservation acreage range for the Jurupa Area Plan is 4,230 – 5,210 acres; it is composed of approximately 3,340 acres of existing Public/Quasi-Public Lands and 890 – 1,870 acres of Additional Reserve Lands.

Applicable Cores and Linkages

The MSHCP Conservation Area comprises a variety of existing and proposed Cores, Linkages, Constrained Linkages and Noncontiguous Habitat Blocks (referred to here as "cores and linkages"). The Cores and Linkages listed below are within the Jurupa Area Plan. For descriptions of these Cores and Linkages and more information about the biologically meaningful elements of the MSHCP Conservation Area within the Jurupa Area Plan, see Section 3.2.3 and MSHCP Volume II, Section A.

Cores and Linkages within Jurupa Area Plan

• Contains all of Proposed Noncontiguous Habitat Block 1
• Contains all of Proposed Noncontiguous Habitat Block 2
• Contains all of Proposed Noncontiguous Habitat Block 3
• Contains a small portion of Existing Core A

Descriptions of Planning Species, Biological Issues and Considerations and Criteria for each Area Plan Subunit within the Jurupa Area Plan are presented later in this section. These descriptions, combined with the descriptions of the Cores and Linkages referred to above, provide information about biological issues to be considered in conjunction with Reserve Assembly within the Jurupa Area Plan. As noted in Section 3.1, the Area Plan boundaries established as part of the Riverside County General Plan were selected to provide an organizational framework for the Area Plan Subunits and Criteria. While these boundaries are not biologically based, unlike the Cores and Linkages, they relate specifically to General Plan boundaries and the jurisdictional boundaries of incorporated Cities and were selected to facilitate implementation of the MSHCP in the context of existing institutional and planning boundaries.

• Area Plan Subunits

The Jurupa Area Plan is divided into three Subunits. For each Subunit, target conservation acreages are established along with a description of the Planning Species, Biological Issues and

Considerations, and Criteria for each Subunit. For more information regarding specific conservation objectives for the Planning Species, see Section 9.0. Subunit boundaries are depicted on the Cells and Cell Groupings map displays (Figures 3-12 and 3-13). Table 3-7 presents the Criteria for the Jurupa Area Plan.

Jurupa Area Plan
Cell Group: A

See species-specific conservation objectives 1A, 1B and 1C for Delhi Sands flower-loving fly in Table 9-2 of this document for Criteria for this Cell Group.

Cell: 168
Area Plan: Jurupa
Subunit: 3

See species-specific conservation objectives 1A, 1B and 1C for Delhi Sands flower-loving fly in Table 9-2 of this document for Criteria for this Cell.

Surveys Within the MSHCP Plan Area

Of the 146 species covered by the MSHCP, no surveys will be required by applicants for public and private projects for 106 of these Covered Species. Covered Species for which surveys may be required by applicants for public and private Development projects include 4 birds, 3 mammals, 3 amphibians, 3 crustaceans, 14 Narrow Endemic Plants, and 13 other sensitive plants within the Criteria Area. Of these 40 species, survey area maps are provided for 34 species, and surveys will be undertaken within suitable Habitat areas in locations identified on these maps in the MSHCP Plan. The remaining six species are associated with riparian/riverine areas and vernal pools and include least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, Riverside fairy shrimp, Santa Rosa Plateau fairy shrimp, and vernal pool fairy shrimp. Although there are no survey area maps for these six species, surveys for these species, if necessary, will be undertaken as described below. It is the goal of the MSHCP to provide for conservation of Covered Species within the approximately 500,000 acre MSHCP Conservation Area (comprised of approximately 347,000 acres of existing Public/Quasi-Public Lands and 153,000 acres of new conservation on private lands). Conservation that may be identified to be desirable as a result of survey findings is not intended to increase the overall 500,000 acres of conservation anticipated under the MSHCP. Please refer to Section 6.0 of the MSHCP Plan, Volume I for more specific information regarding species survey requirements.

As projects are proposed within the MSHCP Plan Area, an assessment of the potentially significant effects of those projects on riparian/riverine areas and vernal pools will be performed

as currently required by the California Environmental Quality Act (CEQA) using available information augmented by project-specific mapping. If the mapping identifies suitable habitat for any of the six species associated with riparian/riverine areas and vernal pools listed above and the proposed project design does not incorporate avoidance ofthe identified habitat, focused surveys for these six species will be conducted, and avoidance and minimization measures will be implemented in accordance with the species-specific objectives for these species. For more specific information regarding survey requirements for species associated with riparian/riverine areas and vernal pools, please refer to Section 6.1.2 of the MSHCP Plan, Volume I .

Habitat conservation is based on the particular Habitat requirements of each species as well as the known distribution data for each species. The existing MSHCP database does not, however, provide the level of detail sufficient to determine the extent of the presence or distribution of Narrow Endemic Plant Species within the MSHCP Plan Area. Since conservation planning decisions for these plant species will have a substantial effect on their status, additional information regarding the presence of these plant species must be gathered during the long-term implementation of the MSHCP to ensure that appropriate conservation of the Narrow Endemic Plants occurs. For more specific information regarding survey requirements for Narrow Endemic Plants, please refer to Section 6.1.3 of the MSHCP Plan, Volume I .

In addition to the Narrow Endemic Plant Species, additional surveys may be needed for certain species in conjunction with Plan implementation in order to achieve coverage for these species. The MSHCP must meet the Federal Endangered Species Act issuance criteria for Habitat Conservation Plans (HCP) which require, among other things, that the HCP disclose the impacts likely to result from the proposed Taking, and measures the applicant will undertake to avoid, minimize and mitigate such impacts. For these species in which coverage is sought under the MSHCP, existing available information is not sufficient to make findings necessary to satisfy these issuance criteria for Take authorization. Survey requirements are incorporated in the MSHCP to provide the level of information necessary to receive coverage for these species in the MSHCP.

Efforts have been made prior to approval of the MSHCP and will be made during the early baseline studies to be conducted as part of the MSHCP management and monitoring efforts to collect as much information as possible regarding the species requiring additional surveys. As data are collected and conclusions can be made regarding the presence of occupied Habitat within the MSHCP Conservation Area for these species, it is anticipated that survey requirements may be modified or waived. Please refer to Sections 6.1.3 and 6.3.2 of the MSHCP Plan, Volume I for more specific information regarding survey requirements.

Appendix B

Site Photographs

Photograph 1. Excavated drainage, facing downstream from culvert. Tumbleweed captured in channel. Willow trees in background.

Photograph 2. Project site facing east from southwest corner of APN 160-020-033.

Photograph 3. Project site facing southeast. View of drainage with mulefat scrub along southern perimeter of APN 160-020-033.

Photograph 4. Project site facing northeast from southwest corner of APN 160-020-033.

Photograph 5. Project site facing east from northwest corner of APN 156-050-025. View of SCE transmission corridor.

Appendix C

Floral Compendium

Plant and Animal Species Observed Within the Project Area on March 27, 2015

Scientific Name	Common Name	Status	Native or Introduced
Trees			
Salix gooddingii	Goodding's black willow	None	Native
Salix lasiolepis	arroyo willow	None	Native
Sambucus nigra	black elderberry	None	Native
Washingtonia robusta	Washington palm	None	Introduced; Moderate - ALERT
Shrubs			
Artemisia californica	California sagebrush	None	Native
Baccharis salicifolia	mule fat, seep-willow	None	Native
Ericameria linearifolia	interior goldenbush	None	Native
Vitis vinifera	cultivated grape, wine grape	None	Introduced
Herbs			
Amaranthus albus	Pigweed amaranth, tumbleweed	None	Introduced
Amsinckia menziesii	rancher's fireweed	None	Native
Bassia hyssopifolia	bassia	None	Introduced; Limited
Camissoniopsis bistorta	California sun cup	None	Native
Chenopodium album	lamb's quarters, pigweed	None	Introduced
Chenopodium murale	nettle leaved goosefoot	None	Introduced
Crassula connata	pygmy-weed	None	Native
Erodium cicutarium	white stemmed filaree	None	Introduced; Limited
Hirschfeldia incana	short-pod mustard	None	Introduced; Moderate
Malva parviflora	cheeseweed, little mallow	None	Introduced
Matricaria discoidea	pineapple weed	None	Native
Medicago sativa	alfalfa	None	Introduced
Melilotus indicus	sourclover	None	Introduced
Polygonum aviculare	prostrate knotweed	None	Introduced
Salsola tragus	Russian thistle, tumbleweed	None	Introduced; Limited
Sisymbrium irio	London rocket	None	Introduced; Moderate
Sonchus asper	prickly sow thistle	None	Introduced
Urtica urens	dwarf nettle	None	Introduced
Verbesina encelioides	Golden crownbeard	None	Introduced
Grasses			
Brachypodium distachyon	Purple false brome	None	Introduced; Moderate
Bromus diandrus	ripgut grass	None	Introduced; Moderate
Cynodon dactylon	Bermuda grass	None	Introduced; Moderate
Festuca myuros	rattail sixweeks grass	None	Introduced; Moderate
Hordeum murinum	wild barley	None	Introduced; Moderate
Phalaris paradoxa	hood canarygrass	None	Introduced
Schismus barbatus	Mediterranean grass	None	Introduced
Triticum aestivum	Common wheat	None	Introduced

Appendix D

Jurisdictional Delineation

City of Eastvale

Eastvale Industrial Development Project

Jurisdictional Delineation Report

rincon

June 2015

Environmental Scientists Planners Engineers

JURISDICTIONAL DELINEATION REPORT

EASTVALE INDUSTRIAL DEVELOPMENT PROJECT
CITY OF EASTVALE, RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

City of Eastvale
12363 Limonite Avenue, Suite 910
Eastvale, California 91752

Prepared by:

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June 2015

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Rincon Consultants, Inc.

2015 *Jurisdictional Delineation Report – Eastvale Industrial Development Project, City of Eastvale, Riverside County, California.* Rincon Consultants Project No. 14-01130.

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1.0 INTRODUCTION

Rincon Consultants, Inc. (Rincon) conducted a jurisdictional delineation for the proposed Eastvale Industrial Development Project (project), located in the City of Eastvale, Riverside County, California. The delineation was conducted to determine the location and extent of potentially jurisdictional features within the project site and to analyze project impacts. Potentially jurisdictional resources include waters of the United States (U.S.) that are subject to the jurisdiction of the U.S. Army Corps of Engineers (ACOE) and the Regional Water Quality Control Board (RWQCB), streambed/banks and associated riparian vegetation potentially subject to the jurisdiction of California Department of Fish and Wildlife (CDFW), and isolated waters of the State potentially subject to the jurisdiction of the RWQCB. This report delineates the areas Rincon has determined as potentially jurisdictional based on criteria established by the aforementioned resources agencies.

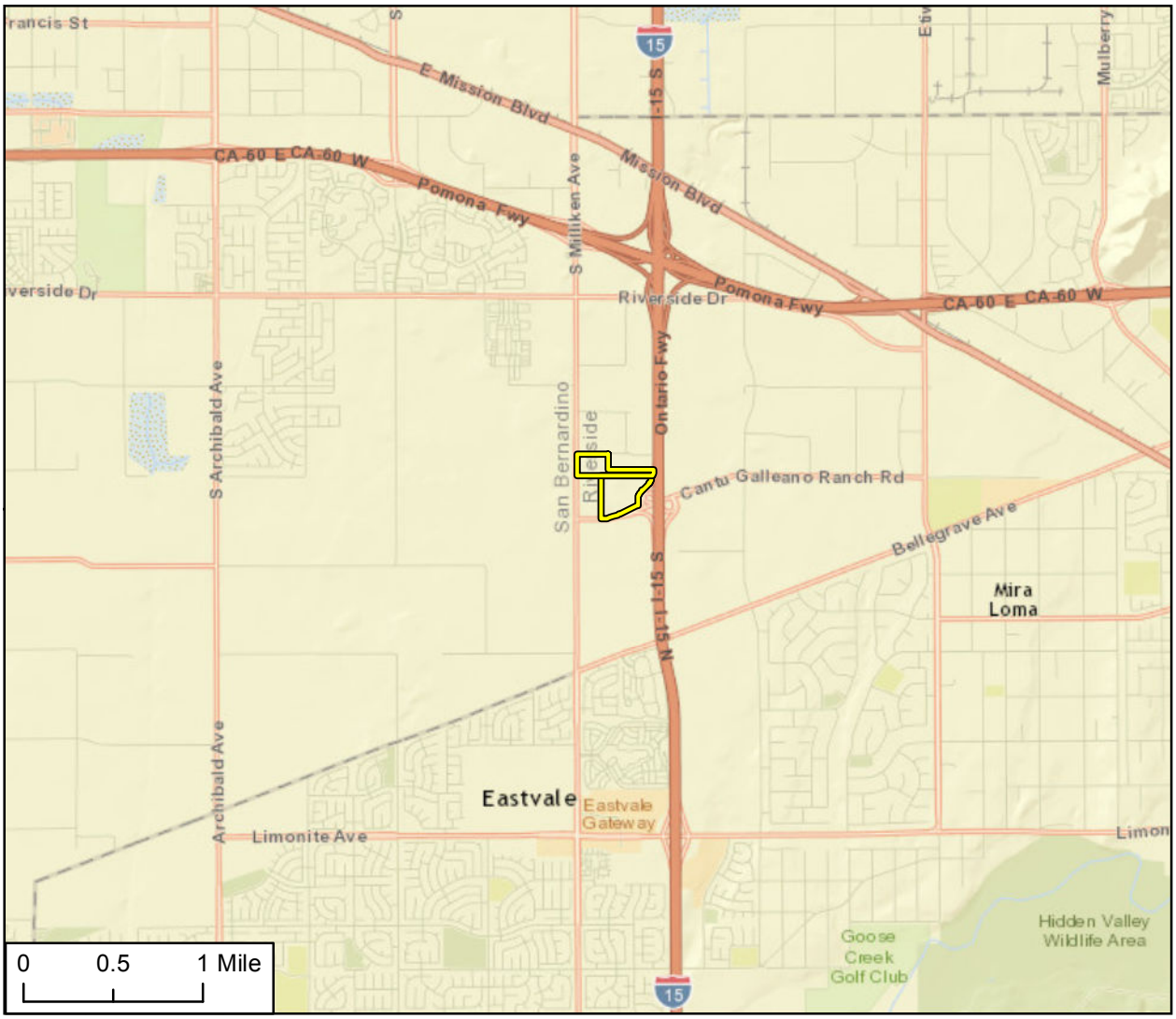
Any proposed development in areas identified as jurisdictional waters and/or wetlands features may be subject to the notification/permit requirements of the ACOE pursuant to Section 404 of the Clean Water Act (CWA), RWQCB pursuant to Section 401 of the CWA and Porter-Cologne Water Quality Control Act (Porter-Cologne), and CDFW pursuant to Section 1600 et seq. of the California Fish and Game Code (CFGC).

1.1 PROJECT LOCATION

The project site is within the City of Eastvale, which is bordered by the Santa Ana River to the south, Hellman Avenue to the west, the I-15 Freeway to the east and Philadelphia Avenue to the north (Figure 1). Specifically, project related improvements would occur on all or a portion of two separate and contiguous parcels generally located northwest of the Interstate 15/Cantu-Galleano Ranch Road interchange in the City of Eastvale, Riverside County, CA. The project site is bordered by Cantu-Galleano Ranch Roach to the south; Interstate 15 to the east, an existing W.W. Grainger warehouse facility to the west, and a Riverside County Flood Control District detention basin, warehousing and truck parking to the north. Micro Drive is located on the north side of APN 156-050-025 and is proposed to be secondary access for the proposed project.

1.2 PROJECT BACKGROUND AND DESCRIPTION

The proposed project involves the construction and operation of a new 446,173 square foot industrial warehouse building, parking, utility and stormwater infrastructure and landscaping on APN 160-020-033 (23 acres) and construction of overflow truck parking and a secondary access roadway on a portion of APN 156-050-025 (18 acres) located adjacent to and north of the subject property. A portion of APN 156-050-025 is currently developed with an industrial warehouse building, parking and infrastructure improvements. In addition, the project will require removal and replacement of an existing Riverside County Flood Control District conveyance channel located generally in the center of the subject property and along the eastern and southern site boundary. The existing open drainage channel which conveys water across the site from a detention basin adjacent to and north of the property would be replaced with a



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N

Project Location

Regional Location of Project

Figure 1

new structure located along the western site boundary and covered with a parking area. An existing stormwater detention basin would be relocated from near the western site boundary to the southwest corner of the site. The basin would receive drainage from the relocated conveyance channel and new drainage infrastructure located along the western boundary of the site. The stormwater would be conveyed under Cantu-Galleano Road to an existing detention basin.

Primary truck access to the proposed warehouse would be via a shared driveway and gated security area located along the north side of Cantu- Galleano Ranch Road adjacent to and east of the existing W.W. Grainger facility. Grading and landscaping would be required along and within the California Department of Transportation right-of-way along the eastern site boundary to modify drainage infrastructure and along the western and southern site boundaries to relocate the conveyance channel, detention basin and modify the site entrance. All cut and fill would be balanced on-site.

1.3 ENVIRONMENTAL SETTING

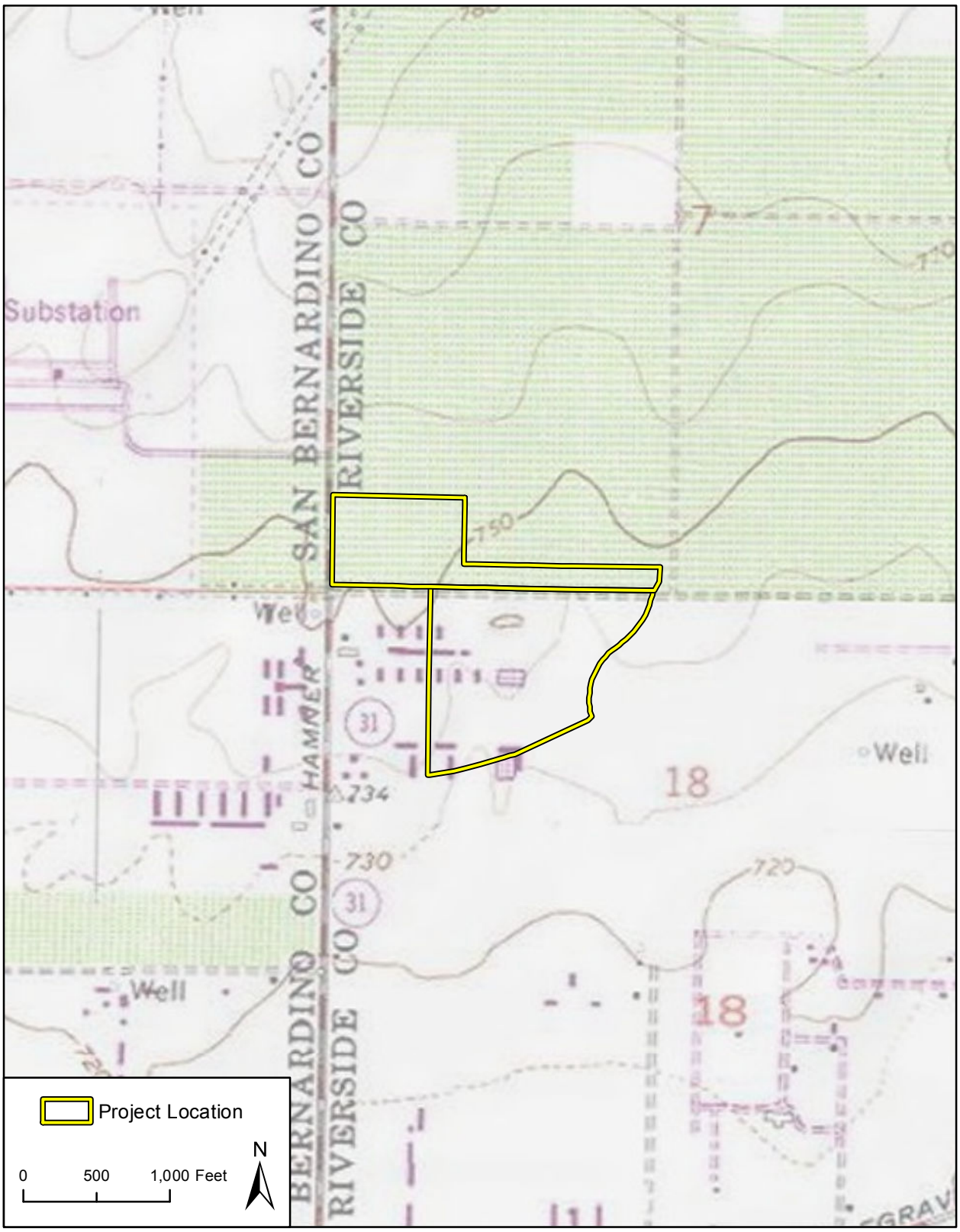
The project site is depicted in Township 2 South, Range 6 West, Section 18 of the U.S. Geological Survey (USGS) *Guasti, California* 7.5-minute topographic quadrangle (Figure 2). At an elevation range of approximately 730 to 740 feet above mean sea level, the topography of the project site is characterized by relatively flat fallow agricultural fields. The climate of the region is classified as Mediterranean: generally dry in the summer with mild, wet winters. The average annual rainfall in the region is about 15 inches, most of it occurring between November and March.

2.0 METHODOLOGY

This jurisdictional delineation was conducted using the most currently accepted regulatory guidance as described by ACOE, RWQCB, and CDFW. The final determination regarding jurisdictional resources will be made by the resource agencies upon their review of this report and their concurrence with its findings.

Waters of the United States (U.S.), including wetlands potentially subject to ACOE jurisdiction and thus, Section 404 of CWA, were delineated in accordance with Code of Federal Regulations sections that pertain to factors constituting the ordinary high water mark (OHWM) for non-wetland waters ("other waters") (33 CFR 328.3 and 33 CFR 328.4), and the following guidance:

- *Wetlands Delineation Manual* (Environmental Laboratory 1987)
- *Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest* (United States Army Corps of Engineers 2001)
- *Regulatory Guidance Letter No. 05-05: Ordinary High Water Mark Identification* (United States Army Corps of Engineers 2005)
- *Jurisdictional Determination Form Instructional Guidebook* (United States Environmental Protection Agency and United States Army Corps of Engineers 2007)
- *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (United States Army Corps of Engineers 2008a)



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Project Location on USGS Topographical Map Figure 2

- *A Field Guide to the Identification of the Ordinary High Water mark (OHWM) in the Arid West Region of the Western United States* (United States Army Corps of Engineers 2008b)
- *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (U. S. Army Corps of Engineers 2010)

The RWQCB is the regional agency responsible for protecting water quality in California. The jurisdiction of this agency includes all waters of the U.S. and waters of the state as mandated by the CWA and Porter-Cologne, respectively. RWQCB jurisdiction was determined in accordance with the previously listed methodologies to identify waters subject to federal (ACOE) jurisdiction; and thus, mirrors the lateral limits of federal jurisdiction pursuant to Section 401 of the CWA. The determination of RWQCB jurisdiction will follow such methods until the State Water Resources Control Board's Wetland and Riparian Area Protection Policy is fully developed and officially implemented.

Under Sections 1600-1607 of the CFGC, CDFW regulates activities that would divert or obstruct the natural flow or substantially alter the bed, bank or channel of any river, stream, or lake system that supports fish or wildlife. CDFW has jurisdiction over riparian habitats (e.g. southern willow scrub) associated with watercourses. For this reason CDFW jurisdiction is delineated by the outer edge of riparian vegetation or at the top of the bank, whichever is wider. Appendix A presents a more detailed discussion of applicable regulations and definitions pertaining to this jurisdictional delineation.

2.1 LITERATURE REVIEW

Prior to the field survey, Rincon conducted a literature review to better characterize the nature and extent of potentially jurisdictional features on and adjacent to the site. The literature review included an evaluation of current and historical aerial photographs of the site (Google Earth 2015), regional and site specific topographic maps (*Guasti, California* USGS 7.5-minute topographic quadrangle), soil survey maps (United States Department of Agriculture, Natural Resources Conservation Service 2015b), geologic maps, climatic data, and other available background information.

The *National Wetlands Inventory* (NWI) (United States Department of the Interior, Fish and Wildlife Service 2015) was reviewed to determine if any wetland and/or non-wetland waters had been previously documented and mapped on or in the vicinity of the proposed project site. The *National Hydric Soils List* (United States Department of Agriculture, Natural Resources Conservation Service 2015a) was also reviewed to determine if any soil map unit types mapped on or in the vicinity of the proposed project site were classified as hydric.

2.2 JURISDICTIONAL DELINEATION FIELD SURVEY

A formal jurisdictional delineation field survey was conducted to evaluate the three parameters that identify and delineate the boundaries of ACOE jurisdictional wetlands, including (1) the dominance of wetland vegetation; (2) the presence of hydric soils; and (3) hydrologic conditions that result in periods of inundation or saturation on the surface from flooding or ponding. Data for wetland waters and adjacent uplands were entered on standardized wetland determination

data forms (Appendix C). A sample point was considered to be within a jurisdictional wetland if the area met the criteria for all three parameters.

Dominance of hydrophytic vegetation (i.e., wetland plants) was determined by creating a species list for those plants occurring within an approximate 30-foot radius around each sample point and then estimating absolute percent cover for each species by stratum, assigning an indicator status category to each species using the *National Wetland Plant List* (Lichvar et al. 2014), and determining whether wetland plants dominated the subject area using the dominance and/or prevalence tests. A site is considered to have a "predominance of hydrophytic vegetation" when 50 percent or more of the dominant plant species are classified as Obligate Wetland (OBL), Facultative Wetland (FACW), or Facultative (FAC). Definitions of these classifications, as well as those for Facultative Upland (FACU) and Upland (UPL), are provided in Appendix A. Taxonomic nomenclature for plant species is in accordance with *The Jepson Manual* (Baldwin et al. 2012).

Wetland hydrology refers to the presence of water at or above the soil surface for a sufficient period of the year to significantly influence the plant types and soils that occur in the area. Wetland hydrology was determined by the presence or absence of primary and secondary indicators, such as surface water and drainage patterns, respectively.

To establish whether hydric soils were present, soil pits approximately 18 inches deep were excavated to determine the presence or absence of positive field indicators for hydric soils as described in *Field Indicators of Hydric Soils in the United States* (United States Department of Agriculture, Natural Resources Conservation Service 2006) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (United States Army Corps of Engineers 2008a). Soil color was determined using a Munsell® (2000) Soil Color Chart. In most situations, only one indicator is required to make positive determination. However, if soils are problematic (e.g., disturbed by tillage or seasonal flooding), the hydric soil determination depends on meeting the hydrophytic vegetation and hydrology indicators described above.

All potentially jurisdictional features within the survey area were inspected to record existing conditions and determine jurisdictional limits. Drainage features were mapped using a Trimble® GeoXT Global Positioning System (GPS) unit with sub-meter accuracy and recent aerial photography. Typically, width measurements for ACOE jurisdiction are determined based on the lateral extent of the OHWM, and CDFW jurisdictional limits are measured laterally from active bank to bank, or to the outer drip-line of associated riparian vegetation, if present. ArcGIS was used to calculate the approximate acreages and/or linear feet of jurisdictional wetlands, waters and riparian habitats.

3.0 DELINEATION RESULTS

The formal jurisdictional delineation field survey was conducted on March 27, 2015, by Rincon biologists, Jillian Moore and Dan Rosie. The study area consisted of the proposed disturbance footprint within APNs 160-020-033 and 156-050-025. Three soil test pits (SP1, SP2, and SP3) were examined for positive field indicators of wetland characteristics within the study area. A fourth soil test pit (SP4) was taken within the upland areas representative of the site. Locations of soil

test pits are depicted in Figures 4a, 4b, and 4c (See Section 4). Representative site photographs are included in Appendix B of this report. Wetland Determination Data Form(s) are located in Appendix C.

Positive indicators for all three wetland parameters were found at SP1 and SP2. Hydrology and hydric soil indicators only were present at SP3. Descriptions of vegetation, hydrology, and soil conditions within and adjacent to the study area are provided in the following sections.

3.1 HYDROLOGY

The project site is within the Eastvale Master Drainage Plan (RCFC and WCD 1998) area of the Santa Ana Watershed Region. The plan area, which is approximately eight square miles in size, is bounded roughly by Mission Boulevard and the Riverside / San Bernardino County Line on the north, the Santa Ana River on the south, Interstate 15 on the east, and Cucamonga Creek and the Riverside / San Bernardino County Line on the west. In very broad terms, the Santa Ana Watershed Region is a group of connected inland basins and open coastal basins drained by surface streams flowing generally southwestward to the Pacific Ocean through the Santa Ana River and Cucamonga Creek.

As mentioned above, the jurisdictional delineation noted one main ephemeral drainage feature within the project site that conveys surface flows. This drainage is an excavated drainage channel that conveys water from an off-site detention basin through culverts under APN 156-050-025 south approximately 850 feet through APN 160-020-033 toward Cantu-Galleano Ranch Road (herein, referred to as Portion A). From Cantu-Galleano Ranch Road the channel (herein, referred to as Portion B) makes a 45° turn, conveying stormflow approximately 250 feet southwest through a concrete channel to a second culvert that traverses under Cantu-Galleano Ranch Road into the off-site Line E Detention Basin. Portion A of the excavated channel is approximately 30 feet wide from top of bank to top of bank. The active channel is approximately 12 feet wide with an OHWM of approximately 4 feet wide. Portion B of the channel is approximately 10 feet wide top of bank to top of bank, with an active channel and OHWM of 4 feet wide.

3.1.1 Field Observations

Positive primary indicators of wetland hydrology (Presence of Reduced Iron) were observed at SP1, SP2, and SP3. In addition, secondary indicators, which include sediment deposits, FAC-neutral test, and visible saturation on historical aerial imagery during non-drought periods (Google Earth 2015) were also observed at SP 1, SP2, and SP3. No hydrological indicators were observed at SP4.

3.2 VEGETATION

Vegetation classification was based on the classification systems provided in *Preliminary Descriptions of the Terrestrial Communities of California* (Holland 1986) and *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009); and modified as appropriate to reflect the existing

site conditions. Based on vegetation mapping completed by Rincon in preparation of the *Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis and Habitat Assessment* (Rincon 2015a), six terrestrial vegetation communities and/or land cover types were identified within the study area. These include southern willow scrub, mule fat scrub, eucalyptus woodland, non-vegetated floodplain or channel, row crops, disturbed habitat, and urban/developed lands. Riparian scrubs and unvegetated channels are typically jurisdictional and discussed in more detail below.

3.2.1 Southern Willow Scrub

Southern willow scrub is considered a sensitive wetland habitat by CDFW (2010). This community is typically comprised of dense thickets dominated by broad-leafed, winter-deciduous trees such as willows (*Salix* spp.), and often scattered with Fremont cottonwood (*Populus fremontii*), and sycamore (*Platanus racemosa*). The habitat is typically found along major drainages but also occurs in smaller drainages. The density of the willows can prevent a dense understory of smaller plants from growing. Representative species typically grow in loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows. This community requires repeated flooding to prevent succession to community dominated by sycamores and cottonwoods (Holland 1986).

Approximately 0.16 acre of disturbed southern willow scrub, *Salix lasiolepis* shrubland alliance, as described by Sawyer et al. (2009), occurs in a small portion of the excavated channel. Specifically, it includes a solitary stand of one arroyo willow (*Salix lasiolepis*; FACW) and one Goodding's black willow (*Salix gooddingii*; FACW). SP1 was obtained within this mapped habitat type. Dominant hydrophytic vegetation is present.

3.2.2 Mule Fat Scrub

Mule fat scrub is considered a sensitive wetland habitat by CDFW (2010). Mule fat scrub is a tall, herbaceous riparian scrub strongly dominated by mulefat (*Baccharis salicifolia;* FAC). Mule fat scrub is an early seral plant community that occurs along drainages with a fairly coarse substrate and a moderate depth to the water table. Mule fat scrub is developed and maintained from flooding or other disturbance but may change through successional processes, to willow-cottonwood or sycamore-dominated riparian forest/woodland, in the absence of disturbance. The community can also occur where dominant riparian scrubs and woodlands are disturbed or open, and integrates with the willow scrub on site. Mule fat scrub typically occurs at elevations below 2000 feet (Holland 1986).

Approximately 0.35 acre of disturbed mulefat scrub, *Baccharis salicifolia* shrubland alliance, as described by Sawyer et al. (2009), occurs along the southern boundary of the study area. Specifically, it is dominated by mulefat with black elderberry (*Sambucus nigra*; FAC), Goodding's black willow and some minor ruderal species such as cheeseweed (*Malva parviflora*; UPL), Bermuda grass (*Cynodon dactylon*; FACU), short podded mustard (*Hirschfeldia incana*; UPL), and ripgut brome (*Bromus diandrus*; UPL) also present. SP2 was obtained within this mapped habitat type. Dominant hydrophytic vegetation is present.

3.2.3 Non-Vegetated Floodplain or Channel

As described above, small portions of the drainage channel are sparsely vegetated with riparian vegetation (willow and mulefat). However for the most part, the drainage is unvegetated and/or concrete lined. At the time of the field survey, the majority of the drainage was filled with tumbleweed. Approximately 1.30 acres (including 672 square feet of culvert) of non-vegetated channel occurs within the study area. SP3 was obtained within the non-vegetated channel.

3.3 SOILS

Based on the most recent soil survey for Riverside County (United States Department of Agriculture, natural Resources Conservation Service 2015b), the site consists primarily of three mapped soil types: Gorgonio loamy sand, deep, 2 to 8 percent slopes (GIC), Delhi fine sand, 2 to 15 percent slopes, wind-eroded (DaD2), and Hilmar loamy sand, 0 to 2 percent slopes, eroded (HhA2). These soil units, as mapped by the USDA, are depicted on Figure 3.

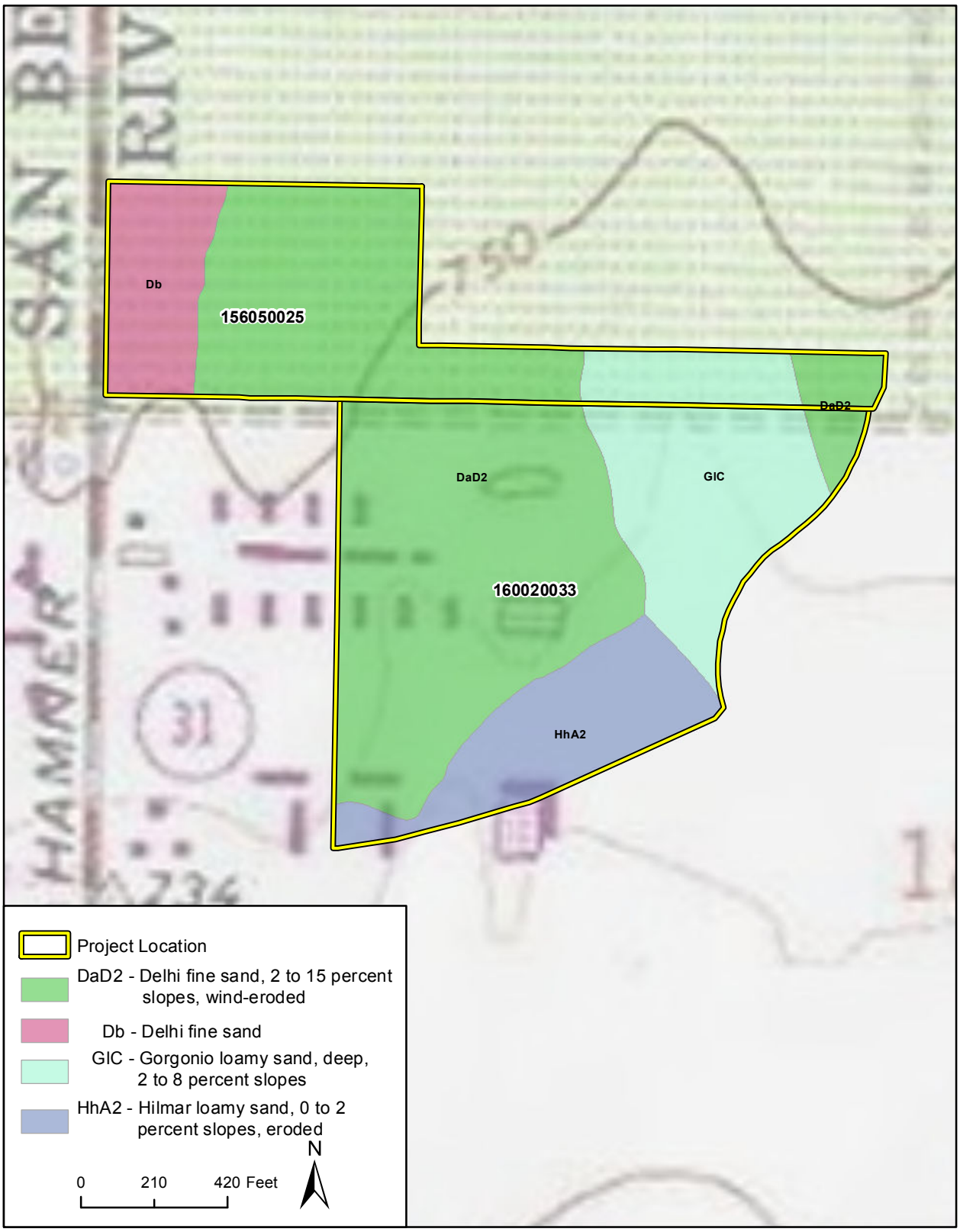
Gorgonio loamy sand. Gorgonio loamy sand is the dominant mapped soil type associated with Portion A of the excavated drainage. Gorgonio soils are formed in coarse textured alluvium derived from granite, granodiorite, schist, and related rocks. The soils are somewhat stratified with dominant textures being loamy sand and loamy fine sand with minor strata of loam, sandy loam, and fine sandy loam. Natural plant cover on this soil is typically comprised of annual grasses and forbs with a few scattered oak trees. Gorgonio loamy sand is not listed as a hydric soil on the NRCS Hydric Soils.

Hilmar loamy sand. Hilmar loamy sand is the dominant mapped soil type associated with Portion B of the excavated drainage. Hilmar soils formed in alluvium derived largely from granitic rock sources. Usually, the sandy upper part of the profile are wind modified. Natural plant cover on this soil is typically comprised of annual grasses and salt grass; however, these soils are more often cultivated. Hilmar loamy sand is not listed as a hydric soil on the NRCS Hydric Soils.

Delhi fine sand. Delhi fine sand is the dominant mapped soil type within the two parcels. The Delhi series consists of very deep, somewhat excessively drained soils formed in wind modified alluvium derived from granitic rock sources on floodplains, alluvial fans and terraces. Natural plant cover on this soil is typically comprised of annual grasses and forbs with buckwheat (*Eriogonum*) and a few shrubs and trees. Delhi fine sand is not listed as a hydric soil on the NRCS Hydric Soils.

3.3.1 Field Observations

The soil matrix observed at SP1, SP2, and SP3 consisted of sandy clay with an overall (95%) color of dark greyish brown (10 YR 4/2) with redox concentrations of dark reddish brown (5YR 3/4) in the matrix within the first 12 inches of the soil profile. As such, hydric soils were identified at the project site at SP1, SP2, and SP3 due to the presence of Depleted Matrix (F3).



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USDA Soils Map

Figure 3

Soils appear very permeable and to only convey surface flows for short durations following storm events.

4.0 ASSESSMENT OF JURISDICTIONAL RESOURCES

The delineation of waters of the U.S. and state within the study area identified jurisdictional wetland waters, non-wetland waters and streambed / riparian habitats. Final jurisdictional determinations of the boundaries of waters and riparian habitats are made by each agency, typically at the time that authorizations to impact such features are requested. Table 1 summarizes the total area (acres) and linear length (feet) of each jurisdictional feature on-site.

Table 1: Resource Agency Jurisdiction Within the Study Area

Resource Agency	Approximate Acres (linear feet)
ACOE	
Wetland Waters	0.05
Non-wetland Waters	0.15
Total	0.20
CDFW and RWQCB	
Streambed (Non-Vegetated Channel)	0.41(1,413 lf)
Riparian Habitat	0.50 (542 lf)
Total	0.91 (1,955 linear feet)

4.1 ACOE JURISDICTION

As previously noted, one ephemeral drainage occurs within the project site. This drainage, which connects two off-site detention basins, is characterized as an excavated channel that most closely corresponds to a temporary flooded riverine system with an unconsolidated bottom as described by Cowardin et al. (1979). Based on field observations of OHWM and active floodplain indicators, as well as review of aerial photographs and other data sources, Portion A of the excavated channel is approximately 30 feet wide from top of bank to top of bank. The OHWM is approximately 4 feet wide. Portion B of the drainage consists of a 10–foot wide concrete lined channel, that lacks a clearly defined OHWM; however, the OHWM is presumed to be 4 feet given the immediate upstream conditions.

The field survey determined that approximately 0.20 acre of potential ACOE jurisdictional areas are associated with the drainage feature. Figure 4a depicts the location and boundaries of ACOE waters and wetlands within the study area. Of the 0.20 acre, 0.05 acre of the drainage exhibit three-parameter wetlands criteria with the remaining 0.15 acre lacking one or more of the parameters, particularly hydrophytic vegetation. Surface water is presumed to be present for brief periods during the wet season, but the water table appears to lie well below the soil

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Potential ACOE Jurisdictional Resources Figure 4a

surface for most of the growing season. Plants that grow both in uplands and wetlands are characteristic of this water regime.

4.1.1 Significant Nexus Evaluation

Jurisdictional waters must have a significant nexus connection to navigable or interstate waters. ACOE generally will not assert jurisdiction over drainage ditches that are excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water. Based on aerial review and field analysis, the drainage is seasonally flooded and terminates at the downstream off-site detention basin. Therefore, the drainage identified onsite would be defined as "intrastate isolated waters with no apparent interstate or foreign commerce connection." As such, these waters are not currently regulated by the ACOE under Section 404 of the Clean Water Act. Concurrence from ACOE through an Approved Jurisdictional Determination is recommended.

4.2 CDFW JURISDICTION

CDFW jurisdiction was delineated within the survey area based on the extent of a channel bed, active banks, and associated riparian vegetation of the drainage. Approximately 0.41 acre (1,413 linear feet) of streambed (non-vegetated floodplain or channel) and 0.50 acre (542 linear feet) of riparian habitat (0.16 acre of disturbed southern willow scrub and 0.35 acre disturbed mule fat scrub), occur within the study area. Figure 4b depicts the location and boundaries of CDFW streambed and associated riparian habitat within the study area.

As noted above, minimal flows occur through the study area, and given the minimal living vegetation within the drainage and that the drainage feature provides no connectivity to upstream and downstream wildlife resources, the site has low values associated with hydrologic, biogeochemical, or habitat function. As such, CDFW is not likely to issue a Streambed Alteration Agreement (SAA); nonetheless, under Section 1600 et seq. of the CFGC submittal of a Lake or Streambed Alteration (LSA) Notification Form should be completed prior to beginning any activity that will substantially modify the drainage feature.

4.3 RWQCB JURISDICTION

RWQCB takes jurisdiction of "waters of the State" as defined by Water Code Section 13050e as "any surface water or groundwater, including saline waters, within the boundaries of the state". As federal waters (ACOE jurisdiction) are not likely present on site, potential RWQCB jurisdiction (Waters of the State) were determined in accordance with the previously listed methodologies to identify CDFW jurisdictional features. Thus, pursuant to Porter-Cologne, approximately 0.91 acre of "waters of the State" occurs within the study area. Figure 4c depicts the location and boundaries of RWQCB Waters of the State within the study area. The determination of RWQCB jurisdiction will follow such methods until the State Water Resources Control Board's Wetland and Riparian Area Protection Policy is fully developed and officially implemented.

Pursuant to Porter-Cologne, certification of compliance with State water quality standards by the State Water Resources Control Board is required for any discharge of pollutants into waters

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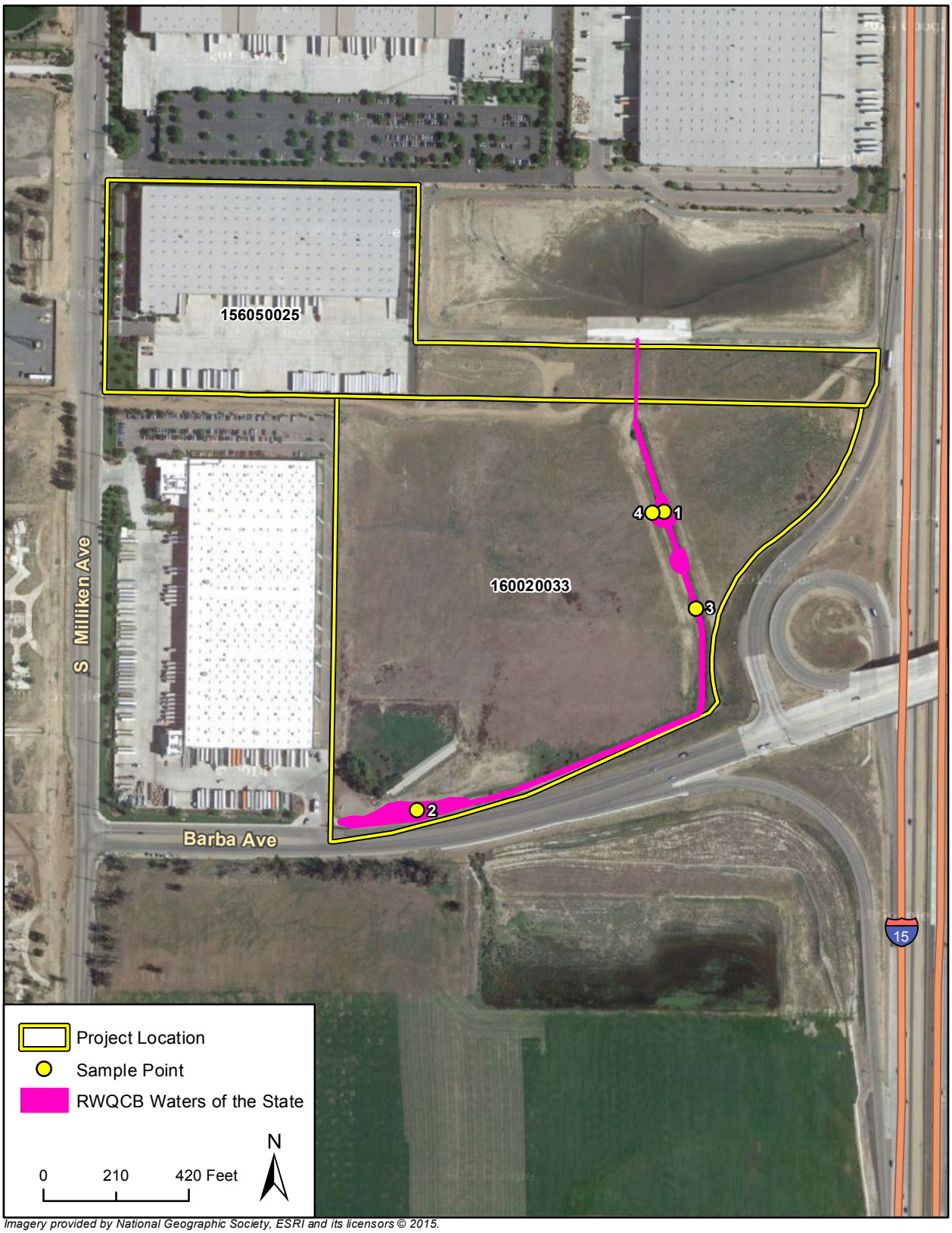
Potential CDFW Jurisdictional Resources Figure 4b



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Potential RWQCB Jurisdictional Resources Figure 4c

of the U.S.; therefore, development within RWQCB jurisdiction may require a Report of Waste Discharge (ROWD). Concurrence from the RWQCB is recommended.

5.0 LIMITATIONS, ASSUMPTIONS, AND USE RELIANCE

This Jurisdictional Delineation has been performed in accordance with professionally accepted jurisdictional investigation practices conducted at this time and in this geographic area. The jurisdictional investigation is limited by the scope of work performed. The jurisdictional survey is limited also by the environmental conditions present at the time of the survey. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional delineation, and specified historical and literature sources. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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Appendix A

Regulatory Overview and Definitions

ACOE JURISDICTION

Federal wetlands and other Waters of the U.S. have legal protection in accordance with Section 404 of the Clean Water Act (33 U.S.C. Section 1344). The United States Army Corps of Engineers (ACOE) generally requires the issuance of a permit, or coverage under an existing permit, for all actions that have the potential to degrade or modify these features.

WATERS OF THE U.S.

For purposes of the Clean Water Act, the ACOE defines "Waters of the United States" as:

- All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters, including interstate "wetlands";
- All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    - Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    - From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    - Which are used or could be used for industrial purposes by industries in interstate commerce;
- All impoundments of waters otherwise defined as waters of the United States under this definition;
- Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- The territorial sea; and
- Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the United States (40 CFR 122.2).

WETLANDS

Under Section 404 of the Clean Water Act, wetlands are defined as areas that are “inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (40 CFR 230.3 and CFR 328.3). As mentioned above, jurisdictional wetlands are a subset of Waters of the U.S., which include wetlands as defined above and areas subject to the ebb and flow of the tide and areas that are within the limits of ordinary high water. Although the term ordinary high water continues to be refined, it can be generally defined as the average annual level of high flows (not necessarily the highest flood level) within a system period over a 2-year return interval flow level.

The ACOE definition of wetlands utilizes the "three-parameter test" for permitting and planning purposes. These three parameters are hydrology, hydrophytic vegetation, and hydric soils as described below. Under this definition an area is considered a wetland only if all three conditions are present.

Hydrology

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Hydrophytic Vegetation

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USFWS published the National List of Plant Species That Occur In Wetlands (Lichvar, 2013), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- Obligate Wetland (OBL). Occur almost always (estimated probability >99%) under natural conditions in wetlands.
- Facultative Wetland (FACW). Usually occur in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.
- Facultative (FAC). Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
- Facultative Upland (FACU). Usually occur in non-wetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1%-33%).
- Obligate Upland (UPL). May occur in wetlands in another region, but occur almost always (estimated probability >99%) under natural conditions in non-wetlands in the region specified.

The ACOE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the ACOE list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5% vegetative cover to be considered as a vegetated wetland.

Hydric Soils

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, or saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying, which indicates reducing conditions by a blue-grey

color, or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

NON-JURISDICTIONAL AREAS

Areas not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds excavated on dry land used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water filled depressions (51 Fed. Reg. 41, 217 1986). In addition, a Supreme Court ruling (Solid Waste Agency of Northern Cook Counties [SWANCC] vs. ACOE, January 9, 2001) determined that the ACOE exceeded its statutory authority by asserting Clean Water Act jurisdiction over "an abandoned sand and gravel pit in northern Illinois, which provides habitat for migratory birds." Based solely on the use of such waters by migratory birds, the Supreme Court's holding was strictly limited to waters that are "non-navigable, isolated, and intrastate."

The Supreme Court further addressed the extent of the ACOE jurisdiction in Rapanos v. US (June 19, 2006). There, a sharply divided Court issued multiple opinions, none of which garnered the support of a majority of Justices. This created substantial uncertainty as to which jurisdictional test should be used. The Ninth Circuit Court of Appeal, which encompasses California, answered this in Northern California River Watch v. City of Healdsburg (August 11, 2006). There, the Court held that Justice Kennedy's opinion in Rapanos provides the controlling rule of law. Under that rule, wetlands or other waters which are not navigable in fact are subject to ACOE jurisdiction if they have a "significant nexus" to a navigable-in-fact waterway. As Justice Kennedy explained, whether a significant nexus exists in any given situation will have to be decided on a case-by-case basis, depending on site-specific circumstances.

ACOE Headquarters in Washington, D.C. issued substantive guidance on June 5, 2007, to its District Offices as to how to apply these rulings. Based on this guidance, additional quantitative, qualitative, and other physical data is required for the ACOE to make a determination of jurisdictional authority. This determination is reviewed by the United States Environmental Protection Agency (USEPA).

In accordance with the Rapanos guidance, the ACOE will assert jurisdiction over traditional navigable waters (TNWs), non-navigable tributaries of TNWs that are relatively permanent waters (RPWs), and wetlands that directly abut such tributaries. TNWs include all of the "navigable waters of the US," defined in 33 CFR Part 329 and by pertinent federal court decisions. RPWs convey water flow seasonally, typically for at least 3 months. In addition, non-navigable tributaries that are not relatively permanent (non-RPWs), wetlands adjacent to non-RPWs, and wetlands adjacent to but that do not directly abut a TNW will be found jurisdictional based on a fact-specific analysis that they have a significant nexus with a TNW. The significant nexus evaluation considers the volume, duration, and frequency of water flow in the tributary and the proximity of the tributary to a TNW, as well as the hydrologic, ecologic, and other functions performed by the tributary and all of its adjacent wetlands.

RWQCB JURISDICTION

The State Water Resources Control Board (SWRCB) and local Regional Water Quality Control Board (RWQCB) have jurisdiction over "waters of the State," which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. Section 401 of the Clean Water Act (33 U.S.C. Section 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the U.S. to obtain certification from the State in which the discharge originates. As a result, fill proposed to be deposited in waters and wetlands requires coordination with the appropriate RWQCB that administers Section 401 and provides certification. The RWQCB also plays a role in review of water quality and wetland issues, including avoidance and minimization of impacts. Section 401 certification is required prior to issuance of a Section 404 permit.

The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the ACOE to be Outside of Federal Jurisdiction). The local RWQCB enforces actions under this general order.

The Porter-Cologne Act provides the State with very broad authority to regulate "waters of the State" (which are defined as any surface water or groundwater, including saline waters). The Porter-Cologne Act has become an important tool in the post-SWANCC and Rapanos era with respect to the State's authority over isolated waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a "Report of Waste Discharge" (ROWD) when there is no federal nexus, such as under Section 404(b)(1) of the CWA. Although "waste" is partially defined as any waste substance associated with human habitation, the RWQCB interprets this to include fill discharge into water bodies.

It should be noted that the RWQCB shares ACOE jurisdiction unless isolated conditions are present. If isolated waters conditions are present, RWQCB takes jurisdiction of "waters of the State" as defined by Water Code Section 13050e as "any surface water or groundwater, including saline waters, within the boundaries of the state". As such, potential RWQCB jurisdiction (Waters of the State) would be determined in accordance with the below listed methodologies to identify CDFW jurisdictional features.

CDFW JURISDICTION

In addition to being responsible for the maintenance and protection of California's fish and wildlife, the Department of Fish and Wildlife (CDFW) has authorities under California's Public Resources Code, and the federal Fish and Wildlife Coordination Act to regulate or comment on activities in wetland and riparian areas. The CDFW also assumes primary responsibility for implementation of the California State Endangered Species Act, and the Streambed Alteration Agreement (Fish and Game Code Sections 1601–1603).

In conjunction with adopting a wetlands policy on March 9, 1987 the California Fish and Game Commission assigned the CDFW the task of recommending a wetlands definition. The DFG found the U.S. Fish and Wildlife Service (USFWS) wetland definition and classification system to be the most biologically valid. The DFG staff use this definition as a guide in identifying wetlands while conducting on-site inspections for the implementation of its Commission's wetlands policy. This definition states the following:

"Wetlands are lands transitional between terrestrial and an aquatic system where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports hydrophytes, (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year."

The USFWS definition includes, swamps; freshwater, brackish water, and saltwater marshes; bogs; vernal pools, periodically inundated saltflats; intertidal mudflats; wet meadows; wet pastures; springs and seeps; portions of lakes, ponds, rivers and streams; and all other areas which are periodically or permanently covered by shallow water, or dominated by hydrophytic vegetation, or in which the soils are predominantly hydric in nature.

Water features that are regulated by CDFW include those defined by USFWS as well as man-made watercourses with or without wetlands, if they contain a definable bed and bank and support a fish or wildlife resource. The CDFW's jurisdiction is defined as the top of the bank to the top of the bank of the stream, channel, or basin or to the outer limit of riparian vegetation located within or immediately adjacent to the river, stream, creek, pond, or lake or other impoundment, whichever is greater.

Appendix B

Site Photographs

Photograph 1. Portion A of drainage, facing downstream from culvert. Tumbleweed captured in channel. Willow trees in background.

Photograph 2. Culvert leading from northern off-site detention basin.

Photograph 3. Location of Sample Point 1 between *Salix lasiolepis* shrubland alliance and *Salix laevigata* woodland alliance.

Photograph 4. Portion A of drainage before it takes a 90º turn west.

Photograph 5. Location of Sample Point 2, within *Baccharis salicifolia* shrubland alliance facing east along Cantu-Galleano Ranch Road.

Appendix C

Wetland Determination and OHWM Data Forms – Arid West Region

WETLAND DETERMINATION DATA FORM - Arid West Region

Habitat Type: Southern Willow Scrub
Wetland Type: Palustrine System

Project/Site: Eastvale Industrial Development Project City/County: Eastvale Sampling Date: 3/27/15
Applicant/Owner: City of Eastvale State: CA Sampling Point: SP-01
Investigator(s): Jillian Moore and Dan Rosie Section, Township, Range: Township 2 South, Range 6 West, Section 18
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-1
Subregion (LRR): C - Mediterranean California Lat: 34.003568° Long: -117.552837° Datum: NAD 83
Soil Map Unit Name: Gorgonio loamy sand, deep, 2 to 8 percent slopes (G1C) NWI classification: PEMCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS

Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation? Yes ◉ No ○ Hydric Soil? Yes ◉ No ○ Wetland Hydrology? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

USACE JURISDICTION

Abutting Waters ☐ Adjacent to Waters ☐ Tributary to Waters ☒ Isolated (with interstate commerce) ☐ Isolated (non-jurisdictional) ☐

Remarks: Preceded by three years of drought with the Inland Empire rating varying between stage D2 (Severe drought) and stage D3 (Extreme drought), as defined by the NOAA's Drought Monitor.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix gooddingii*	45	Yes	FACW
2. *Salix lasiolepis*	50	Yes	FACW
3.			
4.			
50%= _____ 20%= _____ Total Cover:	95 %		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
50%= _____ 20%= _____ Total Cover:	%		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50%= _____ 20%= _____ Total Cover:	%		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
50%= _____ 20%= _____ Total Cover:	%		

% Bare Ground in Herb Stratum 5 % % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	95	x 2 =	190
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	95 (A)		190 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: Data point located within a excavated drainage between a small stand of willow trees that is filled with tumble weed.

SOIL

Sampling Point: SP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	95	5YR 3/4	5	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present. unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks: Soils appear very permeable and to only convey surface flows for short durations following storm events.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☒ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Excavated channel approximately 30 feet wide, with active stream channel/bankfull stage approximately 12 feet wide and OHWM approximately 4 feet wide.

WETLAND DETERMINATION DATA FORM - Arid West Region

Habitat Type: Mulefat Scrub
Wetland Type: Palustrine System

Project/Site: Eastvale Industrial Development Project City/County: Eastvale Sampling Date: 3/27/15
Applicant/Owner: City of Eastvale State: CA Sampling Point: SP-02
Investigator(s): Jillian Moore and Dan Rosie Section, Township, Range: Township 2 South, Range 6 West, Section 18
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-1
Subregion (LRR): C - Mediterranean California Lat: 34.001132° Long: -117.554965° Datum: NAD 83
Soil Map Unit Name: Hilmar loamy sand, 0 to 2 percent slopes, eroded (HhA2) NWI classification: PEMCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)
Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS

Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation? Yes ◉ No ◯ Hydric Soil? Yes ◉ No ◯ Wetland Hydrology? Yes ◉ No ◯

Is the Sampled Area within a Wetland? Yes ◉ No ◯

USACE JURISDICTION

Abutting Waters ☐ Adjacent to Waters ☐ Tributary to Waters ☒ Isolated (with interstate commerce) ☐ Isolated (non-jurisdictional) ☐

Remarks: Preceded by three years of drought with the Inland Empire rating varying between stage D2 (Severe drought) and stage D3 (Extreme drought), as defined by the NOAA's Drought Monitor.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix gooddingii*	25	Yes	FACW
2. *Baccharis salicifolia*	75	Yes	FAC
3.			
4.			
50%= _____ 20%= _____ Total Cover:	100%		
Sapling/Shrub Stratum (Plot size: _____)			
1. *Baccharis salicifolia*	85	Yes	FAC
2.			
3.			
4.			
5.			
50%= _____ 20%= _____ Total Cover:	85 %		
Herb Stratum (Plot size: _____)			
1. *Malva parviflora*	5	No	Not Listed
2. *Cynodon dactylon*	5	No	FACU
3. *Bromus diandrus*	10	Yes	Not Listed
4. *Hirschfeldia incana*	10	Yes	Not Listed
5.			
6.			
7.			
8.			
50%= _____ 20%= _____ Total Cover:	30 %		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
50%= _____ 20%= _____ Total Cover:	%		

% Bare Ground in Herb Stratum 40 % % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	25	x 2 =	50
FAC species	160	x 3 =	480
FACU species	5	x 4 =	20
UPL species	25	x 5 =	125
Column Totals:	215 (A)		675 (B)

Prevalence Index = B/A = 3.14

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ◯

Remarks:

SOIL

Sampling Point: SP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	95	5YR 3/4	5	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present. unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks: Soils appear very permeable and to only convey surface flows for short durations following storm events.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☒ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: OHWM approximately 4 feet wide.

WETLAND DETERMINATION DATA FORM - Arid West Region

Habitat Type: Unvegetated Channel
Wetland Type: Palustrine System

Project/Site: Eastvale Industrial Development Project City/County: Eastvale Sampling Date: 3/27/15
Applicant/Owner: City of Eastvale State: CA Sampling Point: SP-03
Investigator(s): Jillian Moore and Dan Rosie Section, Township, Range: Township 2 South, Range 6 West, Section 18
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-1
Subregion (LRR): C - Mediterranean California Lat: 34.002707° Long: -117.552469° Datum: NAD 83
Soil Map Unit Name: Gorgonio loamy sand, deep, 2 to 8 percent slopes (G1C) NWI classification: PEMCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS

Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation? Yes ◯ No ◉ Hydric Soil? Yes ◉ No ◯ Wetland Hydrology? Yes ◉ No ◯

Is the Sampled Area within a Wetland? Yes ◯ No ◉

USACE JURISDICTION

Abutting Waters ☐ Adjacent to Waters ☐ Tributary to Waters ☒ Isolated (with interstate commerce) ☐ Isolated (non-jurisdictional) ☐

Remarks: Preceded by three years of drought with the Inland Empire rating varying between stage D2 (Severe drought) and stage D3 (Extreme drought), as defined by the NOAA's Drought Monitor.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50%= _____ 20%= _____ Total Cover: %			
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
50%= _____ 20%= _____ Total Cover: %			
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50%= _____ 20%= _____ Total Cover: %			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
50%= _____ 20%= _____ Total Cover: %			

% Bare Ground in Herb Stratum 100 % % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	(A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks: Data point located within unvegetated portion of excavated drainage.

SOIL

Sampling Point: SP-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	95	5YR 3/4	5	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present. unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks: Soils appear very permeable and to only convey surface flows for short durations following storm events.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☒ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Excavated channel approximately 30 feet wide, with an OHWM approximately 4 feet wide.

WETLAND DETERMINATION DATA FORM - Arid West Region

Habitat Type: Disturbed

Wetland Type:

Project/Site: Eastvale Industrial Development Project City/County: Eastvale Sampling Date: 3/27/15

Applicant/Owner: City of Eastvale State: CA Sampling Point: SP-4

Investigator(s): Jillian Moore and Dan Rosie Section, Township, Range: Township 2 South, Range 6 West, Section 18

Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-1

Subregion (LRR): C - Mediterranean California Lat: 34.00352° Long: -117.553° Datum: NAD 83

Soil Map Unit Name: Gorgonio loamy sand, deep, 2 to 8 percent slopes (G1C) NWI classification: PEMCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS

Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation? Yes ◯ No ◉ Hydric Soil? Yes ◯ No ◉ Wetland Hydrology? Yes ◉ No ◯

Is the Sampled Area within a Wetland? Yes ◉ No ◯

USACE JURISDICTION

Abutting Waters ☐ Adjacent to Waters ☐ Tributary to Waters ☒ Isolated (with interstate commerce) ☐ Isolated (non-jurisdictional) ☐

Remarks: Preceded by three years of drought with the Inland Empire rating varying between stage D2 (Severe drought) and stage D3 (Extreme drought), as defined by the NOAA's Drought Monitor.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50%= 20%= Total Cover: %			
Sapling/Shrub Stratum (Plot size:)			
1. *Sisymbrium irio*	10	Yes	UPL
2. *Verbesina encelioides*	75	Yes	UPL
3. *Hirschfeldia incana*	5		UPL
4. *Salsola tragus*	10	Yes	UPL
5.			
50%= 20%= Total Cover: 100 %			
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50%= 20%= Total Cover: %			
Woody Vine Stratum (Plot size:)			
1.			
2.			
50%= 20%= Total Cover: %			

% Bare Ground in Herb Stratum 5 % % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks: Paired upland data point for SP1A. Taken above OHMW.

SOIL

Sampling Point: SP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 6/2	75					Sand	sand mix with other color matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present. unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project/Site: Eastvale Industrial Development Project City/County: Eastvale Date: 3/27/15 Time: 0930
Applicant/Owner: City of Eastvale State: CA Data Point: 1
Investigator(s): Jillian Moore and Dan Rosie NWI Classification: Palustrine System
Photo File Numbers _____ Projection Coordinates: 34.003568°, -117.552837° Datum: NAD 83
Stream _____
Are climatic/hydrologic conditions on the site typical for this time of year? yes *(If no, explain in remarks.)*
Do normal conditions exist on the site? yes Is the site significantly disturbed? no

Potential anthropogenic influences on the channel system

Channel is an excavated drainage

Brief Site Description

At an elevation range of approximately 730 to 740 feet above mean sea level, the topography of the project site is characterized by relatively flat fallow agricultural fields.

USACE Jurisdiction

Tributary to waters (Y/N) N Stream Order _____

Checklist of Resources (if available)

✓ Aerial photography
Dates: google 2015
✓ Topographic maps
Scale:
___ Geologic maps
✓ Vegetation maps
✓ Soils maps
✓ Rainfall/precipitation maps
___ Existing delineations(s) for the site
✓ Global positioning system (GPS)
___ Other studies

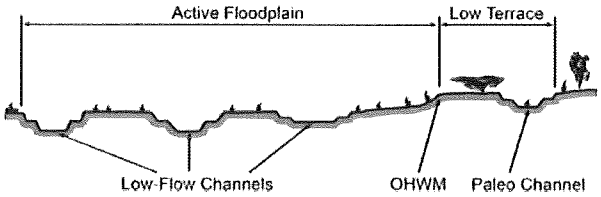
___ Stream gage data
Gage number:
Period of record:
___ Clinometer/level
___ History of recent effective discharges
___ Results of flood frequency analysis
___ Most recent shift-adjusted rating
___ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a. Record the floodplain unit and GPS position.
   b. Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c. Identify any indicators present at the location
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:

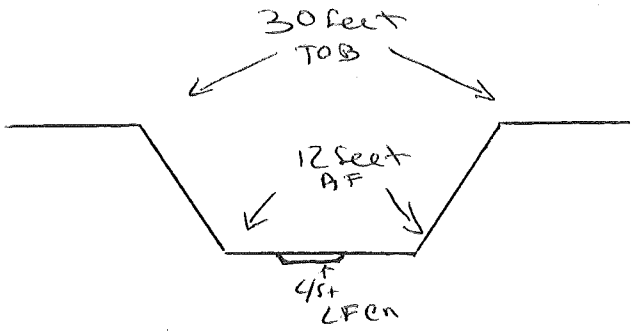
✓ Mapping on aerial photograph ✓ GPS
___ Digitized on computer ___ Other:

Hydrogeomorphic Floodplain Units



Millimeters (mm)		Inches (in)		Wentworth size class	
	10.08		256	Boulder	
	2.56		64	Cobble	Gravel
	0.157		4	Pebble	
	0.079		2.00	Granule	
	0.039		1.00	Very coarse sand	
	0.020		0.50	Coarse sand	
1/2	0.0098		0.25	Medium sand	Sand
1/4	0.005		0.125	Fine sand	
1/8	0.0025		0.0625	Very fine sand	
1/16	0.0012		0.031	Coarse silt	
1/32	0.00061		0.0156	Medium silt	Silt
1/64	0.00031		0.0078	Fine silt	
1/128	0.00015		0.0039	Very fine silt	
				Clay	Mud

Cross section drawing



Arid West Ephemeral and Intermittent Streams OHWM Datasheet

OHWM

GPS Point:_____

Indicators:

___Change in average sediment texture
✓Change in vegetation species
✓Change in vegetation Cover
✓Break in bank slope
___Other:_____
___Other:_____

Comments:

Floodplain Unit ✓Low-Flow Channel ___Active Floodplain ___Low Terrace

GPS point:_____

Characteristics of the floodplain unit:

Average sediment texture: Sandy Clay
Total veg cover: 80 % Tree:____% Shrub:____% Herb:____%
Community successional stage:
✓NA ___Mid (herbaceous, shrubs, saplings)
___Early (herbaceous & seedlings) ___Late (herbaceous, shrubs, mature trees)

Indicators:

___Mudcracks ___Benches ___Other:_____
___Ripples ✓Soil Development ___Other:_____
___Drift and/or debris ✓Surface relief ___Other:_____
___Presence of bed and bank

Comments:

Floodplain Unit ___Low-Flow Channel ✓Active Floodplain ___Low Terrace

GPS point:_____

Characteristics of the floodplain unit:

Average sediment texture: Sandy clay
Total veg cover: 95 % Tree: 80 % Shrub:____% Herb:____%
Community successional stage:
___NA ___Mid (herbaceous, shrubs, saplings)
___Early (herbaceous & seedlings) ✓Late (herbaceous, shrubs, mature trees)

Indicators:

___Mudcracks ✓Benches ___Other:_____
___Ripples ___Soil Development ___Other:_____
___Drift and/or debris ✓Surface relief ___Other:_____
___Presence of bed and bank

Comments:

Floodplain Unit ___Low-Flow Channel ___Active Floodplain ✓Low Terrace

GPS point: Sandy

Characteristics of the floodplain unit:

Average sediment texture: Sandy
Total veg cover:____% Tree:____% Shrub:____% Herb: 100 %
Community successional stage:
___NA ✓Mid (herbaceous, shrubs, saplings)
___Early (herbaceous & seedlings) ___Late (herbaceous, shrubs, mature trees)

Indicators:

___Mudcracks ___Benches ___Other:_____
___Ripples ___Soil Development ___Other:_____
___Drift and/or debris ___Surface relief ___Other:_____
___Presence of bed and bank

Comments:

Appendix E

Cultural Resources Report

City of Eastvale

Eastvale Industrial Development Project

Phase I Cultural Resources Study

U.S.G.S. *Guasti and Corona North* quadrangle

Prepared for:
City of Eastvale
12363 Limonite Avenue, Suite 910
Eastvale, California 91752

Prepared by:
Rincon Consultants
5005 La Mart Drive, Suite 201
Riverside, CA 92507

Authors: Breana Campbell, B.A., Christopher Duran, M.A., RPA, and Kevin Hunt, B.A.

June 10, 2015

Keywords: Corona and North Guasti, CA quadrangle; Riverside County; intensive pedestrian survey; 28.5 Acres literature search; APN 160-020-025; APN 160-020-033; negative results

Environmental Scientists Planners Engineers

Campbell, B., C. Duran, and K. Hunt
2015 *Phase I Cultural Resources Study for the Eastvale Industrial Development Project, Eastvale, Riverside County, California*. Rincon Consultants Project No. 14-01130 Report on file at the Eastern Information Center, Riverside, California.

Eastvale Industrial Development Project

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Appendix A Records Search Summary

Appendix B Native American Correspondence

EXECUTIVE SUMMARY

The City of Eastvale retained Rincon Consultants, Inc. to conduct a cultural resources study for the Eastvale Industrial Development Project located within the city of Eastvale, Riverside County, California. The proposed project is subject to the California Environmental Quality Act. This cultural resources study includes a records search, Native American consultation, an intensive pedestrian survey of the project site, and preparation of this report.

No cultural resources were identified within the project site as a result of the records search, Native American scoping, and pedestrian survey. Based on these results, no further cultural resources work is recommended for the proposed project. The following measures are recommended in the case of unanticipated discoveries.

UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's *Professional Qualifications Standards* for archaeology (National Park Service [NPS] 1983) must be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation may be warranted.

UNANTICIPATED DISCOVERY OF HUMAN REMAINS

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the county coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

1.0 INTRODUCTION

The City of Eastvale retained Rincon Consultants, Inc. (Rincon) to conduct a cultural resources study for the Eastvale Industrial Development Project located within the City of Eastvale, Riverside County, California. The proposed project is subject to the California Environmental Quality Act (CEQA) statutes and guidelines. This cultural resources study includes a records search, Native American consultation, an intensive pedestrian survey of the project site, and preparation of this report.

1.1 PROJECT DESCRIPTION

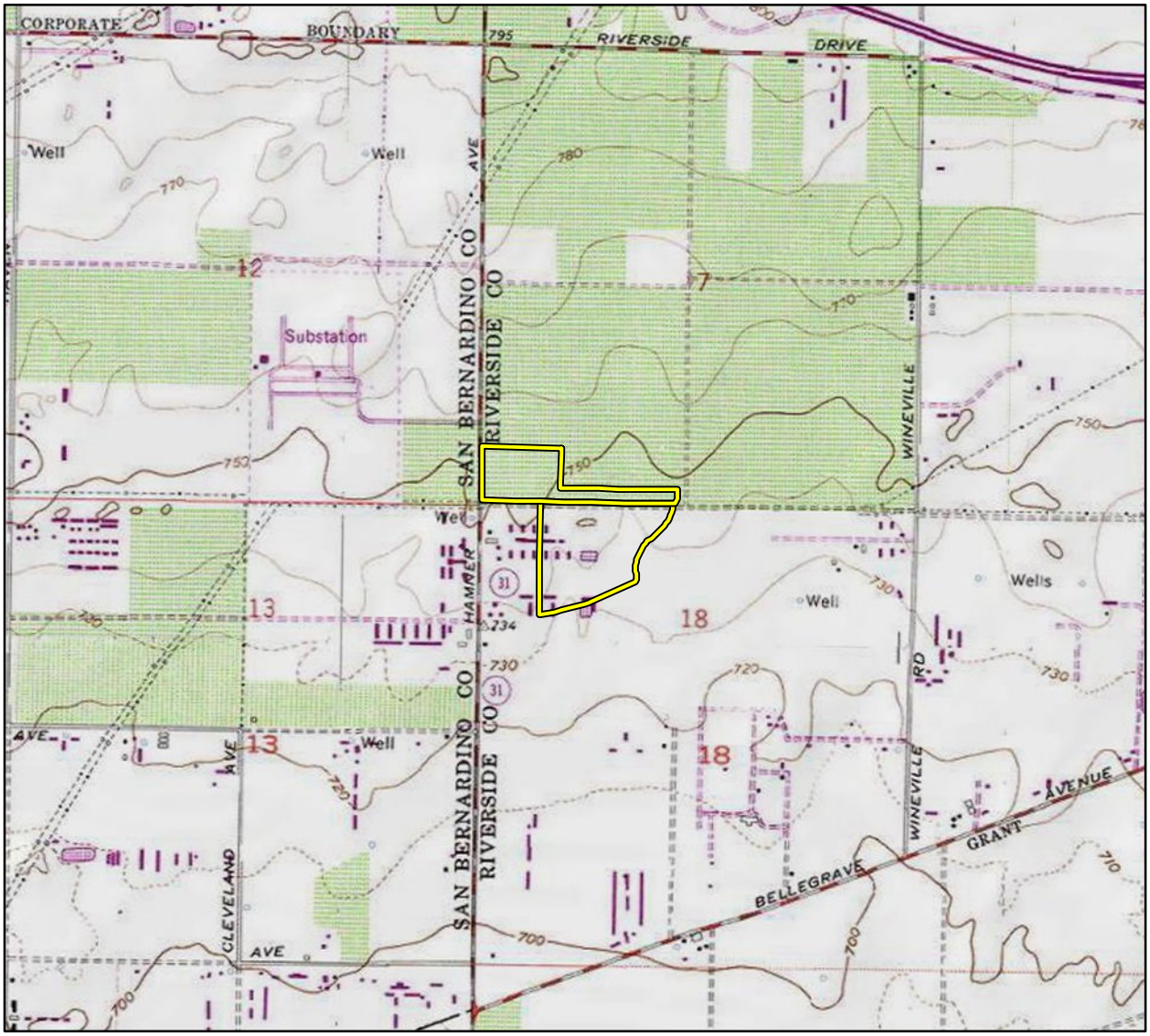
The proposed project is located in the City of Eastvale and is located generally northwest of the Interstate 15 and Cantu-Galleano Ranch Road. The project site includes 28.5 acres. The site is depicted on the Guasti and North Corona, United States Geological Survey (USGS) 7.5-minute topographic map, within Section 7 and 18, Township 2 South, Range 6 West. Land use immediately adjacent to the project site includes vacant land and industrial buildings.

The Eastvale Industrial Development Project includes Accessor Parcel Numbers (APN) 160-020-033 (approximately 23.5 acres) and 156-050-025 (approximately 5.3 acres). Improvements include the construction of a new 446,173-square-foot building on APN 160-020-033 located northwest of Interstate 15 and Cantu-Galleano Ranch Road. An existing building on APN 156-050-025 will be used for overflow truck parking and also for secondary access to the new building via easements. The project also involves the relocation of an existing Riverside County Flood Control District (RCFCD) open channel into a storm drain pipe. Additionally, off-site grading, and landscaping within Caltrans right-of-way as well as the adjacent property to accommodate shared access to Cantu-Galleano Ranch Road.

1.2 REGULATORY SETTING

1.2.1 State

CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1). A *historical resource* is a resource listed in, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be *historically significant* (State CEQA Guidelines, Section 15064.5[a][1-3]).



Imagery provided by National Geographic Society, ESRI and its licensors © 2015. Guasti Quadrangle. T2S R6W S7&18. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

Project Boundary

0 1,000 2,000
Feet
1:24,000

N

Project Location Map

Figure 1

A resource shall be considered *historically significant* if it meets any of the following criteria:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2) Is associated with the lives of persons important in our past;
3) 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
4) Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project will cause damage to a *unique archaeological resource*, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC, Section 21083.2[a], [b], and PRC, Section 21083.2(g) defines a *unique archaeological resource* as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2) Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

1.3 PERSONNEL

Rincon archaeologist Breana Campbell conducted the records search at the Eastern Information Center (EIC) and the San Bernardino Archaeological Information Center (AIC), conducted Native American consultation, and served as primary author of this report. Rincon Archaeologists Breana Campbell and Hannah Hass conducted the pedestrian survey. Rincon Cultural Resources Principal Investigator Christopher Duran, M.A., Registered Professional Archaeologist (RPA), served as principal investigator for the study. Mr. Duran meets the Secretary of the Interior's *Professional Qualification Standards* for prehistoric and historic archaeology (NPS 1983). Rincon Cultural Resources Program Manager Kevin Hunt, B.A., managed this cultural resources study, co-authored this report, and provided program-level oversight. Rincon GIS Analyst Katherine Warner prepared the figures found in the report. Rincon Vice President Duane Vander Pluym, D. Env., reviewed this report for quality control.

2.0 ENVIRONMENTAL SETTING

The project site is located within the corporate limits of the city of Eastvale at an approximate elevation of 191 meters (627 feet) above mean sea level. The project is located generally northwest of Interstate 15 and consists of mostly vacant land with some industrial development. The project site is primarily agricultural fields with alfalfa and wheat present.

3.0 CULTURAL SETTING

3.1 PREHISTORY

During the twentieth century, many archaeologists developed chronological sequences to explain prehistoric cultural changes within all or portions of southern California (c.f., Jones and Klar 2007; Moratto 1984). Wallace (1955, 1978) devised a prehistoric chronology for the southern California coastal region based on early studies and focused on data synthesis that included four horizons: Early Man, Milling Stone, Intermediate, and Late Prehistoric. Though initially lacking the chronological precision of absolute dates (Moratto 1984:159), Wallace's (1955) synthesis has been modified and improved using thousands of radiocarbon dates obtained by southern California researchers over recent decades (Byrd and Raab 2007:217; Koerper and Drover 1983; Koerper et al. 2002; Mason and Peterson 1994). The prehistoric chronological sequence for southern California presented below is a composite based on Wallace (1955) and Warren (1968) as well as later studies, including Koerper and Drover (1983).

3.1.1 Early Man Horizon (ca. 10,000 – 6,000 B.C.)

Numerous pre-8000 B.C. sites have been identified along the mainland coast and Channel Islands of southern California (c.f., Erlandson 1991; Johnson et al. 2002; Jones and Klar 2007; Moratto 1984; Rick et al. 2001:609). The Arlington Springs site on Santa Rosa Island produced human femurs dated to approximately 13,000 years ago (Arnold et al. 2004; Johnson et al. 2002). On nearby San Miguel Island, human occupation at Daisy Cave (SMI-261) has been dated to nearly 13,000 years ago and included basketry greater than 12,000 years old, the earliest on the Pacific Coast (Arnold et al. 2004).

Although few Clovis or Folsom style fluted points have been found in southern California (e.g., Dillon 2002; Erlandson et al. 1987), Early Man Horizon sites are generally associated with a greater emphasis on hunting than later horizons. Recent data indicate that the Early Man economy was a diverse mixture of hunting and gathering, including a significant focus on aquatic resources in coastal areas (e.g., Jones et al. 2002) and on inland Pleistocene lakeshores (Moratto 1984). A warm and dry 3,000-year period called the Altithermal began around 6000 B.C. The conditions of the Altithermal are likely responsible for the change in human subsistence patterns at this time, including a greater emphasis on plant foods and small game.

3.1.2 Milling Stone Horizon (6000–3000 B.C.)

Wallace (1955:219) defined the Milling Stone Horizon as "marked by extensive use of milling stones and mullers, a general lack of well-made projectile points, and burials with rock cairns." The dominance of such artifact types indicate a subsistence strategy oriented around collecting plant foods and small animals. A broad spectrum of food resources were consumed including small and large terrestrial mammals, sea mammals, birds, shellfish and other littoral and estuarine species, near-shore fishes, yucca, agave, and seeds and other plant products (Kowta 1969; Reinman 1964). Variability in artifact collections over time and from the coast to inland sites indicates that Milling Stone Horizon subsistence strategies adapted to environmental conditions (Byrd and Raab 2007:220). Lithic artifacts associated with Milling Stone Horizon sites are dominated by locally available tool stone and in addition to ground stone tools, such as manos and metates, chopping, scraping, and cutting tools, are very common. Kowta (1969) attributes the presence of numerous scraper-plane tools in Milling Stone Horizon collections to the processing of agave or yucca for food or fiber. The mortar and pestle, associated with acorns or other foods processed through pounding, were first used during the Milling Stone Horizon and increased dramatically in later periods (Wallace 1955, 1978; Warren 1968).

Two types of artifacts that are considered diagnostic of the Milling Stone period are the cogged stone and discoidal, most of which have been found within sites dating between 4,000 and 1,000 B.C. (Moratto 1984:149), though possibly as far back as 5,500 B.C. (Couch et al. 2009). The cogged stone is a ground stone object that has gear-like teeth on the perimeter and is produced from a variety of materials. The function of cogged stones is unknown, but many scholars have postulated ritualistic or ceremonial uses (c.f., Dixon 1968:64-65; Eberhart 1961:367) based on the materials used and their location near to burials and other established ceremonial artifacts as compared to typical habitation debris. Similar to cogged stones, discoidals are found in the archaeological record subsequent to the introduction of the cogged stone. Cogged stones and discoidals were often purposefully buried, or "cached." They are most common in sites along the coastal drainages from southern Ventura County southward and are particularly abundant at some Orange County sites, although a few specimens have been found inland as far east as Cajon Pass (Dixon 1968:63; Moratto 1984:149). Discoidals and cogged stones have been found together at some Orange County sites, such as CA-ORA-83/86/144 (Van Bueren et al. 1989:772) and Los Cerritos Ranch (Dixon 1975). Cogged stones have been collected in Riverside County and their distribution appears to center on the Santa Ana River basin (Eberhart 1961).

3.1.3 Intermediate Horizon (3,000 B.C. – A.D. 500)

Wallace's Intermediate Horizon dates from approximately 3,000 B.C. - A.D. 500 and is characterized by a shift toward a hunting and maritime subsistence strategy, as well as greater use of plant foods. During the Intermediate Horizon, a noticeable trend occurred toward greater adaptation to local resources including a broad variety of fish, land mammal, and sea mammal remains along the coast. Tool kits for hunting, fishing, and processing food and materials reflect this increased diversity, with flake scrapers, drills, various projectile points, and shell fishhooks being manufactured.

Mortars and pestles became more common during this transitional period, gradually replacing manos and metates as the dominant milling equipment. Many archaeologists believe this change in milling stones signals a change from the processing and consuming of hard seed resources to the increasing reliance on acorn (e.g., Glassow et al. 1988; True 1993). Mortuary practices during the Intermediate typically included fully flexed burials oriented toward the north or west (Warren 1968:2-3).

3.1.4 Late Prehistoric Horizon (A.D. 500–Historic Contact)

During Wallace's (1955, 1978) Late Prehistoric Horizon the diversity of plant food resources and land and sea mammal hunting increased even further than during the Intermediate Horizon. More classes of artifacts were observed during this period and high quality exotic lithic materials were used for small finely worked projectile points associated with the bow and arrow. Steatite containers were made for cooking and storage and an increased use of asphalt for waterproofing is noted. More artistic artifacts were recovered from Late Prehistoric sites and cremation became a common mortuary custom. Larger, more permanent villages supported an increased population size and social structure (Wallace 1955:223).

Warren (1968) attributes this dramatic change in material culture, burial practices, and subsistence focus to the westward migration of desert people he called the Takic, or Numic, Tradition in Los Angeles, Orange, and western Riverside counties. This Takic Tradition was formerly referred to as the "Shoshonean wedge" (Warren 1968), but this nomenclature is no longer used to avoid confusion with ethnohistoric and modern Shoshonean groups (Heizer 1978:5; Shipley 1978:88, 90). Modern Gabrielino/Tongva in western Riverside County are generally considered by archaeologists to be descendants of these prehistoric Uto-Aztecan, Takic-speaking populations that settled along the California coast during the Late Prehistoric Horizon.

3.2 ETHNOGRAPHIC OVERVIEW

The project is located within the Gabrielino/Tongva ethnographic territory (Bean and Smith 1978:538; Kroeber 1925: Plate 57). Adjacent native groups include the Chumash and Tataviam/Alliklik to the north, Serrano and Cahuilla to the east, and Juaneño to the south. The project area is specifically located within the southeastern corner of Gabrielino ethnographic territory near the contact zones with Cahuilla to the east, Serrano to the north, and Juaneño to the south (Bean and Smith 1978:538; Kroeber 1925:636). Archaeological, linguistic, and genetic evidence documents interaction between the Gabrielino and their neighbors in the form of intermarriage and trade. The term "Gabrielino" denotes those people who were administered by the Spanish at Mission San Gabriel, which included people from the traditional Gabrielino territory as well as other nearby groups (Bean and Smith 1978; Kroeber 1925). Many modern Gabrielino identify themselves as descendants of the indigenous people who lived within the Los Angeles Basin and refer to themselves as Tongva (King 1994:12). This term is used in the remainder of this section to refer to the contact period indigenous inhabitants of the Los Angeles Basin and their descendants. Tongva lands encompassed the greater Los Angeles Basin and three Channel Islands: San Clemente, San Nicolas, and Santa Catalina (Bean and Smith 1978:538; Kroeber 1925:636).

The Tongva language belongs to the Takic branch of the Uto-Aztecan language family, which can be traced to the Great Basin region (Mithun 2004). This language family includes dialects spoken by the nearby Juaneño and Luiseño but is considerably different from those of the Chumash people living to the north and the Diegueño (including Ipai, Tipai, and Kumeyaay) people living to the south of the Tongva, Juaneño, and Luiseño. Tongva society was organized along patrilineal non-localized clans, a common Takic pattern. Each clan had a ceremonial leader and contained several lineages.

The Tongva established large permanent villages and smaller satellite camps in locations from the San Gabriel Mountains to the southern Channel Islands. Recent ethnohistoric work (O'Neil 2002) suggests a total tribal population of nearly 10,000, which is about twice that of earlier estimates of around 5,000 people (Bean and Smith 1978:540). The Riverside area was home to one recorded Tongva village during the late eighteenth century: Hurumpa or Jurupa (Kroeber 1925: Plate 57).

Tongva subsistence was oriented around acorns supplemented by the roots, leaves, seeds, and fruits of a wide variety of plants. Meat sources included large and small mammals, freshwater and saltwater fish, shellfish, birds, reptiles, and insects (Bean and Smith 1978; Langenwalter et al. 2001; Kroeber 1925; McCawley 1996). The Tongva employed a wide variety of tools and implements to gather and hunt food. The digging stick, used to extract roots and tubers, was frequently noted by early European explorers (Rawls 1984). Other tools included the bow and arrow, traps, nets, blinds, throwing sticks and slings, spears, harpoons, and hooks. Like the Chumash, the Tongva made oceangoing plank canoes (known as a ti'at) capable of holding six to 14 people and used for fishing, travel, and trade between the mainland and the Channel Islands. Tule reed canoes were employed for near-shore fishing (Blackburn 1963; McCawley 1996:117-127).

Chinigchinich, the last in a series of heroic mythological figures, was central to Tongva religious life at the time of Spanish contact (Kroeber 1925:637–638). The religion was spreading south among other Takic-speaking groups at the same time the Spanish were establishing Christian missions. Elements of Chinigchinich suggest it was a syncretic mixture of native and Christian belief and practices (McCawley 1996:143-144).

Prior to European contact and subsequent assimilation, the Tongva practiced burial and cremation. Burial was more common on the Channel Islands and the adjacent mainland coast, while cremation was practiced primarily in the interior (Harrington 1942; McCawley 1996:157). After pressure from Spanish missionaries, cremation essentially ceased during the post-Contact period (McCawley 1996:157).

3.3 HISTORIC OVERVIEW

Post-European contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848–present).

3.3.1 Spanish Period (1769–1822)

Spanish exploration of what was then known as Alta (upper) California began when Juan Rodriguez Cabrillo led the first European expedition into the region in 1542. For more than 200 years after his initial expedition, Spanish, Portuguese, British, and Russian explorers sailed the Alta California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003). Spanish entry into what was to become Riverside County did not occur until 1774 when Juan Bautista de Anza led an expedition from Sonora, Mexico to Monterey in northern California (Lech 1998).

In 1769, Gaspar de Portolá and Franciscan Father Junipero Serra established the first Spanish settlement at Mission San Diego de Alcalá. This was the first of 21 missions erected by the Spanish between 1769 and 1823. The establishment of the missions marks the first sustained occupation of Alta California by the Spanish. In addition to the missions four presidios and three pueblos (towns) were established throughout the state (State Lands Commission 1982).

During this period, Spain also deeded ranchos to prominent citizens and soldiers, though very few in comparison to the subsequent Mexican Period. To manage and expand their herds of cattle on these large ranchos, colonists enlisted the labor of the surrounding Native American population (Engelhardt 1927a). The missions were responsible for administrating to the local Indians as well as converting the population to Christianity (Engelhardt 1927b). The influx of European settlers brought the local Native American population in contact with European diseases which they had no immunity against, resulting in catastrophic reduction in native populations throughout the state (McCawley 1996).

3.3.2 Mexican Period (1822–1848)

The Mexican Period commenced when news of the success of the Mexican War of Independence (1810-1821) reached California in 1822. This period saw the federalization of mission lands in California with the passage of the Secularization Act of 1833. This Act enabled Mexican governors in California to distribute former mission lands to individuals in the form of land grants. Successive Mexican governors made more than 700 land grants between 1822 and 1846, putting most of the state's lands into private ownership for the first time (Shumway 2007). About 15 land grants (ranchos) were located in Riverside County. Rancho Jurupa (1838) and Rancho El Rincon (1839) land grants were settled by Juan Bandini, the first European to own land in what is now Eastvale. He called his two land grants Rancho San Juan del Río.

3.3.3 American Period (1848–Present)

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico $15 million for ceded territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming, and pay an additional $3.25 million to settle American citizens claims against Mexico. Settlement of southern California continued dramatically in the early American Period. Many ranchos in the county were sold or otherwise acquired by Americans, and most were subdivided into agricultural parcels or towns.

The discovery of gold in northern California in 1848 led to the California Gold Rush, despite the first California gold being previously discovered in southern California at Placerita Canyon in 1842 (Guinn 1977; Workman 1935:26). Southern California remained dominated by cattle ranches in the early American period, though droughts and increasing population resulted in farming and more urban professions supplanting ranching through the late nineteenth century. In 1850, California was admitted into the United States and by 1853, the population of California exceeded 300,000. Thousands of settlers and immigrants continued to move into the state, particularly after completion of the transcontinental railroad in 1869.

3.3.4 Local

The Eastvale region has historical ties to the farming and dairy industry that flourished in the region for over 175 years. In 1893 Riverside County was created and in the first meeting minutes for the Riverside County Board of Commission, "East Vale" was listed as one of 53 school districts and is the likely origin for the Eastvale name. For nearly 65 years the Fuller family owned almost half of present-day Eastvale (Meissner and Johnson 2013). The area was settled by primarily Dutch and Portuguese families who owned and operated many of the agricultural and dairy farms that are iconic in this region. The Chino dairy area, of which present-day Eastvale was included, had over 400 dairies and thousands of cows (PMC 2012). Despite the development pressures in the region present-day Eastvale remained relatively rural with many dairy and agricultural farms well into the late 1990s. By the mid 2000s much the region had undergone extensive development. In the spring of 2007, a community was tasked with exploring the potential for Eastvale to gain cityhood. On Octobe 1, 2010 Eastvale became an incorporated city in Riverside County (Meissner and Johnson 2013).

4.0 BACKGROUND RESEARCH

4.1 CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

Rincon archaeologist Breana Campbell conducted a search of cultural resource records housed at the California Historical Resources Information System (CHRIS), Eastern Information Center EIC located at the University of California, Riverside and the San Bernardino Archaeological Information Center AIC located at the San Bernardino County Museum on March 13, 2015. Since the project lies adjacent to the Riverside and San Bernardino County line, it was necessary to conduct record searches at two information centers. The search was conducted to identify all previous cultural resources work and previously recorded cultural resources within a 0.5-mile radius of the project site. The CHRIS search included a review of the National Register of Historic Places (NRHP), the CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Historic Resources Inventory list. The records search also included a review of all available historic USGS 7.5- and 15-minute quadrangle maps.

The EIC and AIC did not list any historic addresses within the project search radius. The 1954 Ontario, CA 15-minute topographic quadrangle, on file at the EIC, depicts the project site as undeveloped terrain.

4.1.1 Previous Studies

The EIC and AIC records search identified 28 previous studies within a 0.5-mile radius of the project site (Appendix A), three of which include the project site (RI-00184, RI-04172, RI-09255; Table 1). The National Archaeological Database listings for these studies are presented in Appendix A.

Table 1
Previously Studies Within a 0.50-Mile Radius of the Project Site

Report No.	Author	Year	Study	Proximity to Project Site
Eastern Information Center				
RI-00117	Wilke, Philip J. and Stephen Hammond	1973	LA Loma-Mira Loma Transmission Line: Expected Impact on Archaeological Values	Outside
RI-00172	Portillo, Garth	1975	Letter Report: 210 Acres by Etiwanda Avenue	Outside
RI-00175	Portillo, Garth	1975	Environmental Impact Evaluation: Archaeology of the Jurupa Community Services District Improvement District Nos. 2 and 3, UCRARU # 145	Outside
RI-00184	Bai, Tang, Michael Hogan, Josh Smallwood, and Terri Jacquemain	2003	Historical/Archaeological Resources Survey report, The Resort Specific Plan, Near the Unincorporated Community of Mira Loma, Riverside County, California	**Within**
RI-00262	Lipp, Don	1977	An Archaeological Evaluation of Proposed Development of Two Water Wells and Associated Facilities Near Norco, Riverside County, California	Outside
RI-03467	Taskiran, Ayse and Rachel Greeley	1992	Cultural Resources Assessment Santa Ana Watershed Project Authority: Chino Basin Desalination Program: Phase I Project, Riverside and San Bernardino, California	Outside
RI-04172	McKenna et al.	1998	Negative Archaeological Survey Report: Caltrans District 8, Riverside County, Route 15, P.K. 77.66/82.76, Charge Unit 08213, EA327500	**Within**
RI-04617	Drover, Christopher R.	2002	An Archaeological Impact Assessment of Assessor Parcel No. 160-040-001, Mira Loma, Riverside County, California	Outside
RI-06115	Aislin-Kay, Marnie	2004	Letter Report: Cultural Resources Records Search and Site Visit Results for Sprint Telecommunications Facility Candidate RV60XC802B (Ingram Micro) Located at the End of Harvest Drive, Mira Loma, Riverside County, CA	Outside
RI-06779	CRM Tech	2007	Historical/ Archaeological Resources Survey Report, Tentative Tract Map No. 33428, The Vernola Project, Near the Community of Mira Loma, Riverside County	Outside

Table 1
Previously Studies Within a 0.50-Mile Radius of the Project Site

Report No.	Author	Year	Study	Proximity to Project Site
RI-07429	Tsunoda, Koji	2007	Archaeological Survey Report for Southern California Edison Company dSP- Fujiyama 12kv Circuit Project in Riverside and San Bernardino Counties, California	Outside
RI-07445	Tang, Bai "Tom" and Michael Hogan	2007	Historical/ Archaeological Resources Survey Report Thoroughbred Farm Specific Plan in Mira Loma Area, Riverside County, California	Outside
RI-08536	Tang, Bai "Tom", Deirdre Encanacion, Daniel Ballester, and Laura H. Shaker	2010	Chino Desalter Phase 3 Expansion Project separate	Outside
RI-08772	Jacquemain, Terri	2010	Historical/ Archaeological Resources Survey Report: Jurupa Community Services District Sewer System Capital Improvements Project, Jurupa Area, Riverside County, California	Outside
RI-09000	Tang, Bai "Tom"	2014	Re: Update to Historical/ Archaeological Resources	Outside
RI-09255	Tang, Bai "Tom", Dierdre Encarnacion, Daniel Balletser, and Nina Gallardo	2014	Assessor's Parcel Nos. 156-050-025 and 160-020-033	**Within**
San Bernardino Archaeological Information Center				
SB-01029	Foster, John M. and Roberta S. Greenwood	1980	Cultural resources Overview for the Serrano Substation to Mira Loma Substation Transmission Route Alternative Corridor Right-Of-Way	Outside
SB-01358	Macko, Michael E., Edward B. Weil, Jill Weisbord, and John Cooper	1983	Final Report: Mira Loma-Serrano 500 KV DC and Serrano-Villa Park 220 KV Transmission Line Project	Outside
SB-01499	Foster, John M. and Roberta S. Greenwood	1985	Cultural Resources Overview: California Portion, Proposed Pacific Texas Pipeline Project	Outside
SB-02162	Bean, Lowell John, and Sylvia Brakke Vane	1979	Cultural Resources and the Devers-Mira Loma 500 KV Transmission Line Route (Valley to Mira Loma Section) A Study of the Paleontology, History and Archaeology of the Vicinity of the Line	Outside
SB-04134	Fulton, Phil	2003	Cultural Resources Survey of 71.5 Acres, Pinheiro Property Project, City of Ontario, San Bernardino County, CA. 19 PP	Outside
SB-05477	Bonner, Wayne H. and Kames M. Keasling	2007	Cultural Resource Records Search Results and Site Visit for T-Mobile Candidate IE2406D (SCE Tower Ontario), Milliken Avenue, Ontario, San Bernardino County, California	Outside
SB-06095	Applied Earthworks	2009	Confidential Cultural Resources Specialist Report for the Tehachapi Renewal Transmission Project	Outside

Table 1
Previously Studies Within a 0.50-Mile Radius of the Project Site

Report No.	Author	Year	Study	Proximity to Project Site
SB-06513	McKenna, Jeanette A.	2000	A Phase I Cultural Resources Investigation of the GST Fiber Optic Alignment from Ontario, San Bernardino County, to Del Mar, San Diego County, California	Outside
SB-06787	Tang, Bai "Tom", Deirdre Encarnacion, and Daniel Ballester	2008	Historical/ Archaeological Resources survey Report: Chino Groundwater Basin Dry-Year Yield Program Expansion, Los Angeles, Riverside and San Bernardino Counties, California	Outside
SB-06818	Tang, Bai "Tom", Deirdre Encarnacion, Daniel Ballester, and Laura H. Shaker	2010	Identification and Evaluation of Historic Properties: Chino Desalter Phase 3 Expansion Project, Riverside and San Bernardino Counties, California	Outside
SB-07655	Hoffman, Robin, Timothy Yates, and Karen Crawford	2012	Cultural Resources Inventory Report for the Proposed City Substation and Mira Loma-Jefferson Subtransmission Line Project, Riverside and San Bernardino Counties, California	Outside
SB-07756	Tang, Bai "Tom"	2014	Update to Historical/ Archaeological Resources Survey: Chino Desalter Phase 3 Expansion Project, Riverside and San Bernardino Counties, California	Outside

Source: Eastern Information Center and San Bernardino Archaeological Information Center, March 2015.

4.1.1.2 RI-00184

Study RI-00184, an *Historical/ Archaeological Resources Survey Report, The Resort Specific Plan Near the Unincorporated Community of Mira Loma Riverside County, California*, was prepared by CRM Tech in November 2003. The project surveyed approximately 186 acres and included a significant proportion of the current project site. One potential historical resource was identified during the survey, the residence at 5380 Hamner Avenue, which is located outside of the project site.

4.1.1.3 RI-04172

Study RI-04172, a *Negative Archaeological Survey Report: Caltrans District 8, Riverside County, Route 15, P.K. 77.66/82.76, Charge Unit 08213, EA327500*, was prepared by McKenna et al. The surveyed area includes only a small section of the current study site and did not identify any archaeological resources within the surveyed area.

4.1.1.4 RI-09255

Study RI-09255, an *Historical/ Archaeological Resources Survey Report, Assessor's Parcel Nos. 156-050-025 and 160-020-033,* was prepared by CRM Tech in December 2014. The project involved the survey of APNs 156-050-025 and 160-020-033 which include the current project study site.

The survey identified one historical resource within the project site, a power line (SB-36-027693) likely built in 1951.

4.1.2 Previously Recorded Sites

The EIC record search did not identify any previously recorded resources within 0.5 miles of the project site. The AIC record search did identify three previously recorded cultural resources within 0.5 mile of the project site (Appendix A), one of which is located within the project site (Table 2).

Table 2
Previously Recorded Cultural Resources a Within 0.50-Mile Radius of the Project Site

Resource Designation	Description	CRHR Eligibility Status	Recorded By and Year	Proximity to Project Site
San Bernardino Archaeological Information Center				
36-012623	Dairy Farm	Not eligible	Taniguchi and Smith 2006	Outside
36-025440	Chino-Mira Loma No. 1 transmission line	Not eligible	Becker 2010	Outside
36-027693	Mira Loma-Vista 230kV transmission line	Not eligible	Ballester 2014	**Within**

Source: Eastern Information Center and San Bernardino Archaeological Information Center, March 2015

4.1.2.1 36-012623

Resource 36-012623 was recorded by B. Taniguchi and R. Smith in September 2006. The site includes a dairy farm and several ancillary buildings. The core structure appears to have been constructed in 1953, however, no building permits were found. The site is outside of the current project area and was determined not significant.

4.1.2.4 36-025440

Resource 36-025440 was recorded by W. Becker in June 2010. The site is an approximate 12-mile 220kV transmission line connecting the Southern California Edison Company's Chino and Mira Loma substations. The transmission line is located in the northwest portion of the search radius and is located outside of the current study site. Becker determined the transmission line to be ineligible for inclusion on the CRHR.

4.1.2.2 36-027693

Resource 36-027693 was recorded by Ballester in 2014. The site consists of the Mira Loma-Vista 230kV Transmission Line, which includes a series of A-shaped steel lattice towers with three cross-arms each. A portion of this site includes a linear extension that traverses the current project area. The transmission line was determined to not meet the necessary requirements to

become eligible for listing in the CRHR (Tang et al. 2014) and was later determined to not meet the definition of a "historical resource" (Tang and Hogan 2014).

4.2 NATIVE AMERICAN HERITAGE COMMISSION

Rincon Consultants contacted the Native American Heritage Commission (NAHC) to request a review of the Sacred Lands File (SLF) on March 20, 2015. Rincon received the results of the SLF search on April 9, 2015, stating that the search of the SLF "failed to indicate the presence of Native American cultural resources in the immediate project area. "Rincon sent letters to 8 individuals or tribal organizations that may have knowledge of cultural resources in or near the project area on April 14, 2015 (Appendix B).

On March 4, 2015, Chris Devers of the Pauma Band of Luiseno Indians responded via email. Mr. Devers stated that the Pauma Band was unaware of any specific cultural sites near the proposed project area but recommended archaeological and Native American monitoring for any project related ground disturbance.

On May 26, 2015, Joseph Ontiveros of the Soboba Band of Luiseño Indians responded via mail. Mr. Ontiveros stated that the Soboba Band considered the project site sensitive due to the areas shared use in "ongoing trade between the various bands" and the project site's proximity to other known cultural resources. Mr. Ontiveros requests that Native American monitors be present for any project related ground disturbance.

As of June 10, 2015, no additional responses have been received.

4.3 HISTORIC MAP AND AERIAL REVIEW

Rincon reviewed historic aerials and topographic maps from internet sources to better understand the land use history of the project site.

A review of historic aerial images dating between 1948 and 2012 depict the same land use history as the topographic map on file with the EIC (Historic Aerials 2015). In the 1950s and 1970s a group of buildings were constructed some of which were located within APNs 156-050-025 and 160-020-033 but were demolished by 1994. The current structure located at APN 156-050-025 was constructed in 2004.

5.0 FIELDWORK

5.1 SURVEY METHODS

Rincon archaeologists Breana Campbell and Hannah Haas conducted a cultural resources survey of the project site on March 27, 2015. The survey consisted of walking transects oriented parallel to Interstate 15 and spaced 10 meters apart.

During the survey, the archaeologists examined all areas of exposed ground surface for prehistoric artifacts (e.g., chipped stone tools and production debris, stone milling tools, ceramics), historic debris (e.g., metal, glass, ceramics), or soil discoloration that might indicate the presence of a cultural midden. The archaeologists recorded project site characteristics and survey conditions using a field notebook and a digital camera. Copies of the field notes and digital photographs are on file with Rincon's Carlsbad office.

Photograph 1. View of APN 160-020-033 portion of project site along Cantu-Galleano Ranch Road, facing south.

5.2 FINDINGS

No cultural resources were identified during the pedestrian survey. APN 156-050-025 consists of a structure and is mostly paved limiting ground visibility. APN 160-020-033 included both paved and unpaved surface. Within the unpaved portions of the project site, ground visibility was poor (approximately 30 percent).

6.0 RECOMMENDATIONS

No cultural resources were identified within the project site during the current study. Based on the results of the records search, Native American scoping, and field survey, Rincon recommends that no further cultural resources work be conducted for the current project. The following measures are recommended in the case of unanticipated discoveries.

Photograph 2. View of APN 160-020-33 depicting poor ground visibility and existing structures.

6.1 UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's *Professional Qualifications Standards* for archaeology (National Park Service [NPS] 1983) must be contacted immediately to evaluate the resource(s) encountered. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation may be warranted.

6.2 UNANTICIPATED DISCOVERY OF HUMAN REMAINS

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the county coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify a MLD. The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

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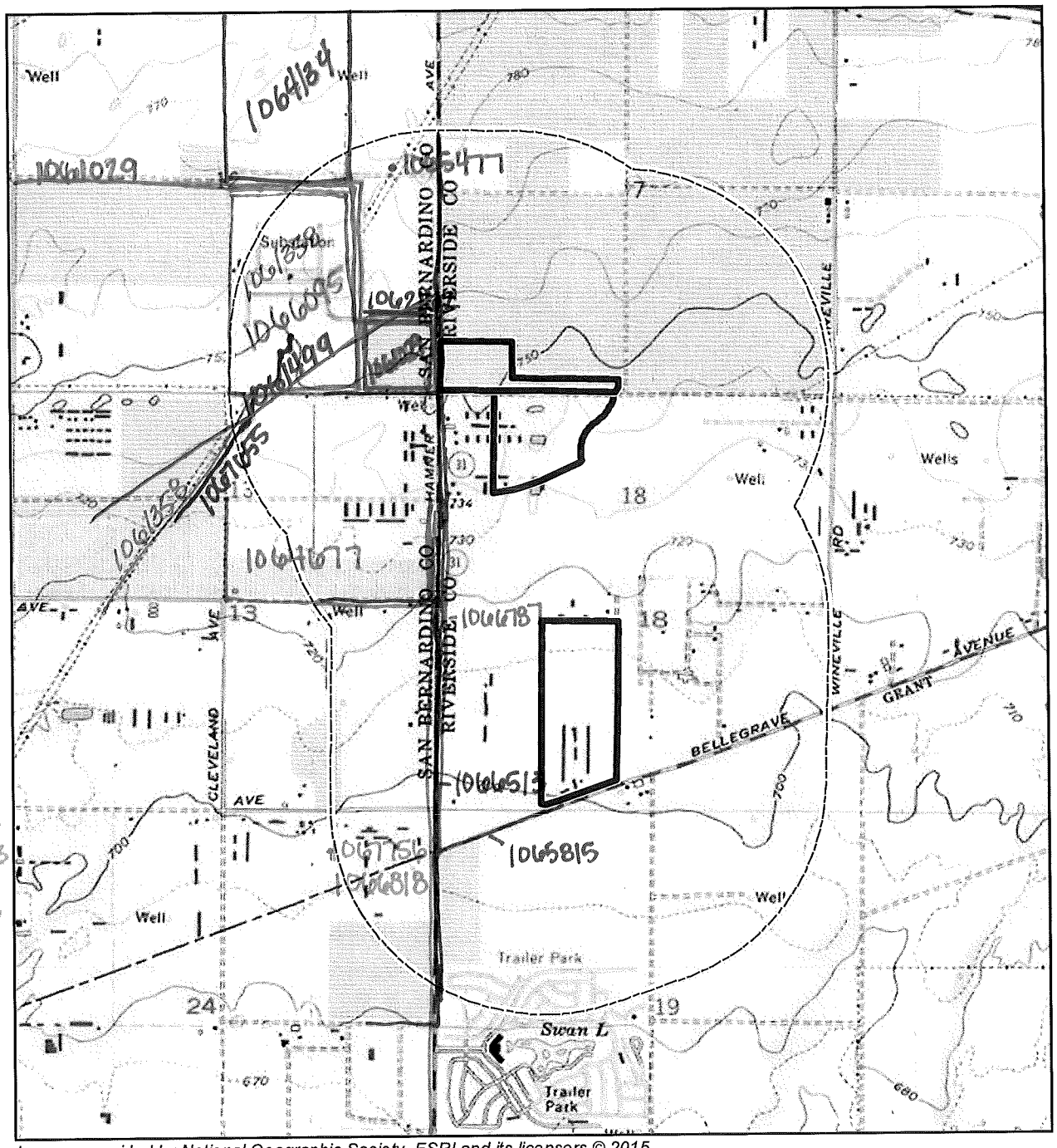
Appendix A

Records Search Summary

Reports



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Project Boundary

Half-Mile Buffer

N

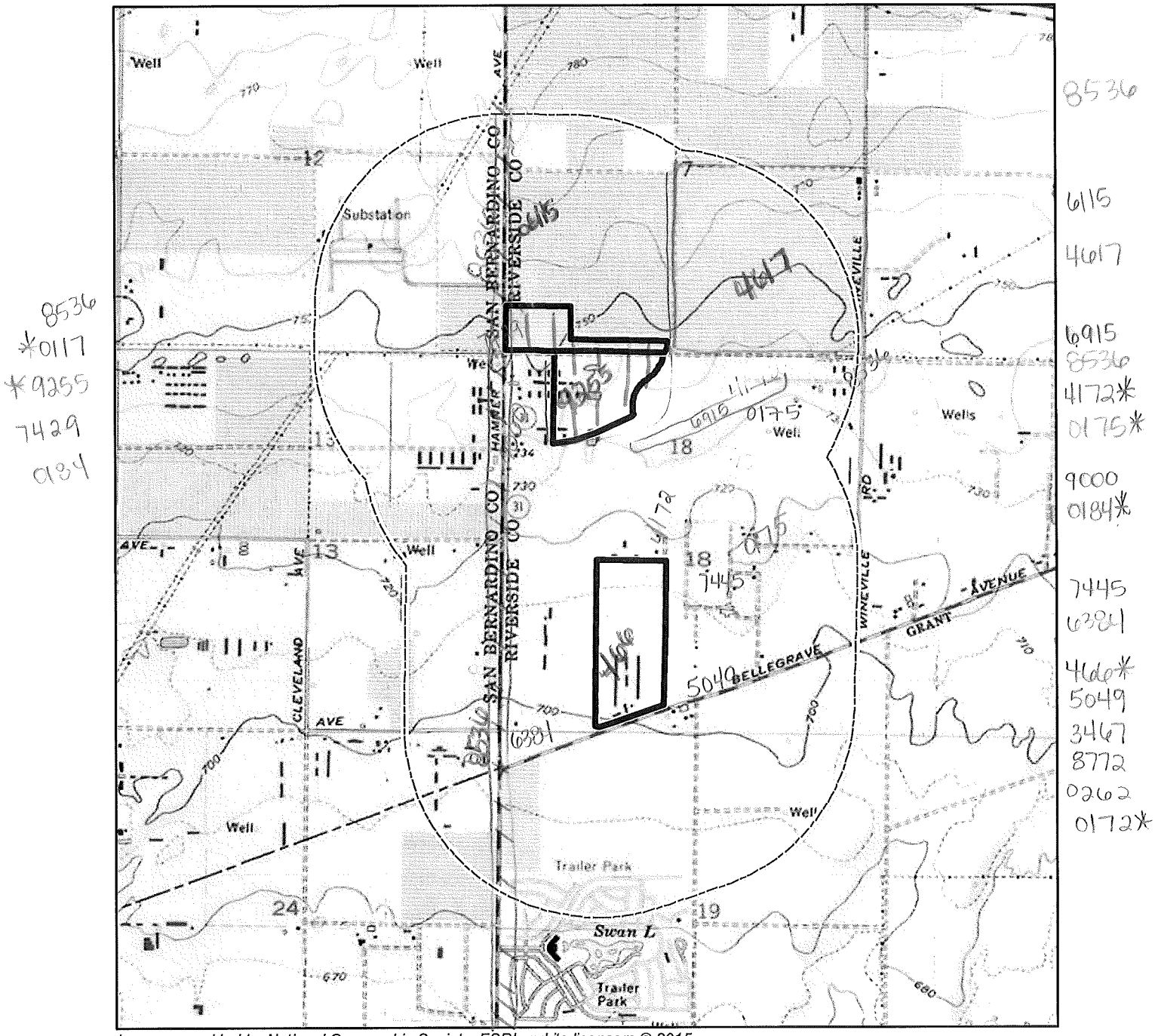
0 1,000 2,000 Feet

0 250 500 Meters

1:24,000

Records Search Map

Reports



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Project Boundary

Half-Mile Buffer

N

0 1,000 2,000 Feet

0 250 500 Meters

1:24,000

Records Search Map

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-00117	NADB-R - 1080134; Voided - MF-0104	1973	Phlip J. Wilke and Stephen Hammond	LA Loma-Mira Loma Transmission Line: Expected Impact on Archaeological Values.	Archaeological Research Unit, U.C.. Riverside	33-000127, 33-000494, 33-000502, 33-000615, 33-000616, 33-000617, 33-000618, 33-000619, 33-000620, 33-000621, 33-000622, 33-000623, 33-000624
RI-00172	NADB-R - 1080223; Voided - MF-0161	1975	Garth Portillo	Letter Report: 210 Acres by Etiwanda Avenue	Archaeological Research Unit, U.C. Riverside	
RI-00175	NADB-R - 1080226; Submitter - 145; Voided - MF-0164	1975	Garth Portillo	Environmental Impact Evalution: Archaeology of the Jurupa Community Services District Improvement District Nos. 2 and 3, UCRARU # 145	Archaeological Research Unit, U.C. Riverside	
RI-00184	NADB-R - 1085824; Submitter - 1144	2003	Bai Tang, Michael Hogan, Josh Smallwood, and Terri Jacquemain	Historical/Archaelogical Resources Survey report, The Resory Specific Plan, Near the Unincorporated Community of Mira Loma, Riverside County, California	CRM TECH, Riveside, CA	
RI-00262	NADB-R - 1080317; Voided - MF-0241	1977	Don Lipp	An Archaeological Evaluation of Proposed Development of Two Water Wells and Associated Facilities Near Norco, Riverside County, California	Archaeological Research Unit, U.C. Riverside	
RI-03467	NADB-R - 1084146; Submitter - 1176; Voided - MF-3727	1992	TASKIRAN, AYSE and RACHEL GREELEY	CULTURAL RESOURCES ASSESSMENT: SANTA ANA WATERSHED PROJECT AUTHORITY: CHINO BASIN DESALINATION PROGRAM: PHASE I PROJECT, RIVERSIDE AND SAN BERNARDINO, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	
RI-04172	NADB-R - 1085377; Voided - MF-4650	1998	MCKENNA ET AL.	NEGATIVE ARCHAEOLOGICAL SURVEY REPORT: CALTRANS DISTRICT 8, RIVERSIDE COUNTY, ROUTE 15, P.K. 77.66/82.76, CHARGE UNIT 08213, EA327500	MCKENNA ET AL.	
RI-04617	NADB-R - 1085976	2002	DROVER, CHRISTOPHER R.	AN ARCHAEOLOGICAL IMPACT ASSESSMENT OF ASSESSOR PARCEL NO. 160-040-001, MIRA LOMA, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	
RI-05049	NADB-R - 1086411	2003	MCKENNA ET AL.	ARCHAEOLOGICAL SURVEY REPORT: A PHASE I CULTURAL RESOURCES INVESTIGATION FOR THE PROPOSED EASTVALE WATER AND SEWER MASTER PLAN, RIVERSIDE COUNTY, CALIFORNIA	MCKENNA ET AL.	33-000652, 33-001042, 33-001043, 33-001436, 33-001451, 33-003357, 33-006006, 33-006524, 33-006525, 33-006668, 33-006669, 33-006688

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-06115	NADB-R - 1087478	2004	AISLIN-KAY, MARNIE	LETTER REPORT: CULTURAL RESOURCES RECORDS SEARCH AND SITE VISIT RESULTS FOR SPRINT TELECOMMUNICATIONS FACILITY CANDIDATE RV60XC802B (INGRAM MICRO), LOCATED AT THE END OF HARVEST DRIVE, MIRA LOMA, RIVERSIDE COUNTY, CA	MICHAEL BRANDMAN ASSOCIATES	
RI-06384	NADB-R - 1087747; Submitter - CONTRACT #1594	2005	TANG, BAI, MICHAEL HOGAN, MATTHEW WETHERBEE, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, ASSESSOR'S PARCEL NO. 160-020-014, MIRA LOMA AREA, RIVERSIDE COUNTY, CA	CRM TECH	
RI-06779	Submitter - CRM Tech Contract #2003A	2007	CRM Tech	Historical/Arcaheological Resources Survey Report, Tentative Tract Map No. 33428, The Vernola Project, Near the Commmunity of Mira Loma, Riverside County, California	CRM Tech	
RI-07429		2007	Tsunoda, Koji	Archaeological Survey Report for Souther California Edison Company dSP - Fujiyama 12kv Circuit Project in Riverside and San Bernardino Counties, California	Jones & Stokes	
RI-07445		2007	Tang, Bai "Tom" and Hogan, Michael	Historical/Archaeological Resources Survey Report Thoroughbred Farm Specific Plan in Mira Loma Area, Riverside County, California	CRM TECH	
RI-08536	Submitter - CRM TECH Contract No. 2455; Submitter - CRM TECH Contract No. 2455	2010	Bai "Tom" Tang, Deirdre Encanacion, Daniel Ballester, and Laura H. Shaker	Chino Desalter Phase 3 Expansion Project	CRN TECH	33-007734, 33-013627, 33-016029, 33-016681
RI-08772		2010	Terri Jacquemain	Historical/Archaeological Resources Survey Report: Jurupa Community Services District Sewer System Capital Improvements Project, Jurupa Area, Riverside County, California	CRM TECH	33-003833, 33-011752, 33-013239, 33-013240, 33-014963, 33-016681, 33-017379, 33-017382
RI-09000		2014	Bai "Tom" Tang	Re: Update to Historical/ Archaeological Resources Survey, Chino Desalter Phase 3 Expansion Project, Riverside and San Bernardino Counties, California, CRM TECH Contract No. 2767	CRM Tech	
RI-09255		2014	Bai "Tom" Tang, Deirdre Encarnacion, Daniel Ballester, and Nina Gallardo	Assesor's Parcel Nos. 156-050-025 and 160-020-033	CRM TECH	

Report List

Eastvale Development Project

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SB-01029	NADB-R - 1061029; Voided - 80-9.15	1980	FOSTER, JOHN M. and ROBERTA S. GREENWOOD	CULTURAL RESOURCE OVERVIEW FOR THE SERRANO SUBSTATION TO MIRA LOMA SUBSTATION TRANSMISSION ROUTE ALTERNATIVE CORRIDOR RIGHT-OF-WAY	GREENWOOD AND ASSOCIATES	36-000270, 36-000897, 36-000898, 36-000899, 36-000900, 36-000902, 36-001543, 36-001570, 36-001608, 36-002067, 36-002068, 36-002259, 36-002260, 36-002317, 36-003023, 36-003690, 36-004032
SB-01358	NADB-R - 1061358; Voided - 83-2.6	1983	MACKO, MICHAEL E., EDWARD B. WEIL, JILL WEISBORD, and JOHN COOPER	FINAL REPORT: MIRA LOMA-SERRANO 500 KV DC AND SERRANO-VILLA PARK 220 KV TRANSMISSION LINE PROJECT	APPLIED CONSERVATION TECHNOLOGY, INC.	36-003690, 36-004032, 36-005096, 36-005097
SB-01499	NADB-R - 1061499; Voided - 85-7.4A-B	1985	FOSTER, JOHN M. and ROBERTA S. GREENWOOD	CULTURAL RESOURCES OVERVIEW: CALIFORNIA PORTION, PROPOSED PACIFIC TEXAS PIPELINE PROJECT	GREENWOOD AND ASSOCIATES	
SB-02162	NADB-R - 1062162; Voided - 79-3.12	1979	BEAN, LOWELL JOHN and SYLVIA BRAKKE VANE	CULTURAL RESOURCES AND THE DEVERS-MIRA LOMA 500 KV TRANSMISSION LINE ROUTE (VALLEY TO MIRA LOMA SECTION) A STUDY OF THE PALEONTOLOGY, HISTORY AND ARCHAEOLOGY OF THE VICINITY OF THE LINE	CULTURAL SYSTEMS RESEARCH, INC.	
SB-04134	NADB-R - 1064134	2003	FULTON, PHIL	CULTURAL RESOURCES SURVEY OF 71.5 ACRES, PINHEIRO PROPERTY PROJECT, CITY OF ONTARIO, SAN BERNARDINO COUNTY, CA. 19PP	LSA	
SB-05477	NADB-R - 1065477; Other - SCE	2007	Bonner, Wayne H. and Kames M. Keasling	Cultural Resource Records Search Results and Site Visit for T-Mobile Candidate IE24066D (SCE Tower Ontario), Milliken Avenue, Ontario, San Bernardino County, California.	Michael Brandman Associates	
SB-05815	NADB-R - 1065815	2007	Tsunoda, Koji	Archaeological Survey Report for Southern California Edison Company DSP-Fujiyama 12kV Circuit Project in Riverside and San Bernardino Counties, California.	Jones & Stokes	36-012623
SB-06095	NADB-R - 1066095	2009	Applied Earthworks	Confidential Cultural Resources Specialist Report for the Tehachapi Renewal Transmission Project.	Applied Earthworks	
SB-06513	NADB-R - 1066513	2000	MCKENNA, JEANETTE A.	A PHASE I CULTURAL RESOURCES INVESTIGATION OF THE GST FIBER OPTIC ALIGHMENT FROM ONTARIO, SAN BERNARDINO COUNTY, TO DEL MAR, SAN DIEGO COUNTY, CALIFORNIA		

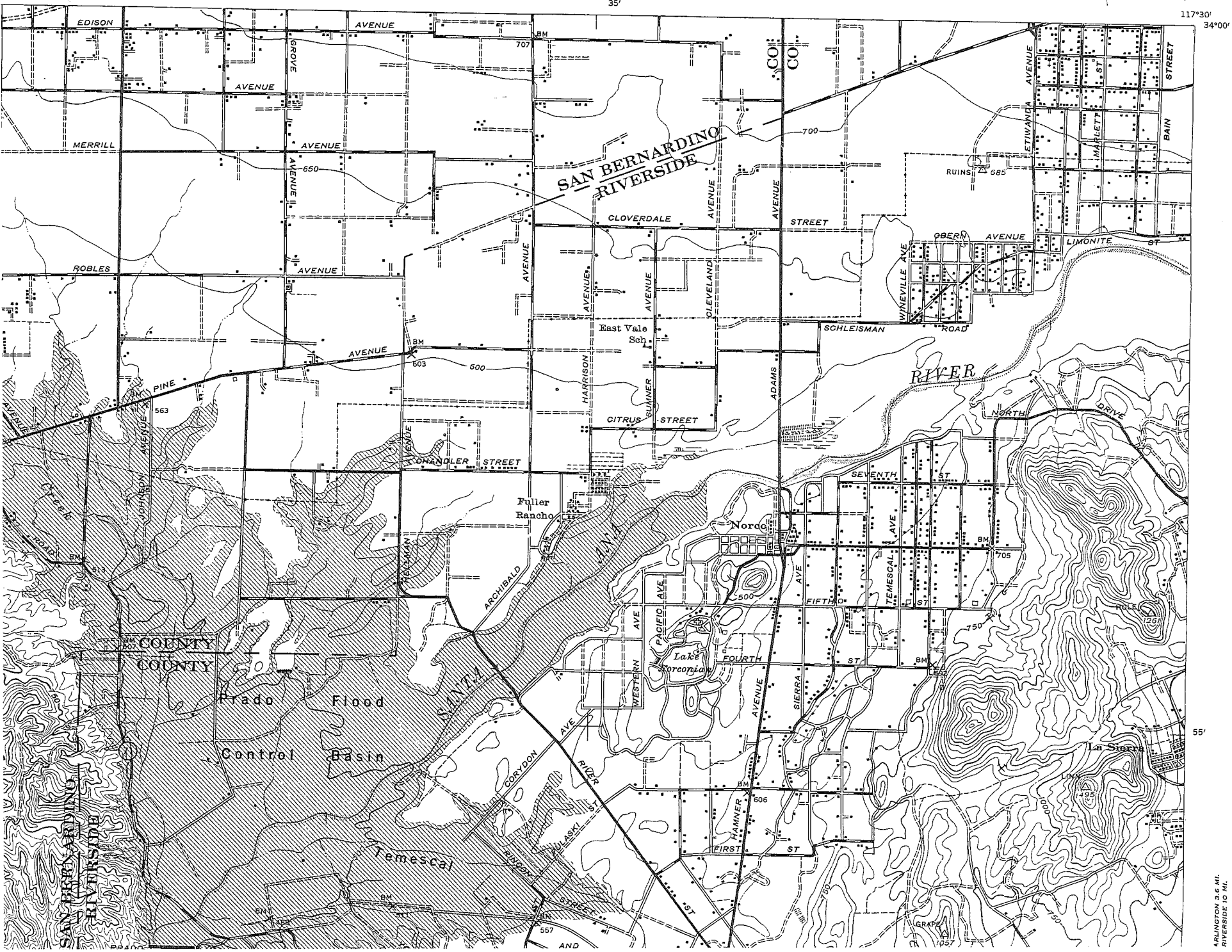
Report List

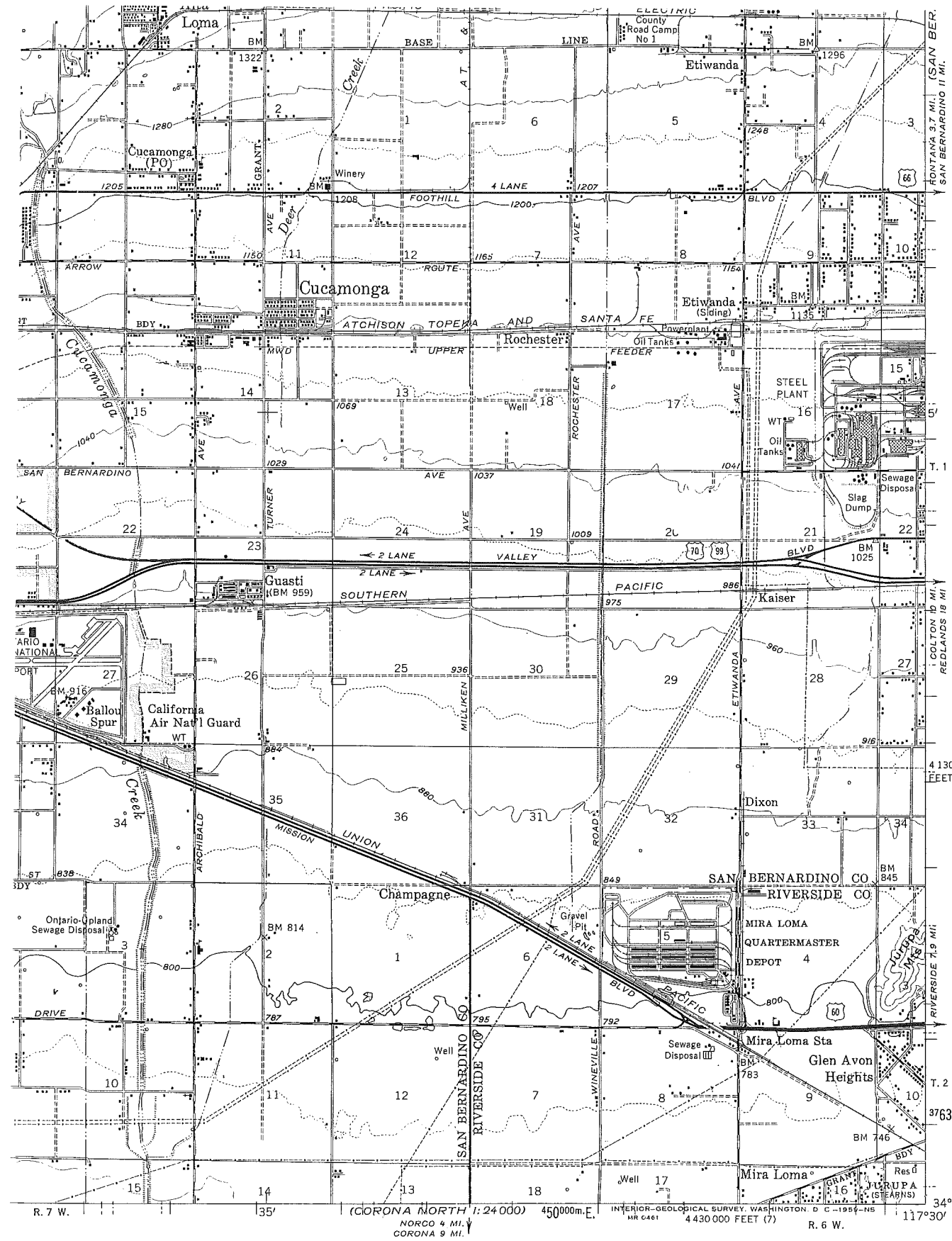
Eastvale Development Project

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SB-06787	NADB-R - 1066787	2008	Tang, Bai "Tom", Deirdre Encarnacion, and Daniel Ballester	Historical/Archaeological Resources Survey Report: Chino Groundwater Basin Dry-Year Yield Program Expansion, Los Angeles, Riverside and San Bernardino Counties, California.	CRM Tech	
SB-06818	NADB-R - 1066818	2010	Tang, Bai "Tom", Deirdre Encarnacion, Daniel Ballester, and Laura H. Shaker	Identification and Evaluation of Historic Properties: Chino Desalter Phase 3 Expansion Project, Riverside and San Bernardino Counties, California.		
SB-07655	NADB-R - 1067655	2012	Hoffman, Robin, Timothy Yates, and Karen Crawford	Cultural Resources Inventory Report for the Proposed City Substation and Mira Loma-Jefferson Subtransmission Line Project, Riverside and San Bernardino Counties, California.		
SB-07756	NADB-R - 1067756	2014	Tang, Bai "Tom"	Update to Historical/Archaeological Resources Survey: Chino Desalter Phase 3 Expansion Project, Riverside and San Bernardino Counties, California.	CRM Tech	

CORONA

SHEET 2451 I
A.M.S. SERIES V795





ROAD CLASSIFICATION

Heavy-duty — Light-duty

Medium-duty — Unimproved dirt

U. S. Route — State Route

This area also covered by 1:24 000-scale maps of Cucamonga Peak, Mt. Baldy, Ontario, and Guasti 7.5 minute quadrangles, surveyed 1954

ONTARIO, CALIF.

N3400—W11730/15

1954

ET
ONTOURS

CURACY STANDARDS
ORADO OR WASHINGTON 25, D. C.
LS IS AVAILABLE ON REQUEST

Appendix B

Native American Correspondence

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471

April 9, 2015

Breana Campbell
Rincon Consultants, Inc.
5135 Avenida Encinas, Suite A
Carlsbad, CA 92008

Sent by Fax: (760) 918-9449
Number of Pages: 2

Re: The Eastvale Industrial Development Project, Riverside and San Bernardino County.

Dear Ms. Campbell,

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3712.

Sincerely,

Katy Sanchez

Katy Sanchez
Associate Government Program Analyst

Native American Contact List
Riverside and San Bernardino Counties
April 8, 2015

Pechanga Band of Mission Indians
Paul Macarro, Cultural Resources Manager
P.O. Box 1477 Luiseno
Temecula , CA 92593
pmacarro@pechanga-nsn.gov
(951) 770-8100

(951) 506-9491 Fax

Pechanga Band of Mission Indians
Mark Macarro, Chairperson
P.O. Box 1477 Luiseno
Temecula , CA 92593
mgoodhart@pechanga-nsn.
(951) 770-6100

(951) 695-1778 Fax

Soboba Band of Mission Indians
Rosemary Morillo, Chairperson; Attn: Carrie Garcia
P.O. Box 487 Luiseno
San Jacinto , CA 92581
carrieg@soboba-nsn.gov
(951) 654-2765

(951) 654-4198 Fax

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 Luiseno
San Jacinto , CA 92581
jontiveros@soboba-nsn.gov
(951) 663-5279
(951) 654-5544, ext 4137
(951) 654-4198 Fax

Gabrieleno/Tongva San Gabriel Band of Mission Indian
Anthony Morales, Chairperson
P.O. Box 693 Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 483-3564 Cell

(626) 286-1262 Fax

Gabrieleno Band of Mission Indians - Kizi Nation
Andrew Salas, Chairperson
P.O. Box 393 Gabrielino
Covina , CA 91723
gabrielenoindians@yahoo.
(626) 926-4131

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St. Gabrielino Tongva
Los Angeles , CA 90012
sgoad@gabrielino-tongva.com
(951) 807-0479

Gabrielino /Tongva Nation
Sam Dunlap, Cultural Resources Director
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
samdunlap@earthlink.net
(909) 262-9351

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed The Eastvale Industrial Development Project, Riverside and San Bernardino Counties.

April 14, 2015

Paul Macarro
Cultural Resource Manager
Pechanga Band of Mission Indians
P.O. Box 1477
Temecula, CA 92593

RE: Cultural Resources Study for the Eastvale Industrial Development Project, City of Eastvale, Riverside County, California

Dear Mr. Macarro:

Rincon Consultants has been retained to conduct a cultural resources study for the Eastvale Industrial Development Project, for the City of Eastvale, in Riverside County, California. The project site will cover APNs 160-020-033, 156-050-025, and 160-020-023 (approximately 69 acres). A new building will be constructed on APN 160-020-033, an existing building located at APN 156-050-025 will be improved and an overflow parking area will be developed on APN 160-020-033. An existing private detention basin will be relocated to APN 160-020-023. The project will also involve off-site grading and landscaping.

As part of the process of identifying cultural resources issues for this project, Rincon contacted the Native American Heritage Commission and requested a Sacred Lands File (SLF) search and a list of Native American tribal organizations and individuals who may have knowledge of sensitive cultural resources in or near the project site. The SLF search results stated that "A record search of the NAHC Sacred Lands file failed to indicate the presence of Native American cultural resources " within the vicinity of the project site and recommended that we consult with you directly regarding your knowledge of the presence of cultural resources that may be impacted by this project.

If you have knowledge of cultural resources that may exist within or near the project site, please contact me in writing at the above address or khunt@rinconconsultants.com, or by telephone at (760) 918-9444 ext. 208. Thank you for your assistance.

Sincerely,

Kevin Hunt
Cultural Resources Program Manager

Enclosure: Project Location Map

April 14, 2015

Anthony Morales, Chairperson
Gabrielino/ Tongva
San Gabriel Band of Mission Indians
P.O. Box 693
San Gabriel, CA 91778

RE: Cultural Resources Study for the Eastvale Industrial Development Project, City of Eastvale, Riverside County, California

Dear Mr. Morales:

Rincon Consultants has been retained to conduct a cultural resources study for the Eastvale Industrial Development Project, for the City of Eastvale, in Riverside County, California. The project will cover APNs 160-020-033, 156-050-025, and 160-020-023 (approximately 69 acres). A new building will be constructed on APN 160-020-033, an existing building located at APN 156-050-025 will be improved and an overflow parking area will be developed on APN 160-020-033. An existing private detention basin will be relocated to APN 160-020-023. The project will also involve off-site grading and landscaping.

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Sincerely,

Kevin Hunt
Cultural Resources Program Manager

Enclosure: Project Location Map

April 14, 2015

Andrew Salas, Chairperson
Gabrielino Band of Mission Indians
Kizi Nation
P.O. Box 393
Covina, CA 91723

RE: Cultural Resources Study for the Eastvale Industrial Development Project, City of Eastvale, Riverside County, California

Dear Mr. Salas:

Rincon Consultants has been retained to conduct a cultural resources study for the Eastvale Industrial Development Project, for the City of Eastvale, in Riverside County, California. The project will cover APNs 160-020-033, 156-050-025, and 160-020-023 (approximately 69 acres). A new building will be constructed on APN 160-020-033, an existing building located at APN 156-050-025 will be improved and an overflow parking area will be developed on APN 160-020-033. An existing private detention basin will be relocated to APN 160-020-023. The project will also involve off-site grading and landscaping.

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Sincerely,

Kevin Hunt
Cultural Resources Program Manager

Enclosure: Project Location Map

April 14, 2015

Sandonne Goad, Chairperson
Gabrielino/ Tongva Nation
106 ½ Judge John Aiso Street
Los Angeles, CA 90012

RE: Cultural Resources Study for the Eastvale Industrial Development Project, City of Eastvale, Riverside County, California

Dear Chairwoman Goad:

Rincon Consultants has been retained to conduct a cultural resources study for the Eastvale Industrial Development Project, for the City of Eastvale, in Riverside County, California. The project will cover APNs 160-020-033, 156-050-025, and 160-020-023 (approximately 69 acres). A new building will be constructed on APN 160-020-033, an existing building located at APN 156-050-025 will be improved and an overflow parking area will be developed on APN 160-020-033. An existing private detention basin will be relocated to APN 160-020-023. The project will also involve off-site grading and landscaping.

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Sincerely,

Kevin Hunt
Cultural Resources Program Manager

Enclosure: Project Location Map

April 14, 2015

Rosemary Morillo, Chairperson
Attn: Carrie Garcia
Soboba Band of Mission Indians
P.O. Box 487
San Jacinto, CA 92581

RE: Cultural Resources Study for the Eastvale Industrial Development Project, City of Eastvale, Riverside County, California

Dear Ms. Morillo:

Rincon Consultants has been retained to conduct a cultural resources study for the Eastvale Industrial Development Project, for the City of Eastvale, in Riverside County, California. The project will cover APNs 160-020-033, 156-050-025, and 160-020-023 (approximately 69 acres). A new building will be constructed on APN 160-020-033, an existing building located at APN 156-050-025 will be improved and an overflow parking area will be developed on APN 160-020-033. An existing private detention basin will be relocated to APN 160-020-023. The project will also involve off-site grading and landscaping.

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Sincerely,

Kevin Hunt
Cultural Resources Program Manager

Enclosure: Project Location Map

April 14, 2015

Sam Dunlap
Cultural Resources Director
Gabrielino/ Tongva Nation
P.O. Box 86908
Los Angeles, CA 90086

RE: Cultural Resources Study for the Eastvale Industrial Development Project, City of Eastvale, Riverside County, California

Dear Mr. Dunlap:

Rincon Consultants has been retained to conduct a cultural resources study for the Eastvale Industrial Development Project, for the City of Eastvale, in Riverside County, California. The project will cover APNs 160-020-033, 156-050-025, and 160-020-023 (approximately 69 acres). A new building will be constructed on APN 160-020-033, an existing building located at APN 156-050-025 will be improved and an overflow parking area will be developed on APN 160-020-033. An existing private detention basin will be relocated to APN 160-020-023. The project will also involve off-site grading and landscaping.

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Sincerely,

Kevin Hunt
Cultural Resources Program Manager

Enclosure: Project Location Map

April 14, 2015

Mark Macarro, Chairperson
Pechanga Band of Mission Indians
P.O. Box 1477
Temecula, CA 92593

RE: Cultural Resources Study for the Eastvale Industrial Development Project, City of Eastvale, Riverside County, California

Dear Mr. Macarro:

Rincon Consultants has been retained to conduct a cultural resources study for the Eastvale Industrial Development Project, for the City of Eastvale, in Riverside County, California. The project will cover APNs 160-020-033, 156-050-025, and 160-020-023 (approximately 69 acres). A new building will be constructed on APN 160-020-033, an existing building located at APN 156-050-025 will be improved and an overflow parking area will be developed on APN 160-020-033. An existing private detention basin will be relocated to APN 160-020-023. The project will also involve off-site grading and landscaping.

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Sincerely,

Kevin Hunt
Cultural Resources Program Manager

Enclosure: Project Location Map

April 14, 2015

Joseph Ontiveros
Cultural Resource Department
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, CA 92581

RE: Cultural Resources Study for the Eastvale Industrial Development Project, City of Eastvale, Riverside County, California

Dear Mr. Ontiveros:

Rincon Consultants has been retained to conduct a cultural resources study for the Eastvale Industrial Development Project, for the City of Eastvale, in Riverside County, California. The project will cover APNs 160-020-033, 156-050-025, and 160-020-023 (approximately 69 acres). A new building will be constructed on APN 160-020-033, an existing building located at APN 156-050-025 will be improved and an overflow parking area will be developed on APN 160-020-033. An existing private detention basin will be relocated to APN 160-020-023. The project will also involve off-site grading and landscaping.

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Sincerely,

Kevin Hunt
Cultural Resources Program Manager

Enclosure: Project Location Map

From: Kevin Hunt
Sent: Monday, April 20, 2015 11:48 AM
To: Breana Campbell
Subject: FW: Cultural resources study for the Eastvale Industrial Development Project, City of Eastvale , Riverside County California

Kevin Hunt
Cultural Resources Program Manager

Rincon Consultants, Inc.
760 918 9444 EXT 208 MOBILE 760 207 9736
www.rinconconsultants.com
Environmental Scientists Planners Engineers
Ranked "#1 Best Firm to Work For" – CE News

From: Andy [mailto:gabrielenoindians@yahoo.com]
Sent: Sunday, April 19, 2015 9:38 PM
To: Kevin Hunt
Cc: Christina Swindall Martinez. Kizh Gabrieleno; Tim Miguel.Kizh Gabrieleno; Gary Stickel; Matt Teutimez.Kizh Gabrieleno; Martha Gonzalez. Kizh Gabrieleno
Subject: Cultural resources study for the Eastvale Industrial Development Project, City of Eastvale , Riverside County California

Dear Kevin Hunt
Cultural Resources program manager.

First we would like to thank you for your letter regarding the above project location. I would first like to say that I am truly familiar with this area, for it was the area where my grandfather lived through out
His life. He lived about 3 blocks north of the project on Williams Ave. As a young boy I walked the river near by (Santa Ana) and was taught about all the cultural resources of the area. Therefore in regards to the project area I would like to state the following:

"The project locale lies in an area where the traditional territories of the Kizh(Kitc) Gabrieleño villages adjoined and overlapped with each other, at least during the Late Prehistoric and Protohistoric Periods. The homeland of the Kizh (Kitc) Gabrieleños , probably the most influential Native American group in aboriginal southern California (Bean and Smith 1978a:538), was centered in the Los Angeles Basin, and reached as far east as the San Bernardino-Riverside area. The homeland of the Serranos was primarily the San Bernardino Mountains, including the slopes and lowlands on the north and south flanks.Whatever the linguistic affiliation, Native Americans in and around the project area echibited similar orgainization and resource procurement strategies. Villages were based on clan or lineage groups. Their home/ base sites are marked by midden deposits, often with bedrock mortars. During their seasonal rounds to exploit plant resources, small groups would migrate within their traditional territory in search of specific plants and animals. Their gathering strategies often left behind signs of special use sites, usually grinding slicks on bedrock boulders, at the locations of

the resources. Therefore in order to protect our Cultural resources we're requesting one of our experienced & certified Native American monitors to be on site during any & all ground disturbances.
In all cases, when the NAHC states there are “No" records of sacred sites” in the subject area; they always refer the contractors back to the Native American Tribes whose tribal territory the project area is in. This is due to the fact, that the NAHC is only aware of general information on each California NA Tribe they are "NOT " the “experts” on our Tribe. Our Elder Committee & Tribal Historians are the experts and is the reason why the NAHC will always refer contractors to the local tribes.
Please contact our office regarding this project to coordinate a Native American Monitor to be present.

Sincerely,

Andy Salas Chairman Of Gabrieleño Band Of Mission Indians/Kizh (Kit'c) Nation
Of the Los Angeles Basin, Orange county and the Channel islands.
NOTICE: PLEASE FILE OUR CONTACT INFORMATION FOR CONSULTATION ON ALL FUTURE PROJECTS WITHIN OUR TRIBAL TERRITORY.....

Gabrieleño Band of Mission Indians disclaimer

DISCLAIMER: Notice: This message contains information which is confidential and protected by copyright or which may contain any other intellectual property rights. The use of the "Gabrieleño Band of Mission Indians Kizh(Kit'c)Nation" trademarks without the prior written consent of the Gabrieleño Band of Mission Indians Kizh(Kit'c) Nation is forbidden. If you are not the intended recipient of this message please delete it and destroy all copies. If you are the intended recipient of this message you should not disclose or distribute this message to third parties without the consent of the Gabrieleño Band of Mission Indians Kizh(Kit'c) Nation. Our Tribe does not represent, warrant and/or guarantee that the integrity of this message has been maintained nor that the communication is free of virus, interception or interferen.

Last week I was at my grandfathers ranch and noticed the following

Appendix F

Greenhouse Gas Emission Output Files

LGA Realty Eastvale Industrial Development Project

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	446.17	1000sqft	10.24	446,173.00	0
Parking Lot	543.00	Space	4.89	217,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 319 vehicle stalls
64 trailer parking spaces = 128
48 overflow stalls trailer size = 96

Construction Phase - default phase lengths multiplied by 1.75 to reflect construction schedule June 2016 - December 2018.

Demolition -

Grading - acreage of APN 160-020-033 used for disturbance area

Architectural Coating - Use of low-VOC paint (150 g/L) for nonflat coatings per SCAQMD Rule 1113

Vehicle Trips - Based on 766 total trips (passenger and truck) from traffic study.

Area Mitigation - SCAQMD Rule 1113

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	150
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	150
tblConstructionPhase	NumDays	300.00	525.00
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	30.00	53.00
tblConstructionPhase	NumDays	20.00	35.00
tblConstructionPhase	PhaseEndDate	1/2/2019	12/14/2018
tblConstructionPhase	PhaseEndDate	6/14/2016	6/24/2016
tblConstructionPhase	PhaseStartDate	11/1/2018	10/15/2018
tblGrading	AcresOfGrading	132.50	23.50
tblLandUse	LandUseSquareFeet	446,170.00	446,173.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleTrips	ST_TR	2.59	1.72
tblVehicleTrips	SU_TR	2.59	1.72
tblVehicleTrips	WD_TR	2.59	1.72

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.4455	4.1181	3.6953	5.6900e-003	0.4952	0.2096	0.7048	0.2216	0.1944	0.4161	0.0000	499.4646	499.4646	0.0885	0.0000	501.3233
2017	0.6488	4.7895	5.9266	0.0114	0.4852	0.2529	0.7380	0.1306	0.2371	0.3677	0.0000	944.5780	944.5780	0.0971	0.0000	946.6173
2018	3.5959	3.3558	4.3088	8.7100e-003	0.3582	0.1709	0.5291	0.0963	0.1602	0.2566	0.0000	705.5709	705.5709	0.0789	0.0000	707.2269
Total	**4.6901**	**12.2634**	**13.9307**	**0.0258**	**1.3386**	**0.6334**	**1.9719**	**0.4486**	**0.5917**	**1.0403**	**0.0000**	**2,149.6136**	**2,149.6136**	**0.2645**	**0.0000**	**2,155.1675**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.4455	4.1181	3.6953	5.6900e-003	0.4952	0.2096	0.7048	0.2216	0.1944	0.4161	0.0000	499.4643	499.4643	0.0885	0.0000	501.3229
2017	0.6488	4.7895	5.9266	0.0114	0.4852	0.2529	0.7380	0.1306	0.2371	0.3677	0.0000	944.5776	944.5776	0.0971	0.0000	946.6169
2018	3.5959	3.3558	4.3088	8.7100e-003	0.3582	0.1709	0.5291	0.0963	0.1602	0.2566	0.0000	705.5706	705.5706	0.0789	0.0000	707.2266
Total	**4.6901**	**12.2634**	**13.9307**	**0.0258**	**1.3386**	**0.6334**	**1.9719**	**0.4486**	**0.5917**	**1.0403**	**0.0000**	**2,149.6126**	**2,149.6126**	**0.2645**	**0.0000**	**2,155.1665**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.9229	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0246	0.0246	7.0000e-005	0.0000	0.0260
Energy	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	491.2425	491.2425	0.0212	5.1200e-003	493.2757
Mobile	0.4595	1.6464	5.9376	0.0182	1.2467	0.0254	1.2721	0.3336	0.0234	0.3570	0.0000	1,321.7161	1,321.7161	0.0475	0.0000	1,322.7131
Waste						0.0000	0.0000		0.0000	0.0000	85.1344	0.0000	85.1344	5.0313	0.0000	190.7917
Water						0.0000	0.0000		0.0000	0.0000	32.7332	384.4553	417.1885	3.3797	0.0830	513.9047
Total	**3.3875**	**1.6933**	**5.9896**	**0.0184**	**1.2467**	**0.0290**	**1.2757**	**0.3336**	**0.0270**	**0.3606**	**117.8677**	**2,197.4384**	**2,315.3061**	**8.4798**	**0.0882**	**2,520.7111**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.9229	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0246	0.0246	7.0000e-005	0.0000	0.0260
Energy	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	491.2425	491.2425	0.0212	5.1200e-003	493.2757
Mobile	0.4595	1.6464	5.9376	0.0182	1.2467	0.0254	1.2721	0.3336	0.0234	0.3570	0.0000	1,321.7161	1,321.7161	0.0475	0.0000	1,322.7131
Waste						0.0000	0.0000		0.0000	0.0000	42.5672	0.0000	42.5672	2.5157	0.0000	95.3959
Water						0.0000	0.0000		0.0000	0.0000	32.7332	384.4553	417.1885	3.3791	0.0829	513.8525
Total	**3.3875**	**1.6933**	**5.9896**	**0.0184**	**1.2467**	**0.0290**	**1.2757**	**0.3336**	**0.0270**	**0.3606**	**75.3004**	**2,197.4384**	**2,272.7388**	**5.9635**	**0.0880**	**2,425.2630**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**36.11**	**0.00**	**1.84**	**29.67**	**0.15**	**3.79**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2016	6/24/2016	5	10	
2	Grading	Grading	6/25/2016	9/7/2016	5	53	
3	Building Construction	Building Construction	9/8/2016	9/12/2018	5	525	
4	Paving	Paving	9/13/2018	10/31/2018	5	35	
5	Architectural Coating	Architectural Coating	10/15/2018	12/14/2018	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 23.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 679,034; Non-Residential Outdoor: 226,345 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	279.00	109.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	56.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1626	0.0000	0.1626	0.0894	0.0000	0.0894	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0457	0.4917	0.3700	3.5000e-004		0.0265	0.0265		0.0243	0.0243	0.0000	33.1894	33.1894	0.0100	0.0000	33.3996
Total	**0.0457**	**0.4917**	**0.3700**	**3.5000e-004**	**0.1626**	**0.0265**	**0.1891**	**0.0894**	**0.0243**	**0.1137**	**0.0000**	**33.1894**	**33.1894**	**0.0100**	**0.0000**	**33.3996**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	9.6000e-004	9.9400e-003	2.0000e-005	1.7800e-003	2.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.9000e-004	0.0000	1.6652	1.6652	9.0000e-005	0.0000	1.6670
Total	**6.5000e-004**	**9.6000e-004**	**9.9400e-003**	**2.0000e-005**	**1.7800e-003**	**2.0000e-005**	**1.7900e-003**	**4.7000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.6652**	**1.6652**	**9.0000e-005**	**0.0000**	**1.6670**

3.2 Site Preparation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1626	0.0000	0.1626	0.0894	0.0000	0.0894	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0457	0.4917	0.3700	3.5000e-004		0.0265	0.0265		0.0243	0.0243	0.0000	33.1894	33.1894	0.0100	0.0000	33.3996
Total	**0.0457**	**0.4917**	**0.3700**	**3.5000e-004**	**0.1626**	**0.0265**	**0.1891**	**0.0894**	**0.0243**	**0.1137**	**0.0000**	**33.1894**	**33.1894**	**0.0100**	**0.0000**	**33.3996**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	9.6000e-004	9.9400e-003	2.0000e-005	1.7800e-003	2.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.9000e-004	0.0000	1.6652	1.6652	9.0000e-005	0.0000	1.6670
Total	**6.5000e-004**	**9.6000e-004**	**9.9400e-003**	**2.0000e-005**	**1.7800e-003**	**2.0000e-005**	**1.7900e-003**	**4.7000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.6652**	**1.6652**	**9.0000e-005**	**0.0000**	**1.6670**

3.3 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1721	0.0000	0.1721	0.0891	0.0000	0.0891	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1717	1.9826	1.3021	1.6400e-003		0.0950	0.0950		0.0874	0.0874	0.0000	154.2187	154.2187	0.0465	0.0000	155.1956
Total	**0.1717**	**1.9826**	**1.3021**	**1.6400e-003**	**0.1721**	**0.0950**	**0.2670**	**0.0891**	**0.0874**	**0.1765**	**0.0000**	**154.2187**	**154.2187**	**0.0465**	**0.0000**	**155.1956**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1300e-003	3.1300e-003	0.0325	7.0000e-005	5.8100e-003	5.0000e-005	5.8600e-003	1.5400e-003	5.0000e-005	1.5900e-003	0.0000	5.4477	5.4477	2.9000e-004	0.0000	5.4539
Total	**2.1300e-003**	**3.1300e-003**	**0.0325**	**7.0000e-005**	**5.8100e-003**	**5.0000e-005**	**5.8600e-003**	**1.5400e-003**	**5.0000e-005**	**1.5900e-003**	**0.0000**	**5.4477**	**5.4477**	**2.9000e-004**	**0.0000**	**5.4539**

3.3 Grading - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1721	0.0000	0.1721	0.0891	0.0000	0.0891	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1717	1.9826	1.3021	1.6400e-003		0.0950	0.0950		0.0874	0.0874	0.0000	154.2185	154.2185	0.0465	0.0000	155.1954
Total	**0.1717**	**1.9826**	**1.3021**	**1.6400e-003**	**0.1721**	**0.0950**	**0.2670**	**0.0891**	**0.0874**	**0.1765**	**0.0000**	**154.2185**	**154.2185**	**0.0465**	**0.0000**	**155.1954**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1300e-003	3.1300e-003	0.0325	7.0000e-005	5.8100e-003	5.0000e-005	5.8600e-003	1.5400e-003	5.0000e-005	1.5900e-003	0.0000	5.4477	5.4477	2.9000e-004	0.0000	5.4539
Total	**2.1300e-003**	**3.1300e-003**	**0.0325**	**7.0000e-005**	**5.8100e-003**	**5.0000e-005**	**5.8600e-003**	**1.5400e-003**	**5.0000e-005**	**1.5900e-003**	**0.0000**	**5.4477**	**5.4477**	**2.9000e-004**	**0.0000**	**5.4539**

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1397	1.1688	0.7588	1.1000e-003		0.0807	0.0807		0.0758	0.0758	0.0000	99.2830	99.2830	0.0246	0.0000	99.8001
Total	**0.1397**	**1.1688**	**0.7588**	**1.1000e-003**		**0.0807**	**0.0807**		**0.0758**	**0.0758**	**0.0000**	**99.2830**	**99.2830**	**0.0246**	**0.0000**	**99.8001**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0397	0.4035	0.5201	9.7000e-004	0.0275	6.3800e-003	0.0339	7.8500e-003	5.8700e-003	0.0137	0.0000	88.0821	88.0821	6.4000e-004	0.0000	88.0955
Worker	0.0460	0.0675	0.7019	1.5400e-003	0.1255	1.0700e-003	0.1266	0.0333	9.8000e-004	0.0343	0.0000	117.5786	117.5786	6.3300e-003	0.0000	117.7116
Total	**0.0856**	**0.4710**	**1.2220**	**2.5100e-003**	**0.1530**	**7.4500e-003**	**0.1605**	**0.0412**	**6.8500e-003**	**0.0480**	**0.0000**	**205.6607**	**205.6607**	**6.9700e-003**	**0.0000**	**205.8071**

3.4 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1397	1.1688	0.7588	1.1000e-003		0.0807	0.0807		0.0758	0.0758	0.0000	99.2829	99.2829	0.0246	0.0000	99.8000
Total	**0.1397**	**1.1688**	**0.7588**	**1.1000e-003**		**0.0807**	**0.0807**		**0.0758**	**0.0758**	**0.0000**	**99.2829**	**99.2829**	**0.0246**	**0.0000**	**99.8000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0397	0.4035	0.5201	9.7000e-004	0.0275	6.3800e-003	0.0339	7.8500e-003	5.8700e-003	0.0137	0.0000	88.0821	88.0821	6.4000e-004	0.0000	88.0955
Worker	0.0460	0.0675	0.7019	1.5400e-003	0.1255	1.0700e-003	0.1266	0.0333	9.8000e-004	0.0343	0.0000	117.5786	117.5786	6.3300e-003	0.0000	117.7116
Total	**0.0856**	**0.4710**	**1.2220**	**2.5100e-003**	**0.1530**	**7.4500e-003**	**0.1605**	**0.0412**	**6.8500e-003**	**0.0480**	**0.0000**	**205.6607**	**205.6607**	**6.9700e-003**	**0.0000**	**205.8071**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3228	311.3228	0.0766	0.0000	312.9319
Total	**0.4033**	**3.4327**	**2.3568**	**3.4900e-003**		**0.2316**	**0.2316**		**0.2175**	**0.2175**	**0.0000**	**311.3228**	**311.3228**	**0.0766**	**0.0000**	**312.9319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1149	1.1634	1.5628	3.0700e-003	0.0872	0.0181	0.1053	0.0249	0.0166	0.0415	0.0000	274.7588	274.7588	1.9600e-003	0.0000	274.7999
Worker	0.1305	0.1933	2.0070	4.8900e-003	0.3979	3.2600e-003	0.4012	0.1057	3.0100e-003	0.1087	0.0000	358.4964	358.4964	0.0185	0.0000	358.8855
Total	**0.2455**	**1.3567**	**3.5698**	**7.9600e-003**	**0.4852**	**0.0213**	**0.5065**	**0.1306**	**0.0196**	**0.1502**	**0.0000**	**633.2552**	**633.2552**	**0.0205**	**0.0000**	**633.6854**

3.4 Building Construction - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3225	311.3225	0.0766	0.0000	312.9315
Total	**0.4033**	**3.4327**	**2.3568**	**3.4900e-003**		**0.2316**	**0.2316**		**0.2175**	**0.2175**	**0.0000**	**311.3225**	**311.3225**	**0.0766**	**0.0000**	**312.9315**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1149	1.1634	1.5628	3.0700e-003	0.0872	0.0181	0.1053	0.0249	0.0166	0.0415	0.0000	274.7588	274.7588	1.9600e-003	0.0000	274.7999
Worker	0.1305	0.1933	2.0070	4.8900e-003	0.3979	3.2600e-003	0.4012	0.1057	3.0100e-003	0.1087	0.0000	358.4964	358.4964	0.0185	0.0000	358.8855
Total	**0.2455**	**1.3567**	**3.5698**	**7.9600e-003**	**0.4852**	**0.0213**	**0.5065**	**0.1306**	**0.0196**	**0.1502**	**0.0000**	**633.2552**	**633.2552**	**0.0205**	**0.0000**	**633.6854**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2442	2.1284	1.6042	2.4500e-003		0.1367	0.1367		0.1285	0.1285	0.0000	216.6443	216.6443	0.0530	0.0000	217.7576
Total	**0.2442**	**2.1284**	**1.6042**	**2.4500e-003**		**0.1367**	**0.1367**		**0.1285**	**0.1285**	**0.0000**	**216.6443**	**216.6443**	**0.0530**	**0.0000**	**217.7576**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0757	0.7512	1.0538	2.1600e-003	0.0614	0.0120	0.0734	0.0175	0.0110	0.0285	0.0000	190.1413	190.1413	1.3700e-003	0.0000	190.1701
Worker	0.0825	0.1234	1.2791	3.4400e-003	0.2801	2.2300e-003	0.2823	0.0744	2.0700e-003	0.0765	0.0000	242.9084	242.9084	0.0121	0.0000	243.1626
Total	**0.1582**	**0.8746**	**2.3329**	**5.6000e-003**	**0.3415**	**0.0142**	**0.3557**	**0.0919**	**0.0131**	**0.1050**	**0.0000**	**433.0497**	**433.0497**	**0.0135**	**0.0000**	**433.3326**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2442	2.1284	1.6042	2.4500e-003		0.1367	0.1367		0.1285	0.1285	0.0000	216.6440	216.6440	0.0530	0.0000	217.7574
Total	**0.2442**	**2.1284**	**1.6042**	**2.4500e-003**		**0.1367**	**0.1367**		**0.1285**	**0.1285**	**0.0000**	**216.6440**	**216.6440**	**0.0530**	**0.0000**	**217.7574**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0757	0.7512	1.0538	2.1600e-003	0.0614	0.0120	0.0734	0.0175	0.0110	0.0285	0.0000	190.1413	190.1413	1.3700e-003	0.0000	190.1701
Worker	0.0825	0.1234	1.2791	3.4400e-003	0.2801	2.2300e-003	0.2823	0.0744	2.0700e-003	0.0765	0.0000	242.9084	242.9084	0.0121	0.0000	243.1626
Total	**0.1582**	**0.8746**	**2.3329**	**5.6000e-003**	**0.3415**	**0.0142**	**0.3557**	**0.0919**	**0.0131**	**0.1050**	**0.0000**	**433.0497**	**433.0497**	**0.0135**	**0.0000**	**433.3326**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0282	0.3004	0.2537	3.9000e-004		0.0164	0.0164		0.0151	0.0151	0.0000	35.6453	35.6453	0.0111	0.0000	35.8783
Paving	6.4100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0346**	**0.3004**	**0.2537**	**3.9000e-004**		**0.0164**	**0.0164**		**0.0151**	**0.0151**	**0.0000**	**35.6453**	**35.6453**	**0.0111**	**0.0000**	**35.8783**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	1.2700e-003	0.0132	4.0000e-005	2.8800e-003	2.0000e-005	2.9000e-003	7.6000e-004	2.0000e-005	7.9000e-004	0.0000	2.4977	2.4977	1.2000e-004	0.0000	2.5004
Total	**8.5000e-004**	**1.2700e-003**	**0.0132**	**4.0000e-005**	**2.8800e-003**	**2.0000e-005**	**2.9000e-003**	**7.6000e-004**	**2.0000e-005**	**7.9000e-004**	**0.0000**	**2.4977**	**2.4977**	**1.2000e-004**	**0.0000**	**2.5004**

3.5 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0282	0.3004	0.2537	3.9000e-004		0.0164	0.0164		0.0151	0.0151	0.0000	35.6453	35.6453	0.0111	0.0000	35.8783
Paving	6.4100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0346**	**0.3004**	**0.2537**	**3.9000e-004**		**0.0164**	**0.0164**		**0.0151**	**0.0151**	**0.0000**	**35.6453**	**35.6453**	**0.0111**	**0.0000**	**35.8783**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	1.2700e-003	0.0132	4.0000e-005	2.8800e-003	2.0000e-005	2.9000e-003	7.6000e-004	2.0000e-005	7.9000e-004	0.0000	2.4977	2.4977	1.2000e-004	0.0000	2.5004
Total	**8.5000e-004**	**1.2700e-003**	**0.0132**	**4.0000e-005**	**2.8800e-003**	**2.0000e-005**	**2.9000e-003**	**7.6000e-004**	**2.0000e-005**	**7.9000e-004**	**0.0000**	**2.4977**	**2.4977**	**1.2000e-004**	**0.0000**	**2.5004**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.1473					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7200e-003	0.0451	0.0417	7.0000e-005		3.3900e-003	3.3900e-003		3.3900e-003	3.3900e-003	0.0000	5.7448	5.7448	5.5000e-004	0.0000	5.7563
Total	**3.1540**	**0.0451**	**0.0417**	**7.0000e-005**		**3.3900e-003**	**3.3900e-003**		**3.3900e-003**	**3.3900e-003**	**0.0000**	**5.7448**	**5.7448**	**5.5000e-004**	**0.0000**	**5.7563**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0700e-003	6.0900e-003	0.0631	1.7000e-004	0.0138	1.1000e-004	0.0139	3.6700e-003	1.0000e-004	3.7700e-003	0.0000	11.9891	11.9891	6.0000e-004	0.0000	12.0017
Total	**4.0700e-003**	**6.0900e-003**	**0.0631**	**1.7000e-004**	**0.0138**	**1.1000e-004**	**0.0139**	**3.6700e-003**	**1.0000e-004**	**3.7700e-003**	**0.0000**	**11.9891**	**11.9891**	**6.0000e-004**	**0.0000**	**12.0017**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.1473					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7200e-003	0.0451	0.0417	7.0000e-005		3.3900e-003	3.3900e-003		3.3900e-003	3.3900e-003	0.0000	5.7448	5.7448	5.5000e-004	0.0000	5.7563
Total	**3.1540**	**0.0451**	**0.0417**	**7.0000e-005**		**3.3900e-003**	**3.3900e-003**		**3.3900e-003**	**3.3900e-003**	**0.0000**	**5.7448**	**5.7448**	**5.5000e-004**	**0.0000**	**5.7563**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0700e-003	6.0900e-003	0.0631	1.7000e-004	0.0138	1.1000e-004	0.0139	3.6700e-003	1.0000e-004	3.7700e-003	0.0000	11.9891	11.9891	6.0000e-004	0.0000	12.0017
Total	**4.0700e-003**	**6.0900e-003**	**0.0631**	**1.7000e-004**	**0.0138**	**1.1000e-004**	**0.0139**	**3.6700e-003**	**1.0000e-004**	**3.7700e-003**	**0.0000**	**11.9891**	**11.9891**	**6.0000e-004**	**0.0000**	**12.0017**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4595	1.6464	5.9376	0.0182	1.2467	0.0254	1.2721	0.3336	0.0234	0.3570	0.0000	1,321.7161	1,321.7161	0.0475	0.0000	1,322.7131
Unmitigated	0.4595	1.6464	5.9376	0.0182	1.2467	0.0254	1.2721	0.3336	0.0234	0.3570	0.0000	1,321.7161	1,321.7161	0.0475	0.0000	1,322.7131

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	767.41	767.41	767.41	3,288,912	3,288,912
Parking Lot	0.00	0.00	0.00		
Total	767.41	767.41	767.41	3,288,912	3,288,912

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510142	0.059804	0.180842	0.139058	0.042603	0.006701	0.016107	0.033206	0.001939	0.002487	0.004384	0.000580	0.002146

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	440.2902	440.2902	0.0202	4.1900e-003	442.0133
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	440.2902	440.2902	0.0202	4.1900e-003	442.0133
NaturalGas Mitigated	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	50.9523	50.9523	9.8000e-004	9.3000e-004	51.2624
NaturalGas Unmitigated	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	50.9523	50.9523	9.8000e-004	9.3000e-004	51.2624

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	954810	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	50.9523	50.9523	9.8000e-004	9.3000e-004	51.2624
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.1500e-003**	**0.0468**	**0.0393**	**2.8000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**	**0.0000**	**50.9523**	**50.9523**	**9.8000e-004**	**9.3000e-004**	**51.2624**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	954810	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	50.9523	50.9523	9.8000e-004	9.3000e-004	51.2624
Total		**5.1500e-003**	**0.0468**	**0.0393**	**2.8000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**	**0.0000**	**50.9523**	**50.9523**	**9.8000e-004**	**9.3000e-004**	**51.2624**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	191136	54.6968	2.5100e-003	5.2000e-004	54.9109
Unrefrigerated Warehouse-No Rail	1.34744e+006	385.5934	0.0177	3.6700e-003	387.1025
Total		**440.2902**	**0.0202**	**4.1900e-003**	**442.0133**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	191136	54.6968	2.5100e-003	5.2000e-004	54.9109
Unrefrigerated Warehouse-No Rail	1.34744e+006	385.5934	0.0177	3.6700e-003	387.1025
Total		**440.2902**	**0.0202**	**4.1900e-003**	**442.0133**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.9229	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0246	0.0246	7.0000e-005	0.0000	0.0260
Unmitigated	2.9229	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0246	0.0246	7.0000e-005	0.0000	0.0260

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5246					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.3971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0246	0.0246	7.0000e-005	0.0000	0.0260
Total	**2.9229**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0246**	**0.0246**	**7.0000e-005**	**0.0000**	**0.0260**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5246					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.3971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0246	0.0246	7.0000e-005	0.0000	0.0260
Total	**2.9229**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0246**	**0.0246**	**7.0000e-005**	**0.0000**	**0.0260**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	417.1885	3.3791	0.0829	513.8525
Unmitigated	417.1885	3.3797	0.0830	513.9047

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	103.177 / 0	417.1885	3.3797	0.0830	513.9047
Total		**417.1885**	**3.3797**	**0.0830**	**513.9047**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	103.177 / 0	417.1885	3.3791	0.0829	513.8525
Total		**417.1885**	**3.3791**	**0.0829**	**513.8525**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	42.5672	2.5157	0.0000	95.3959
Unmitigated	85.1344	5.0313	0.0000	190.7917

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	419.4	85.1344	5.0313	0.0000	190.7917
Total		**85.1344**	**5.0313**	**0.0000**	**190.7917**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	209.7	42.5672	2.5157	0.0000	95.3959
Total		**42.5672**	**2.5157**	**0.0000**	**95.3959**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

LGA Realty Eastvale Industrial Development Project - Mitigated

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	446.17	1000sqft	10.24	446,173.00	0
Parking Lot	543.00	Space	4.89	217,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on site plans

Construction Phase - default phase lengths multiplied by 1.75 to reflect construction schedule June 2016 - December 2018.

Demolition -

Grading - acreage of APN 160-020-033 used for disturbance area

Architectural Coating - Use of low-VOC paint (50 g/L) for nonflat coatings per Mitigation Measure AQ-1

Vehicle Trips - Based on total vehicle trips (passenger and trucks) from traffic study

Area Mitigation - MM AQ-1

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	300.00	525.00
tblConstructionPhase	NumDays	30.00	53.00
tblConstructionPhase	NumDays	20.00	35.00
tblGrading	AcresOfGrading	132.50	23.50
tblLandUse	LandUseSquareFeet	446,170.00	446,173.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblVehicleTrips	ST_TR	2.59	1.72
tblVehicleTrips	SU_TR	2.59	1.72
tblVehicleTrips	WD_TR	2.59	1.72

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.4468	4.0592	3.7197	5.8800e-003	0.4371	0.2064	0.6436	0.1857	0.1917	0.3774	0.0000	513.7243	513.7243	0.0871	0.0000	515.5534
2017	0.6488	4.7895	5.9266	0.0114	0.4852	0.2529	0.7380	0.1306	0.2371	0.3677	0.0000	944.5780	944.5780	0.0971	0.0000	946.6173
2018	1.4801	3.2245	4.1367	8.3600e-003	0.3433	0.1643	0.5075	0.0923	0.1541	0.2464	0.0000	677.1690	677.1690	0.0760	0.0000	678.7640
Total	**2.5757**	**12.0731**	**13.7830**	**0.0257**	**1.2655**	**0.6236**	**1.8891**	**0.4086**	**0.5828**	**0.9914**	**0.0000**	**2,135.4713**	**2,135.4713**	**0.2602**	**0.0000**	**2,140.9347**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.4468	4.0592	3.7197	5.8800e-003	0.4371	0.2064	0.6436	0.1857	0.1917	0.3774	0.0000	513.7240	513.7240	0.0871	0.0000	515.5531
2017	0.6488	4.7895	5.9266	0.0114	0.4852	0.2529	0.7380	0.1306	0.2371	0.3677	0.0000	944.5776	944.5776	0.0971	0.0000	946.6169
2018	1.4801	3.2245	4.1367	8.3600e-003	0.3433	0.1643	0.5075	0.0923	0.1541	0.2464	0.0000	677.1687	677.1687	0.0760	0.0000	678.7637
Total	**2.5757**	**12.0731**	**13.7830**	**0.0257**	**1.2655**	**0.6236**	**1.8891**	**0.4086**	**0.5828**	**0.9914**	**0.0000**	**2,135.4703**	**2,135.4703**	**0.2602**	**0.0000**	**2,140.9337**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.9229	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0246	0.0246	7.0000e-005	0.0000	0.0260
Energy	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	491.2425	491.2425	0.0212	5.1200e-003	493.2757
Mobile	0.4595	1.6464	5.9376	0.0182	1.2467	0.0254	1.2721	0.3336	0.0234	0.3570	0.0000	1,321.7161	1,321.7161	0.0475	0.0000	1,322.7131
Waste						0.0000	0.0000		0.0000	0.0000	85.1344	0.0000	85.1344	5.0313	0.0000	190.7917
Water						0.0000	0.0000		0.0000	0.0000	32.7332	384.4553	417.1885	3.3797	0.0830	513.9047
Total	**3.3875**	**1.6933**	**5.9896**	**0.0184**	**1.2467**	**0.0290**	**1.2757**	**0.3336**	**0.0270**	**0.3606**	**117.8677**	**2,197.4384**	**2,315.3061**	**8.4798**	**0.0882**	**2,520.7111**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5032	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0246	0.0246	7.0000e-005	0.0000	0.0260
Energy	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	491.2425	491.2425	0.0212	5.1200e-003	493.2757
Mobile	0.4595	1.6464	5.9376	0.0182	1.2467	0.0254	1.2721	0.3336	0.0234	0.3570	0.0000	1,321.7161	1,321.7161	0.0475	0.0000	1,322.7131
Waste						0.0000	0.0000		0.0000	0.0000	42.5672	0.0000	42.5672	2.5157	0.0000	95.3959
Water						0.0000	0.0000		0.0000	0.0000	32.7332	384.4553	417.1885	3.3791	0.0829	513.8525
Total	**2.9678**	**1.6933**	**5.9896**	**0.0184**	**1.2467**	**0.0290**	**1.2757**	**0.3336**	**0.0270**	**0.3606**	**75.3004**	**2,197.4384**	**2,272.7388**	**5.9635**	**0.0880**	**2,425.2630**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**12.39**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**36.11**	**0.00**	**1.84**	**29.67**	**0.15**	**3.79**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2016	6/14/2016	5	10	
2	Grading	Grading	6/15/2016	8/26/2016	5	53	
3	Building Construction	Building Construction	8/27/2016	8/31/2018	5	525	
4	Paving	Paving	9/1/2018	10/19/2018	5	35	
5	Architectural Coating	Architectural Coating	10/20/2018	12/21/2018	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 23.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 679,034; Non-Residential Outdoor: 226,345 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	279.00	109.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	56.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0254	0.2732	0.2055	2.0000e-004		0.0147	0.0147		0.0135	0.0135	0.0000	18.4386	18.4386	5.5600e-003	0.0000	18.5554
Total	**0.0254**	**0.2732**	**0.2055**	**2.0000e-004**	**0.0903**	**0.0147**	**0.1050**	**0.0497**	**0.0135**	**0.0632**	**0.0000**	**18.4386**	**18.4386**	**5.5600e-003**	**0.0000**	**18.5554**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	5.3000e-004	5.5200e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9251	0.9251	5.0000e-005	0.0000	0.9261
Total	**3.6000e-004**	**5.3000e-004**	**5.5200e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9251**	**0.9251**	**5.0000e-005**	**0.0000**	**0.9261**

3.2 Site Preparation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0254	0.2732	0.2055	2.0000e-004		0.0147	0.0147		0.0135	0.0135	0.0000	18.4385	18.4385	5.5600e-003	0.0000	18.5553
Total	**0.0254**	**0.2732**	**0.2055**	**2.0000e-004**	**0.0903**	**0.0147**	**0.1050**	**0.0497**	**0.0135**	**0.0632**	**0.0000**	**18.4385**	**18.4385**	**5.5600e-003**	**0.0000**	**18.5553**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	5.3000e-004	5.5200e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9251	0.9251	5.0000e-005	0.0000	0.9261
Total	**3.6000e-004**	**5.3000e-004**	**5.5200e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9251**	**0.9251**	**5.0000e-005**	**0.0000**	**0.9261**

3.3 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1721	0.0000	0.1721	0.0891	0.0000	0.0891	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1717	1.9826	1.3021	1.6400e-003		0.0950	0.0950		0.0874	0.0874	0.0000	154.2187	154.2187	0.0465	0.0000	155.1956
Total	**0.1717**	**1.9826**	**1.3021**	**1.6400e-003**	**0.1721**	**0.0950**	**0.2670**	**0.0891**	**0.0874**	**0.1765**	**0.0000**	**154.2187**	**154.2187**	**0.0465**	**0.0000**	**155.1956**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1300e-003	3.1300e-003	0.0325	7.0000e-005	5.8100e-003	5.0000e-005	5.8600e-003	1.5400e-003	5.0000e-005	1.5900e-003	0.0000	5.4477	5.4477	2.9000e-004	0.0000	5.4539
Total	**2.1300e-003**	**3.1300e-003**	**0.0325**	**7.0000e-005**	**5.8100e-003**	**5.0000e-005**	**5.8600e-003**	**1.5400e-003**	**5.0000e-005**	**1.5900e-003**	**0.0000**	**5.4477**	**5.4477**	**2.9000e-004**	**0.0000**	**5.4539**

3.3 Grading - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1721	0.0000	0.1721	0.0891	0.0000	0.0891	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1717	1.9826	1.3021	1.6400e-003		0.0950	0.0950		0.0874	0.0874	0.0000	154.2185	154.2185	0.0465	0.0000	155.1954
Total	**0.1717**	**1.9826**	**1.3021**	**1.6400e-003**	**0.1721**	**0.0950**	**0.2670**	**0.0891**	**0.0874**	**0.1765**	**0.0000**	**154.2185**	**154.2185**	**0.0465**	**0.0000**	**155.1954**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1300e-003	3.1300e-003	0.0325	7.0000e-005	5.8100e-003	5.0000e-005	5.8600e-003	1.5400e-003	5.0000e-005	1.5900e-003	0.0000	5.4477	5.4477	2.9000e-004	0.0000	5.4539
Total	**2.1300e-003**	**3.1300e-003**	**0.0325**	**7.0000e-005**	**5.8100e-003**	**5.0000e-005**	**5.8600e-003**	**1.5400e-003**	**5.0000e-005**	**1.5900e-003**	**0.0000**	**5.4477**	**5.4477**	**2.9000e-004**	**0.0000**	**5.4539**

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1533	1.2828	0.8328	1.2100e-003		0.0885	0.0885		0.0832	0.0832	0.0000	108.9691	108.9691	0.0270	0.0000	109.5367
Total	**0.1533**	**1.2828**	**0.8328**	**1.2100e-003**		**0.0885**	**0.0885**		**0.0832**	**0.0832**	**0.0000**	**108.9691**	**108.9691**	**0.0270**	**0.0000**	**109.5367**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0435	0.4429	0.5709	1.0600e-003	0.0302	7.0100e-003	0.0372	8.6100e-003	6.4400e-003	0.0151	0.0000	96.6755	96.6755	7.0000e-004	0.0000	96.6902
Worker	0.0505	0.0741	0.7704	1.6900e-003	0.1377	1.1700e-003	0.1389	0.0366	1.0800e-003	0.0377	0.0000	129.0496	129.0496	6.9500e-003	0.0000	129.1956
Total	**0.0940**	**0.5170**	**1.3412**	**2.7500e-003**	**0.1679**	**8.1800e-003**	**0.1761**	**0.0452**	**7.5200e-003**	**0.0527**	**0.0000**	**225.7251**	**225.7251**	**7.6500e-003**	**0.0000**	**225.8858**

3.4 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1533	1.2828	0.8328	1.2100e-003		0.0885	0.0885		0.0832	0.0832	0.0000	108.9690	108.9690	0.0270	0.0000	109.5365
Total	**0.1533**	**1.2828**	**0.8328**	**1.2100e-003**		**0.0885**	**0.0885**		**0.0832**	**0.0832**	**0.0000**	**108.9690**	**108.9690**	**0.0270**	**0.0000**	**109.5365**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0435	0.4429	0.5709	1.0600e-003	0.0302	7.0100e-003	0.0372	8.6100e-003	6.4400e-003	0.0151	0.0000	96.6755	96.6755	7.0000e-004	0.0000	96.6902
Worker	0.0505	0.0741	0.7704	1.6900e-003	0.1377	1.1700e-003	0.1389	0.0366	1.0800e-003	0.0377	0.0000	129.0496	129.0496	6.9500e-003	0.0000	129.1956
Total	**0.0940**	**0.5170**	**1.3412**	**2.7500e-003**	**0.1679**	**8.1800e-003**	**0.1761**	**0.0452**	**7.5200e-003**	**0.0527**	**0.0000**	**225.7251**	**225.7251**	**7.6500e-003**	**0.0000**	**225.8858**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3228	311.3228	0.0766	0.0000	312.9319
Total	**0.4033**	**3.4327**	**2.3568**	**3.4900e-003**		**0.2316**	**0.2316**		**0.2175**	**0.2175**	**0.0000**	**311.3228**	**311.3228**	**0.0766**	**0.0000**	**312.9319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1149	1.1634	1.5628	3.0700e-003	0.0872	0.0181	0.1053	0.0249	0.0166	0.0415	0.0000	274.7588	274.7588	1.9600e-003	0.0000	274.7999
Worker	0.1305	0.1933	2.0070	4.8900e-003	0.3979	3.2600e-003	0.4012	0.1057	3.0100e-003	0.1087	0.0000	358.4964	358.4964	0.0185	0.0000	358.8855
Total	**0.2455**	**1.3567**	**3.5698**	**7.9600e-003**	**0.4852**	**0.0213**	**0.5065**	**0.1306**	**0.0196**	**0.1502**	**0.0000**	**633.2552**	**633.2552**	**0.0205**	**0.0000**	**633.6854**

3.4 Building Construction - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3225	311.3225	0.0766	0.0000	312.9315
Total	**0.4033**	**3.4327**	**2.3568**	**3.4900e-003**		**0.2316**	**0.2316**		**0.2175**	**0.2175**	**0.0000**	**311.3225**	**311.3225**	**0.0766**	**0.0000**	**312.9315**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1149	1.1634	1.5628	3.0700e-003	0.0872	0.0181	0.1053	0.0249	0.0166	0.0415	0.0000	274.7588	274.7588	1.9600e-003	0.0000	274.7999
Worker	0.1305	0.1933	2.0070	4.8900e-003	0.3979	3.2600e-003	0.4012	0.1057	3.0100e-003	0.1087	0.0000	358.4964	358.4964	0.0185	0.0000	358.8855
Total	**0.2455**	**1.3567**	**3.5698**	**7.9600e-003**	**0.4852**	**0.0213**	**0.5065**	**0.1306**	**0.0196**	**0.1502**	**0.0000**	**633.2552**	**633.2552**	**0.0205**	**0.0000**	**633.6854**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2335	2.0353	1.5341	2.3500e-003		0.1308	0.1308		0.1229	0.1229	0.0000	207.1735	207.1735	0.0507	0.0000	208.2382
Total	**0.2335**	**2.0353**	**1.5341**	**2.3500e-003**		**0.1308**	**0.1308**		**0.1229**	**0.1229**	**0.0000**	**207.1735**	**207.1735**	**0.0507**	**0.0000**	**208.2382**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0723	0.7183	1.0077	2.0600e-003	0.0587	0.0115	0.0702	0.0168	0.0105	0.0273	0.0000	181.8291	181.8291	1.3100e-003	0.0000	181.8567
Worker	0.0789	0.1180	1.2232	3.2900e-003	0.2678	2.1400e-003	0.2700	0.0711	1.9800e-003	0.0731	0.0000	232.2894	232.2894	0.0116	0.0000	232.5325
Total	**0.1513**	**0.8363**	**2.2309**	**5.3500e-003**	**0.3265**	**0.0136**	**0.3401**	**0.0879**	**0.0125**	**0.1004**	**0.0000**	**414.1186**	**414.1186**	**0.0129**	**0.0000**	**414.3891**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2335	2.0353	1.5341	2.3500e-003		0.1308	0.1308		0.1229	0.1229	0.0000	207.1732	207.1732	0.0507	0.0000	208.2379
Total	**0.2335**	**2.0353**	**1.5341**	**2.3500e-003**		**0.1308**	**0.1308**		**0.1229**	**0.1229**	**0.0000**	**207.1732**	**207.1732**	**0.0507**	**0.0000**	**208.2379**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0723	0.7183	1.0077	2.0600e-003	0.0587	0.0115	0.0702	0.0168	0.0105	0.0273	0.0000	181.8291	181.8291	1.3100e-003	0.0000	181.8567
Worker	0.0789	0.1180	1.2232	3.2900e-003	0.2678	2.1400e-003	0.2700	0.0711	1.9800e-003	0.0731	0.0000	232.2894	232.2894	0.0116	0.0000	232.5325
Total	**0.1513**	**0.8363**	**2.2309**	**5.3500e-003**	**0.3265**	**0.0136**	**0.3401**	**0.0879**	**0.0125**	**0.1004**	**0.0000**	**414.1186**	**414.1186**	**0.0129**	**0.0000**	**414.3891**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0282	0.3004	0.2537	3.9000e-004		0.0164	0.0164		0.0151	0.0151	0.0000	35.6453	35.6453	0.0111	0.0000	35.8783
Paving	6.4100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0346**	**0.3004**	**0.2537**	**3.9000e-004**		**0.0164**	**0.0164**		**0.0151**	**0.0151**	**0.0000**	**35.6453**	**35.6453**	**0.0111**	**0.0000**	**35.8783**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	1.2700e-003	0.0132	4.0000e-005	2.8800e-003	2.0000e-005	2.9000e-003	7.6000e-004	2.0000e-005	7.9000e-004	0.0000	2.4977	2.4977	1.2000e-004	0.0000	2.5004
Total	**8.5000e-004**	**1.2700e-003**	**0.0132**	**4.0000e-005**	**2.8800e-003**	**2.0000e-005**	**2.9000e-003**	**7.6000e-004**	**2.0000e-005**	**7.9000e-004**	**0.0000**	**2.4977**	**2.4977**	**1.2000e-004**	**0.0000**	**2.5004**

3.5 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0282	0.3004	0.2537	3.9000e-004		0.0164	0.0164		0.0151	0.0151	0.0000	35.6453	35.6453	0.0111	0.0000	35.8783
Paving	6.4100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0346**	**0.3004**	**0.2537**	**3.9000e-004**		**0.0164**	**0.0164**		**0.0151**	**0.0151**	**0.0000**	**35.6453**	**35.6453**	**0.0111**	**0.0000**	**35.8783**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	1.2700e-003	0.0132	4.0000e-005	2.8800e-003	2.0000e-005	2.9000e-003	7.6000e-004	2.0000e-005	7.9000e-004	0.0000	2.4977	2.4977	1.2000e-004	0.0000	2.5004
Total	**8.5000e-004**	**1.2700e-003**	**0.0132**	**4.0000e-005**	**2.8800e-003**	**2.0000e-005**	**2.9000e-003**	**7.6000e-004**	**2.0000e-005**	**7.9000e-004**	**0.0000**	**2.4977**	**2.4977**	**1.2000e-004**	**0.0000**	**2.5004**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0491					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7200e-003	0.0451	0.0417	7.0000e-005		3.3900e-003	3.3900e-003		3.3900e-003	3.3900e-003	0.0000	5.7448	5.7448	5.5000e-004	0.0000	5.7563
Total	**1.0558**	**0.0451**	**0.0417**	**7.0000e-005**		**3.3900e-003**	**3.3900e-003**		**3.3900e-003**	**3.3900e-003**	**0.0000**	**5.7448**	**5.7448**	**5.5000e-004**	**0.0000**	**5.7563**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0700e-003	6.0900e-003	0.0631	1.7000e-004	0.0138	1.1000e-004	0.0139	3.6700e-003	1.0000e-004	3.7700e-003	0.0000	11.9891	11.9891	6.0000e-004	0.0000	12.0017
Total	**4.0700e-003**	**6.0900e-003**	**0.0631**	**1.7000e-004**	**0.0138**	**1.1000e-004**	**0.0139**	**3.6700e-003**	**1.0000e-004**	**3.7700e-003**	**0.0000**	**11.9891**	**11.9891**	**6.0000e-004**	**0.0000**	**12.0017**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0491					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7200e-003	0.0451	0.0417	7.0000e-005		3.3900e-003	3.3900e-003		3.3900e-003	3.3900e-003	0.0000	5.7448	5.7448	5.5000e-004	0.0000	5.7563
Total	**1.0558**	**0.0451**	**0.0417**	**7.0000e-005**		**3.3900e-003**	**3.3900e-003**		**3.3900e-003**	**3.3900e-003**	**0.0000**	**5.7448**	**5.7448**	**5.5000e-004**	**0.0000**	**5.7563**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0700e-003	6.0900e-003	0.0631	1.7000e-004	0.0138	1.1000e-004	0.0139	3.6700e-003	1.0000e-004	3.7700e-003	0.0000	11.9891	11.9891	6.0000e-004	0.0000	12.0017
Total	**4.0700e-003**	**6.0900e-003**	**0.0631**	**1.7000e-004**	**0.0138**	**1.1000e-004**	**0.0139**	**3.6700e-003**	**1.0000e-004**	**3.7700e-003**	**0.0000**	**11.9891**	**11.9891**	**6.0000e-004**	**0.0000**	**12.0017**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4595	1.6464	5.9376	0.0182	1.2467	0.0254	1.2721	0.3336	0.0234	0.3570	0.0000	1,321.7161	1,321.7161	0.0475	0.0000	1,322.7131
Unmitigated	0.4595	1.6464	5.9376	0.0182	1.2467	0.0254	1.2721	0.3336	0.0234	0.3570	0.0000	1,321.7161	1,321.7161	0.0475	0.0000	1,322.7131

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	767.41	767.41	767.41	3,288,912	3,288,912
Total	767.41	767.41	767.41	3,288,912	3,288,912

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510142	0.059804	0.180842	0.139058	0.042603	0.006701	0.016107	0.033206	0.001939	0.002487	0.004384	0.000580	0.002146

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	440.2902	440.2902	0.0202	4.1900e-003	442.0133
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	440.2902	440.2902	0.0202	4.1900e-003	442.0133
NaturalGas Mitigated	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	50.9523	50.9523	9.8000e-004	9.3000e-004	51.2624
NaturalGas Unmitigated	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	50.9523	50.9523	9.8000e-004	9.3000e-004	51.2624

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	954810	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	50.9523	50.9523	9.8000e-004	9.3000e-004	51.2624
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.1500e-003**	**0.0468**	**0.0393**	**2.8000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**	**0.0000**	**50.9523**	**50.9523**	**9.8000e-004**	**9.3000e-004**	**51.2624**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	954810	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003	0.0000	50.9523	50.9523	9.8000e-004	9.3000e-004	51.2624
Total		**5.1500e-003**	**0.0468**	**0.0393**	**2.8000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**	**0.0000**	**50.9523**	**50.9523**	**9.8000e-004**	**9.3000e-004**	**51.2624**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	191136	54.6968	2.5100e-003	5.2000e-004	54.9109
Unrefrigerated Warehouse-No Rail	1.34744e+006	385.5934	0.0177	3.6700e-003	387.1025
Total		**440.2902**	**0.0202**	**4.1900e-003**	**442.0133**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	191136	54.6968	2.5100e-003	5.2000e-004	54.9109
Unrefrigerated Warehouse-No Rail	1.34744e+006	385.5934	0.0177	3.6700e-003	387.1025
Total		**440.2902**	**0.0202**	**4.1900e-003**	**442.0133**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5032	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0246	0.0246	7.0000e-005	0.0000	0.0260
Unmitigated	2.9229	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0246	0.0246	7.0000e-005	0.0000	0.0260

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5246					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.3971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0246	0.0246	7.0000e-005	0.0000	0.0260
Total	**2.9229**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0246**	**0.0246**	**7.0000e-005**	**0.0000**	**0.0260**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1049					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.3971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2100e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0246	0.0246	7.0000e-005	0.0000	0.0260
Total	**2.5032**	**1.2000e-004**	**0.0128**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0246**	**0.0246**	**7.0000e-005**	**0.0000**	**0.0260**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	417.1885	3.3791	0.0829	513.8525
Unmitigated	417.1885	3.3797	0.0830	513.9047

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	103.177 / 0	417.1885	3.3797	0.0830	513.9047
Total		**417.1885**	**3.3797**	**0.0830**	**513.9047**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	103.177 / 0	417.1885	3.3791	0.0829	513.8525
Total		**417.1885**	**3.3791**	**0.0829**	**513.8525**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	42.5672	2.5157	0.0000	95.3959
Unmitigated	85.1344	5.0313	0.0000	190.7917

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	419.4	85.1344	5.0313	0.0000	190.7917
Total		**85.1344**	**5.0313**	**0.0000**	**190.7917**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	209.7	42.5672	2.5157	0.0000	95.3959
Total		**42.5672**	**2.5157**	**0.0000**	**95.3959**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Greenhouse Gas Emission Worksheet

N20 Mobile Emissions Eastvale Industrial Development Project

From URBEMIS 2007 Vehicle Fleet Mix Output:

Annual VMT: 3,288,912

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)*	CH4 Emission (g/mile)**	N2O Emission Factor (g/mile)*	N2O Emission (g/mile)**
Light Auto	51.0%	0.04	0.0204	0.04	0.0204
Light Truck < 3750 lbs	5.9%	0.05	0.00295	0.06	0.00354
Light Truck 3751-5750 lbs	18.1%	0.05	0.00904	0.06	0.010848
Med Truck 5751-8500 lbs	13.9%	0.12	0.016687	0.2	0.027812
Lite-Heavy Truck 8501-10,000 lbs	4.3%	0.12	0.005112	0.2	0.00852
Lite-Heavy Truck 10,001-14,000 lbs	0.6%	0.09	0.00054	0.125	0.00075
Med-Heavy Truck 14,001-33,000 lbs	1.6%	0.06	0.00096	0.05	0.0008
Heavy-Heavy Truck 33,001-60,000 lbs	3.3%	0.06	0.00198	0.05	0.00165
Other Bus	0.2%	0.06	0.00012	0.05	0.0001
Urban Bus	0.2%	0.06	0.00012	0.05	0.0001
Motorcycle	0.4%	0.09	0.00036	0.01	0.00004
School Bus	0.1%	0.06	0.00003	0.05	0.000025
Motor Home	0.2%	0.09	0.00018	0.125	0.00025
Total	**99.7%**		**0.058479**		**0.074835**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	21	GWP
N2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N20 Emissions:	0.2461	metric tons N2O	**76.30**	metric tons CO2e
		Project Total:	***76.30***	***metric tons CO2e***

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.
** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
*** From URBEMIS 2007 results for mobile sources

Appendix G

Phase I Environmental Site Assessment

PHASE I ENVIRONMENTAL SITE ASSESSMENT
20.46-ACRE VACANT PARCEL
EAST OF HAMNER AVENUE, NORTH OF CANTU-GALLEANO RANCH ROAD
EASTVALE, RIVERSIDE COUNTY, CALIFORNIA 92880

PREPARED FOR:
LBA REALTY LLC
17901 VON KARMAN AVENUE, SUITE 950
IRVINE, CALIFORNIA 92614

URS PROJECT NO. 29404520

October 27, 2011

915 Wilshire Boulevard
Suite 700
Los Angeles, California 90017
(213) 996-2200

October 27, 2011

LBA Realty LLC
17901 Von Karman Avenue, Suite 950
Irvine, California 92614

Attn: Ms. Natasha Soll

Re: Phase I Environmental Site Assessment
20.46-Acre Vacant Parcel
East of Hamner Avenue, North of Cantu-Galleano Ranch Road
Eastvale, Riverside County, California 92880
URS Project No. 29404520

Dear Ms. Soll:

URS is pleased to submit this Phase I Environmental Site Assessment for the above-referenced site. We appreciate the opportunity to provide environmental services to LBA Realty LLC. Please contact us at (213) 996-2200 if you have any questions or require further assistance.

Very truly yours,

URS CORPORATION AMERICAS

DB Stott

Debra B. Stott, P.G.
Principal Geologist

URS Corporation
915 Wilshire Boulevard, Suite 700
Los Angeles, CA 90017
Tel: 213.996.2200
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EXECUTIVE SUMMARY

URS Corporation (URS) conducted a Phase I Environmental Site Assessment (Phase I ESA) of the 20.46-acre property located east of Hamner Avenue and north of Cantu-Galleano Ranch Road in the City of Eastvale, Riverside County, California (subject property or site). The purpose of the Phase I Environmental Site Assessment is to gather information about the subject site and surrounding areas to identify conditions indicative of releases or threatened releases of hazardous substances, pollutants and contaminants, petroleum or petroleum products, and controlled substances. This Phase I ESA was accomplished by, and limited to, a reconnaissance of the site, a drive-by survey of the site vicinity, and review of agency databases and other reasonably ascertainable records regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the site.

The Scope of Services performed is in accordance with the contract between LBA Realty LLC (LBA) and URS dated September 26, 2011. The format and content of the Phase I ESA Report for the subject property are in general accordance with the American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Site Assessment* (Standard Designation E 1527-05) approved in November 2005 and the United States Environmental Protection Agency (US EPA) 40 CFR Part 312 *Standards and Practices for All Appropriate Inquiries (AAI) – Final Rule* adopted November 1, 2006.

The subject property consists of approximately 20.46 acres of undeveloped, vacant land. According to the Riverside County Assessor, the site is comprised of Assessor Parcel Number (APN) 160-020-027, which has not been assigned a street address. At the time of the site reconnaissance, the subject property was vacant land covered with low-lying vegetation that appeared to have been recently tilled. No structures were observed onsite. The soil and vegetation on the northeast portion of the subject property was blackened and appeared have been recently burned. An earth drainage channel was observed entering the property from the north-central boundary and extending to the south-central portion of the subject property. This drainage channel receives surface water runoff from the property adjacent to the north and was dry at the time of the site visit. A fenced stormwater retention basin was observed in the southwest corner of the subject property, which is not included as part of this assessment, and is associated with the property adjacent to the west. No concerns were noted onsite at the time of the site visit

Hazardous materials were not observed at the subject property. No indications of hazardous waste generation were observed on the subject property. No evidence of unauthorized dumping of chemicals or substances was observed onsite during the site reconnaissance, except for a few automobile tires observed on the north-central boundary and near the retention basin fence on the subject property. No evidence of aboveground storage tanks (AST) and underground storage tanks (USTs), such as vent lines, fill or overfill ports, were observed onsite during the site reconnaissance.

According to review of available historical data, it appears that the subject property was developed for agricultural use sometime prior to 1938 until at least 1990. The subject property and the adjacent parcel to the west (the current Grainger distribution facility at 4700 Hamner Avenue) were occupied by a dairy farm in the early 1970s until the 1980s. The dairy was no longer operating by 1995.

In December 1995, Hygienetics Environmental Services, Inc. (HES) prepared a Phase I ESA, a Phase II soil and groundwater investigation, and geophysical survey for the former dairy farm (67-acre property) located at 4680 and 4740 Hamner Avenue, which included the 20.46-acre subject property and adjacent Grainger facility (4700 Hamner Avenue) located to the west. Based on the previous report prepared by HES, the majority of the dairy structures were located on the adjacent Grainger facility, and not onsite. The subject property was formerly occupied by two man-made ponds and a field at the time the dairy farm was in operation. In 2001, the western portion of the former dairy farm was redeveloped with the adjacent commercial/industrial building occupied by Grainger and an associated retention basin for surface water runoff from this adjacent property was also constructed at that time to the southeast of the Grainger building. This retention basin is located in the southwest corner of the subject property, but not included in this assessment. Since 2001, the remainder of the subject property has remained vacant land. As described above, an earth drainage channel crossing the eastern portion of the subject property is the only feature currently on the subject property. No structures are currently located onsite. In 2006, construction of the adjacent Interstate 15 on- and off- ramps for Cantu-Galleano Ranch Road began, which are located adjacent to the east and south of the subject property.

As part of their Phase II investigation in 1995, HES advanced 23 soil borings to depths ranging from 20 to 95 feet below ground surface (bgs) on the former dairy property. Fourteen of the 23 borings were advanced on the subject property, which included borings BH 1, 2, 3, 4, 7, 8, 9, 14, 15, 16, 17, 21, 23, and 24. Semi-volatile organic compounds (SVOCs), polychlorinated biphenyl

(PCBs), and pesticides were not detected in the soil samples collected onsite. Four volatile organic compounds (VOCs) (acetone, methylene chloride, toluene, and total xylenes), metals, and cyanide were detected in various soil samples collected onsite. HES calculated attenuation factors for each of the compounds detected. Based on these calculations, HES stated that the concentrations of VOCs, metals, and cyanide were below the Regional Water Quality Control Board (RWQCB) attenuation standards and therefore were not an environmental concern. Upon review of the data, it is URS' opinion that the VOCs detected represent laboratory or equipment contaminants as the VOCs were detected in almost every sample and the presence of VOCs throughout the dairy farm is highly unlikely. The metals detected represent commonly found metals in California soils. One of the borings was drilled to approximately 95 feet in an attempt to sample groundwater; however, no groundwater was encountered. Therefore, groundwater is expected to be present at depths greater than 100 feet bgs.

Because an active water well was drawing water from the first encountered aquifer beneath the former dairy farm, HES sampled the agricultural well (located adjacent to the subject property). The water was sampled and analyzed for VOCs, SVOCs, California Code of Regulations (CCR Title 22 Metals, PCBs, pesticides, cyanide, and nitrates. Pollutants were not detected above drinking water standards, with the exception of nitrate at17 parts per million (ppm).

The subject property and surrounding area are currently supplied with water from the public water supply, which meets all federal and local drinking water standards. Based on the results of the Phase I and II, HES recommended no further action with regard to the subject property. URS' concurs with HES' recommendation.

The subject property was historically part of the former Van Diest Dairy, which was identified in the EDR Report at 4680 Hamner Road in the HIST UST, CA FID UST, and SWEEPS UST databases. According to the UST databases, two 500-gallon USTs (diesel and gasoline) were installed in 1966 and a 1,000-gallon waste oil UST was installed in 1965 on the former dairy farm property. Based on the agency status and results of the 1995 Phase I and II investigation indicating that the USTs were not located on the subject property, it is URS opinion that the former USTs would not have created a negative environmental impact on the subject property.

A number of sites in the vicinity of the subject property are included in agency environmental database lists. Sites listed in the EDR Report were either chemical use only sites where no chemical spill had occurred, located down-gradient from the site, located at such a distance that impact to the site would be unlikely, or were cases which have been closed or are considered

soils only cases by the overseeing agency, indicating that the sites are unlikely to pose a threat to the subject property.

URS has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527 of the 20.46-acre property located east of Hamner Avenue and north of Cantu-Galleano Ranch Road in the City of Eastvale, Riverside County, California. Any exceptions to or deletions from this practice are described in Sections 1.3 and 1.5. Based on the scope of work conducted for this Phase I ESA, recognized environmental conditions (RECs) were not identified in connection with current or historic operations at the subject property. Based on the information reviewed, it is URS' opinion that no further investigation of the subject property is warranted at this time.

1.0 INTRODUCTION

Presented in this report are the results of the Phase I Environmental Site Assessment (Phase I ESA) conducted by URS Corporation (URS) of the 20.46-acre property located east of Hamner Avenue and north of Cantu-Galleano Ranch Road in the City of Eastvale, Riverside County, California (subject property or site). This assessment was accomplished by, and limited to, a reconnaissance of the site, a drive-by survey of the site vicinity, and review of agency databases and other reasonably ascertainable information regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the site.

1.1 ASTM STANDARD AND ALL APPROPRIATE INQUIRY

The format and content of this Phase I ESA Report of the subject property are in general accordance with the American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessments* (Standard Designation E 1527-05) approved in November 2005 and the United States Environmental Protection Agency (USEPA) 40 CFR Part 312 *Standards and Practices for All Appropriate Inquires (AAI) – Final Rule* adopted November 1, 2006.

1.1.1 All Appropriate Inquiry Standards

The USEPA Rule on AAI was developed to establish landowner liability protections to property owners under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as innocent landowners, bona fide prospective purchasers, and/or contiguous property owners. The Rule expands the records review requirements by increasing the search distances beyond the recently superseded ASTM Standard E 1527-00, incorporating mandatory searches for engineering and institutional controls, and mandatory review of local government and tribal records. The records review also requires a search of reasonable ascertainable land title and lien records to identify environmental liens or activity and use limitations, if any, that are recorded against the property. The historical sources review requires that a search of the property to go as far back in history as it can be shown that the property contained structures or was first used for residential, agricultural, commercial, industrial, or governmental purposes. Data gaps identified for the property will be identified and their significance reported. The AAI Rule also requires taking into account commonly known or reasonably ascertainable information within a local community. AAI requires that inquiries be conducted by an environmental professional, which is specifically defined within the Rule.

1.1.2 ASTM Standard

The ASTM *Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessments* (Standard Designation E 1527-05) was approved in November 2005. ASTM Standard E 1527-05 was established and updated to reflect industry requirements brought about by AAI.

The goal of the ASTM Standard is to identify Recognized Environmental Conditions (RECs). By definition under ASTM designation E 1527-05, the term "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 substances or petroleum products into structures on the property or into the ground, ground water or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions.

1.1.3 Deviations

An environmental cleanup lien search was not performed. However, it is URS' opinion that the lack of the lien search does not represent a significant data gap, in that it does not impact URS' ability to identify recognized environmental conditions at the subject property and therefore it does not alter the conclusions of this report. According to the EDR Report, NPL (Superfund) and other environmental liens are not associated with the subject property. A title report provided by LBA did not indicate environmental liens associated with the subject property. Based on available information, no environmental liens appear to be associated with the subject property.

1.1.4 User Obligation

To receive/maintain liability protections established under the Brownfields Amendments, in addition to conducting AAI, the purchaser has the continued obligation of:

- Complying with land use restrictions and not impeding the effectiveness or integrity of institutional controls;

- Taking steps with respect to hazardous substances affecting a landowner's property to prevent releases;
- Providing cooperation, assistance and access to EPA, a state, or other party conducting response actions or natural resource restoration at the property;
- Complying with CERCLA information requests and administrative subpoenas; and, providing legally required notices.

1.2 PURPOSE

The purpose of the Phase I ESA is to gather information about the subject site and surrounding areas to identify conditions indicative of releases or threatened releases of hazardous substances, pollutants and contaminants, petroleum or petroleum products, and controlled substances.

1.3 SCOPE OF SERVICES

The Scope of Services performed is in accordance with the contract between LBA Realty LLC (LBA) and URS dated September 26, 2011. The format and content of this Phase I ESA Report of the subject property are in general accordance with the US EPA's standards for AAI and ASTM *Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process* E 1527-05.

This Phase I ESA was accomplished by, and limited to, a reconnaissance of the site and review of pertinent documentation available through URS' standard resources regarding past and current land use for indications of the manufacture, generation, use, storage, and/or disposal of hazardous substances at the site. The site reconnaissance included a walking tour of areas at the subject property that were accessible by foot and a drive-by survey of surrounding and adjacent properties. To meet the objective of this Phase I ESA, URS completed the following tasks:

- Performed a reconnaissance survey of the subject property to make visual observations of existing site conditions and activities, and a drive-by survey of the area within ¼-mile of the site to observe types of general land use. Photographs of the site are provided as Appendix A.
- Reviewed the federal, state, and local database list search provided by Environmental Data Resources, Inc., (EDR) of Milford, Connecticut of known or potential hazardous waste sites or landfills, and sites currently under investigation for environmental

violations. The agency lists and search radii results (EDR Report) are provided in Appendix B.

- Conducted inquiries in person, by telephone, or in writing to the appropriate regulatory agencies for information regarding environmental permits, violations or incidents, and/or the status of enforcement actions at the subject property.

- Reviewed pertinent, available documents and maps regarding local physiographic and hydrogeologic conditions in the site vicinity including the potential presence of wetlands, floodplains, coastal zones, aquifer recharge areas, and nearby environmentally sensitive sites.

- Reviewed and interpreted available historical aerial photographs, Sanborn Fire Insurance Maps, and historical city directories of the site and vicinity for evidence of previous site activities and development that would suggest the potential presence of hazardous substances at the site. Historical sources are provided in Appendix C.

- Reviewed and interpreted archival U.S. Geological Survey (USGS) topographic maps of the site and the area within ½-mile of the subject property for information regarding historical land use potentially involving the manufacture, generation, use, storage and/or disposal of hazardous substances. Historical sources are provided in Appendix C.

- Reviewed available title records and environmental lien information for the subject property.

- Reviewed previous environmental reports for the subject property, which are provided in Appendix D.

- Prepared this report describing the research performed and presenting URS' findings and professional opinions regarding the potential for adverse environmental impacts to the subject property.

1.4 USER RELIANCE

This report has been prepared for use by LBA and its lender and shall not be relied upon by or transferred to any other party, or used for any other purpose, without the express written authorization of URS.

1.5 LIMITATIONS AND EXCEPTIONS

This report and associated work have been provided in accordance with the terms and conditions of the contract between LBA and URS dated September 26, 2011. Based on the scope of services outlined in the proposal, the ESA specifically did not include testing for radon, asbestos, lead-based paint, or lead in drinking water; sampling and/or testing of soil or groundwater.

2.0 SITE DESCRIPTION

2.1 LOCATION

The subject property is located along the east side of Hamner Drive, between Micro Drive and Cantu-Galleano Ranch Road, within the City of Eastvale, Riverside County, California. The subject property consists of Riverside County Assessor's Parcel Number (APN) 160-020-027 and has not been assigned a street address. A Site Vicinity Map and a Site Plan are included as Figures 1 and 2, respectively.

2.2 FEATURES/USE

At the time of the site reconnaissance, the subject property was vacant land covered with low-lying vegetation that appeared to have been recently tilled. No structures were observed onsite. The soil and vegetation on the northeast portion of the subject property was blackened and appeared have been recently burned. An earth drainage channel was observed entering the property from the north-central boundary and extending to the south-central portion of the subject property. This drainage channel receives surface water runoff from the property adjacent to the north and was dry at the time of the site visit. A fenced stormwater retention basin was observed in the southwest corner of the subject property, which is not included as part of this assessment, and is associated with the property adjacent to the west.

2.3 SITE VICINITY AND ADJACENT PROPERTIES

URS' observation and evaluation of adjoining properties were limited to features and conditions that were visible from public rights-of-way. The following observations were made:

North: The subject property is bordered to the north by a flood control basin, electrical transmission lines, and an industrial warehouse building (4560 Hamner Avenue), followed by industrial warehouse buildings (12510 Micro Drive and 12455 Harvest Drive). Further to the north is Harvest Drive followed by additional industrial warehouse buildings.

South: The subject property is bordered to the south by Cantu-Galleano Ranch Road, followed by vacant land.

East: The subject property is bordered to the east by Interstate 15 followed by vacant land.

West: The subject property is bordered to the west by an industrial warehouse building (4700 Hamner Avenue) and then Hamner Avenue.

3.0 PHYSICAL SETTING

3.1 TOPOGRAPHY

The site is located in Section 7 of Township 2 South, Range 6 West within the city of Eastvale, Riverside County, California (Figure 1). Topographic map coverage is provided by the U.S. Geological Survey (USGS), 7.5-minute "Guasti, California" quadrangle map. The subject property lies at an approximate average elevation of 740 feet above mean sea level (msl) with a local topographic gradient toward the south.

3.2 SURFACE WATER

An earth drainage channel was observed entering the property from the north-central boundary and extending to the south-central portion of the subject property. This drainage channel receives surface water runoff from the property adjacent to the north and was dry at the time of the site visit. A fenced stormwater retention basin was observed in the southwest corner of the subject property, which is not included in this assessment and is associated with the property adjacent to the west. No stains or other concerns were observed associated with these features.

According to the EDR Report (Appendix B), the subject property is not located within a Federal Emergency Management Agency (FEMA)-designated 100- or 500-year flood zone.

3.3 GEOLOGY AND SOILS

The site is located in the north central portion of the Peninsular Ranges physiographic province. The Peninsular Ranges is bounded on the east by the Colorado Desert, on the south by the Mexican Border, on the west by the Pacific Ocean, and the north by the Transverse Ranges and the Los Angeles Basin. The Peninsular Ranges contain minor Jurassic and extensive Cretaceous igneous rocks associated with Nevadan plutonism. Marine Cretaceous sedimentary rocks are well represented and post-Cretaceous rocks form a restricted veneer of volcanic, marine and non-marine sediments.

The surficial geologic unit in the general area consists of Holocene Younger Alluvium that is made up predominately of sand and silt materials. In the site vicinity, surficial sediments appear to consist of sand, gravel and cobble fluvium from the nearby historical drainage channels. Underlying the surficial units are early Pleistocene-age Older Alluvium consisting of sand, silt-sand, and gravel. The alluvial sediments range in thickness from 350 to 50 feet. Below these units is dense, non-water bearing granitic bedrock.

According to a previous geotechnical investigation performed at the subject property in 1995, The soils at the site consisted of highly organic top soil (0.0 to 2.0 feet below ground surface [bgs]) underlain by native alluvial soils composed of mainly interbedded layers of sandy/clayey, silty/clayey sands and sands with traces of gravel (Converse Consultants Inland Empire, 1995).

3.4 HYDROGEOLOGY

The subject property is located in the Riverside Groundwater Basin within the Upper Santa Ana Hydrologic Unit. There are three principal geologic units within the site area, which are considered potentially water-bearing. Geologically, these sediments include the sand, silt, and clay of the recent alluvium; the underlying older alluvium; and the active river channel deposits. The water-bearing units are discontinuous and separated by less permeable lenses of silt and clay.

During a 1995 Phase I and II Investigation, Hygienetics Environmental Services, Inc. (HES) drilled one boring to a depth of 95 feet bgs on the site located adjacent to the west of the subject property (Grainger facility at 4700 Hamner Avenue) in an attempt to sample groundwater. No groundwater was encountered during the sampling. Groundwater is expected at depths greater than 100 feet bgs in the site vicinity. Groundwater in this area is assumed to flow to the south-southwest toward the Santa Ana River.

4.0 SITE HISTORY

URS reviewed readily available historical data pertaining to the subject property. These references were reviewed for evidence of activities that would suggest the potential presence of hazardous substances at the subject property and to evaluate the potential for the subject property to be impacted by offsite sources of contamination. The following subsections are a summary of the review. All EDR provided historical sources are provided as Appendix C.

4.1 HISTORIC SANBORN FIRE INSURANCE MAPS

URS contacted Environmental Data Resources, Inc. (EDR) of Milford, Connecticut for Sanborn Fire Insurance maps of the subject property and surrounding area. EDR reported no coverage exists for the area of the subject property.

4.2 HISTORIC CITY DIRECTORIES

Business directories including city, cross-reference and telephone directories were requested from EDR for the subject property address and in the site vicinity. EDR searched historical city directories at approximately five year intervals for the years 1974 through 2007.

The subject property was formerly part of the Van Diest Dairy. The Van Diest Dairy (4680 Hamner Avenue) is identified in the 1974 and 1982 city directories. No other listings were identified associated with the subject property.

A copy of the City Directory Abstract obtained from EDR is included in Appendix C.

4.3 HISTORIC USGS TOPOGRAPHIC MAPS

URS reviewed historic topographic maps dated 1901, 1903, 1941, 1954, 1966, 1973, 1976 and 1981 that were provided by EDR (Appendix C). The following is a summary of the review.

<u>1901 and 1903</u>

No structures or features are depicted on the subject property or in the site vicinity. Some major thoroughfares are depicted in the surrounding area.

1941 and 1944

The subject property appears to be vacant land in Riverside County. No structures or features are depicted on the subject property or in the site vicinity. Hamner Avenue is depicted to the west of the subject property.

1954 and 1966

The subject property appears to be agriculturally developed. No structures are depicted on the subject property.

1973, 1976, and 1981

The subject property remains agriculturally developed as part of the adjacent dairy farm. No structures are depicted on the subject property, except for three ponds located along the western boundary of the site. By 1981, Interstate 15 was under construction to the east of the subject property. Surrounding properties consist of agricultural and vacant land, a substation, and sparse residential properties.

4.4 HISTORIC AERIAL PHOTOGRAPHS

Information regarding past subject property land use was obtained by a review of historical aerial photographs, dated 1938, 1949, 1953, 1968, 1977, 1990, 1994, 2005 and 2005 obtained from EDR (Appendix C). A summary evaluation of the historic aerial photographs is provided as follows.

1938, 1949, and 1953

From 1938 through 1953, the subject property and surrounding properties appear to be agriculturally developed. No structures are shown on the subject property. Hamner Avenue is present to the west of the site.

1968, 1977 and 1990

The subject property and the adjacent property to the west are developed with a dairy. The main dairy structures were located on the western portion of the dairy, adjacent to Hamner Avenue, which is not on the subject property. The subject property appears to consist of mainly agriculturally developed fields and a pond located along the south-central and northern boundary of the site.

1994

The subject property appears to be vacant agricultural land with a dry pond located along the south-central boundary of the site. Surrounding properties appear to agriculturally developed land.

2005

The subject property appears to be vacant agricultural land with a dry pond located along the south-central boundary of the site. A drainage channel is present on the eastern portion of the subject property. An increase in development is evident in the surrounding area. A stormwater retention basin is present to the north and southwest of the subject property. Commercial/industrial buildings are present adjacent to the west and northwest of the subject property.

2006

The subject property appears as it did during the site reconnaissance. Interstate 15 on- and off-ramps and Cantu-Galleano Ranch Road are under construction to the east and south of the subject property. The pond located along the southern boundary of the site was no longer present.

4.5 EDR HISTORICAL DATABASE REVIEW

URS reviewed the results of the EDR Proprietary Historical Database search presented in the EDR Report in order to identify past and current occupants of the subject property and surrounding area that may have had the potential to generate, use or store hazardous materials (i.e. manufactured gas plants, historical auto stations and dry cleaning facilities). The subject property was not identified in the EDR Proprietary Historical Databases. The EDR Report is included as Appendix B.

4.6 USER PROVIDED INFORMATION

URS was accompanied by LBA personnel during the inspection. No personnel familiar with former onsite operations were available for interview. Information obtained from LBA has been incorporated into the appropriate sections of this report.

4.6.1 Title Records

A Preliminary Title Report prepared for the subject property by Old Republic Title Company on October 7, 2011 was provided to URS by LBA for review. According to the Preliminary Title Report, title to the subject property is vested in W.W. Grainger, Inc., an Illinois corporation.

4.6.2 Environmental Liens

The Preliminary Title Report prepared by Old Republic Title Company on October 7, 2011 did not indicate environmental liens associated with the subject property. The EDR Report did not identify Federal Superfund liens or deed restrictions in association with the subject property. Based on available information, no environmental liens appear to be associated with the subject property.

4.6.3 Other Activity and Use Limitations

Based on available information, there are no activity or land use limitations, such as institutional controls, other than local zoning requirements that are in place on the site or that have been filed or recorded in a registry.

4.6.4 Valuation Reduction for Environmental Issues

Based on available information, there is no indication that the property value of the site has decreased due to environmental issues.

4.6.5 Prior Documents

URS reviewed and summarized the following previous report that was prepared for the subject property. A copy of this report is provided in Appendix D.

***Phase I and II Environmental Site Assessment Report, Residence and Former Dairy Farm, 4680 and 4740 Hamner Avenue, Mira Loma, California,* prepared by Hygienetics Environmental Services (HES) for W.W. Grainger, Inc., dated December 1995.**

In December 1995, Hygienetics Environmental Services, Inc. (HES) prepared a Phase I ESA, a Phase II soil and groundwater investigation, and geophysical survey for the former dairy farm (67-acre property) located at 4680 and 4740 Hamner Avenue, which included the 20.46-acre subject property and adjacent Grainger facility (4700 Hamner Avenue) located to the west. Based on the previous report prepared by HES, the majority of the dairy structures were located

on the western portion of the farm, which is now occupied by the adjacent Grainger facility, and not onsite. The subject property was formerly occupied by two man-made ponds (located along the western and southern boundaries of the former dairy farm) and a field at the time the dairy farm was in operation. In 2001, the western portion of the former dairy farm was redeveloped with the adjacent commercial/industrial building occupied by Grainger and an associated retention basin for surface water runoff from this adjacent property was also constructed at that time to the southeast of the Grainger building. This retention basin is located in the southwest corner of the subject property, but not included in this assessment. Since 2001, the remainder of the subject property has remained vacant land. As described above, an earth drainage channel crossing the eastern portion of the subject property is the only feature currently on the subject property. No structures are currently located onsite.

At the time of HES' report in 1995, the entire 67-acre former dairy farm property was developed with a residential structure and an abandoned milking barn along Hamner Road on the western side of the 67-acre property, two man-made ponds on the central and southeast portions of the dairy. The remainder of the dairy consisted of loose soil and weeds. Two water wells and two aboveground storage tanks (ASTs) (presumed used to store water) were located adjacent to the milking barn. The subject property consists of 20.46-acres in the eastern portion of the former dairy farm property and historically consisted of agricultural land with a two ponds/lagoons in the western and southern sides that contained cow manure. All other features associated with historic use were located on the parcel to the west where the Grainger building is now located and not onsite. No structures were historically located on the subject property.

As part of their Phase II investigation in 1995, HES advanced 23 soil borings to depths ranging from 20 to 95 feet below ground surface (bgs) on the former dairy property. Fourteen of the 23 borings were advanced on the subject property, which included borings BH 1, 2, 3, 4, 7, 8, 9, 14, 15, 16, 17, 21, 23, and 24. Semi-volatile organic compounds (SVOCs), polychlorinated biphenyl (PCBs), and pesticides were not detected in the soil samples collected onsite. Four volatile organic compounds (VOCs) (acetone, methylene chloride, toluene, and total xylenes), metals, and cyanide were detected in various soil samples collected onsite. HES calculated attenuation factors for each of the compounds detected. Based on these calculations, HES stated that the concentrations of VOCs, metals, and cyanide were below the Regional Water Quality Control Board (RWQCB) attenuation standards and therefore were not an environmental concern. Upon review of the data, it is URS' opinion that the VOCs detected represent laboratory or equipment contaminants as the VOCs were detected in almost every sample and the presence of VOCs throughout the dairy farm is highly unlikely. The metals detected represent commonly found

metals in California soils. One of the borings was drilled to approximately 95 feet in an attempt to sample groundwater; however, no groundwater was encountered in this boring and as a result no groundwater samples were collected at this location.

Because an active water well was drawing water from the first encountered aquifer beneath the former dairy farm, HES sampled the agricultural well (located adjacent to the subject property). The water was sampled and analyzed for VOCs, SVOCs, California Code of Regulations (CCR Title 22 Metals, PCBs, pesticides, cyanide, and nitrates. Pollutants were not detected above drinking water standards, with the exception of nitrate at17 parts per million (ppm).

The subject property and surrounding area are currently supplied with water from the public water supply, which meets all federal and local drinking water standards. Based on the results of the Phase I and II, HES recommended no further action with regard to the subject property. URS' concurs with HES' recommendation.

4.8 SUMMARY OF HISTORICAL DATA

According to review of available historical data, it appears that the subject property was developed for agricultural use sometime prior to 1938 until at least 1990. The subject property and the adjacent parcel to the west (the current Grainger distribution facility at 4700 Hamner Avenue) were occupied by a dairy farm in the early 1970s until the 1980s. The dairy was no longer operating by 1995. Based on a previous report prepared by HES in 1995, a former residence and the majority of the dairy structures were located on the lot now occupied by the adjacent Grainger facility. Environmental concerns were not detected in the soil samples analyzed on and off site. As described above, a stormwater retention pond located in the southwest corner and an earth drainage channel crossing the eastern portion are the only features currently on the subject property. In 2006, construction began on the adjacent Interstate 15 on- and off- ramps for Cantu-Galleano Ranch Road which is located adjacent to the south of the subject property.

Common agricultural practices can result in residual concentrations of fertilizers, pesticides or herbicides in near-surface soil, though not generally at concentrations that pose a significant health risk. However, based on the results of the HES 1995 Phase I and II investigation, pesticides were not detected in the soil samples collected at the site. Herbicide or fertilizer residues, if any, will likely to be dispersed during redevelopment activities and therefore are unlikely to impact human health or the environment.

4.9 HISTORICAL DATA GAPS

A data gap was encountered during the review of historical documentation for the subject property. URS was not able to interview site representatives (such as past owners) who were familiar with the subject property. Based on information obtained from a variety of sources, URS does not consider the data gap identified herein to be significant.

5.0 SITE RECONNAISSANCE

On October 13, 2011, Ms. Heather Hodgetts, a URS representative conducted a reconnaissance of the subject property. The reconnaissance consisted of the observation and documentation of existing site conditions accessible by foot and the nature of the neighboring property development within ¼-mile of the site. Photographs taken during the site reconnaissance are provided in Appendix A.

The subject property consists of approximately 20.46 acres of undeveloped, vacant land, as described in Section 2.2.

Utility providers to the site vicinity include Southern California Edison (SCE) for electricity, Southern California Gas Company for natural gas, Western Municipal Water District for potable water, and Jurupa Community Services District for sanitary sewer services.

5.1 INTERVIEWS

URS was unaccompanied during the site visit. No interviews were conducted with personnel familiar with the subject property.

5.2 HAZARDOUS SUBSTANCES

Hazardous materials were not observed at the subject property. No indications of hazardous waste generation were observed on the subject property. The subject property was not identified in the EDR Report as a registered hazardous waste generator.

5.3 STORAGE TANKS

No evidence of aboveground storage tanks (AST) and underground storage tanks (USTs), such as vent lines, fill or overfill ports, were observed onsite during the site reconnaissance.

5.4 POLYCHLORINATED BIPHENYLS (PCBs)

No potentially PCB-containing equipment was observed onsite during the site reconnaissance.

5.5 WASTE DISPOSAL

Wastes are not currently generated at the subject property. The subject property is currently vacant land.

5.6 WETLANDS, FLOODPLAIN, COASTAL ZONE

According to the EDR Report (Appendix B), the subject property is not located within a FEMA identified 100- and 500-year flood zone.

Two wetlands areas were identified in the EDR Report on the subject property; one in the area of the retention basin in the southwest corner and the other to the north of retention basin in the western portion of the subject property. The U.S. of Fish and Wildlife Service, National Wetlands Inventory online Wetlands Mapper database identifies the "retention basin" wetlands as "freshwater pond" and the other wetlands area as "PUSAx".

Surface water from the property located adjacent to the north discharges onto the subject property into an earth drainage channel. A spillway was observed at the northern end of thedrainage channel, whichenters the property from the north-central boundary and extends to the south-central portion of the subject property.. The drainage channel was dry at the time of the site visit.

The subject property is not located within a coastal zone.

5.7 DRUMS/OTHER CHEMICAL CONTAINERS

No drums or other chemical containers were observed onsite during the site reconnaissance.

5.8 DUMPING

No evidence of unauthorized dumping of chemicals or substances was observed onsite during the site reconnaissance, except for a few automobile tires observed on the north central boundary and near the retention basin fence at the subject property.

5.9 PITS, PONDS, OR LAGOONS, SEPTIC SYSTEMS, CISTERNS, SUMPS, DRAINS, AND CLARIFIERS

Storm water at the subject property appears to be directed via sheet flow to a flood control basin located adjacent to the east of the site. No staining or other evidence of concerns was observed onsite or within the flood control basin.

No pits, ponds, lagoons, septic systems, cisterns, sumps, or clarifiers were observed onsite during the site reconnaissance.

5.10 PESTICIDE USE

The use or storage of pesticides was not observed onsite during the site reconnaissance.

5.11 STAINING AND DISCOLORED SOILS

No staining or discolored soils were observed onsite during the site reconnaissance.

5.12 STRESSED VEGETATION

No stressed vegetation was observed onsite during the reconnaissance.

5.13 UNUSUAL ODORS

No unusual odors were noted onsite during the site reconnaissance.

5.14 ONSITE WELLS

No monitoring, water supply, oil and gas production wells were observed or reported onsite during the site reconnaissance. URS reviewed maps available on the State of California, Department of Conservation, Division of Oil, Gas, & Geothermal Resources website for information regarding oil wells located at the subject property. No oil wells were identified on or adjacent to the subject property. The subject property is not located within an oil field.

5.15 NEARBY ENVIRONMENTALLY SENSITIVE SITES

No environmentally sensitive sites were observed onsite or immediately adjacent to the subject property.

5.16 ASBESTOS

An asbestos survey was not included as part of this Phase I ESA. The subject property consists of vacant land.

5.17 LEAD

A lead-based paint survey was not included as part of this Phase I ESA. The subject property consists of vacant land.

5.18 RADON

URS reviewed the United States Environmental Protection Agency (USEPA) Map of Radon Zones in California for information regarding radon concentrations in the subject property area. The map was produced in conjunction with the United States Geological Survey (USGS). The USEPA survey of indoor radon concentrations listed the radon zone level for Riverside County, California, as Zone 2. Zone 2 areas are predicted to have an average indoor radon screening potential between 2.0 and 4.0 picoCuries per liter of air (pCi/l) for the general area of the subject property. The USEPA action level for radon is 4.0 pCi/l. Therefore, no further assessment for radon is recommended for the subject property.

5.19 OTHER CONCERNS

A north-south trending pipeline marked petroleum pipeline was observed along the east side of Hamner Avenue, west of the subject property. No indications of damage to the pipeline were observed.

No other concerns were noted onsite during the site reconnaissance.

6.0 GOVERNMENT AGENCY INFORMATION

URS reviewed readily available records regarding past and current site use, contacted applicable agencies regarding potential environmental concerns at the site, and reviewed the agency database list search for potential environmental concerns at surrounding properties. The information obtained during the records review is provided in the following sections.

6.1 DATABASE LIST SEARCH

URS contracted an environmental database firm, Environmental Data Resources, Inc. (EDR) of Milford, Connecticut, to conduct a search for facilities listed by regulatory agencies as potentially having environmental concerns. The search was limited to within a one-mile radius (i.e., ASTM and AAI standards) of the subject property to assess whether activities on or near the site have the potential to create RECs at the subject property. The complete list of databases reviewed is provided in the EDR Report, included as an attachment to this Phase I ESA, and is summarized in the table presented below. It should be noted that this information is reported as URS received it from EDR, which in turn reports information as it is provided in various government databases. It is not possible for either URS or EDR to verify the accuracy or completeness of information contained in these databases. However, the use of and reliance on this information is a generally accepted practice in the conduct of environmental due diligence.

The following table summarizes the number of facilities in the site vicinity that were identified in the indicated agency databases within the indicated survey distances.

AGENCY DATABASE	SURVEY DISTANCE	NUMBER OF SITES IDENTIFIED
FEDERAL STANDARD ENVIRONMENTAL RECORDS		
United States Environmental Protection Agency (EPA) National Priority List (NPL) for Superfund Sites	1.25 mile	0
U.S. Proposed NPL Sites (Proposed NPL)	1.25 mile	0
Federal Superfund Liens (NPL LIENS)	0.25 mile	0
U.S. NPL Deletions (Delisted NPL)	1.25 mile	0
U.S. EPA Comprehensive Environmental Response, Compensation and Liability Index System (CERCLIS)	0.75 mile	0
Federal Facility Site Information Listing (FEDERAL FACILITY)	1.25 mile	0
U.S. EPA CERCLIS – No Further Remedial Action Planned (CERC-NFRAP)	0.75 mile	0
U.S. EPA Resource Conservation and Recovery Act (RCRA) Corrective Action Report (CORRACTS)	1.25 mile	0
U.S. EPA RCRA Permitted Treatment, Storage, and Disposal Facilities (TSDFs)	0.75 mile	0

AGENCY DATABASE	SURVEY DISTANCE	NUMBER OF SITES IDENTIFIED
U.S. EPA RCRA Registered Large Quantity Generators of Hazardous Waste (RCRA-LQG)	0.5 mile	0
U.S. EPA RCRA Registered Small Quantity Generators of Hazardous Waste (RCRA-SQG)	0.5 mile	0
U.S. EPA RCRA Registered Conditionally Exempt Small Quantity Generators of Hazardous Waste (RCRA-CESQG)	0.5 mile	0
U.S. Engineering Controls Sites List (US ENG CONTROLS)	0.75 mile	0
U.S. Sites with Institutional Controls (US INST CONTROL)	0.75 mile	0
U.S. EPA Emergency Response Notification System (ERNS)	0.25 mile	0
STATE STANDARD ENVIRONMENTAL RECORDS		
State Response Sites (RESPONSE)	1.25 mile	0
State Site Mitigation and Brownfields Reuse Program (ENVIROSTOR) database	1.25 mile	0
State Solid Waste Information System of Permitted Solid Waste Disposal Facilities or Landfills (SWF/LF)	0.75 mile	0
State Leaking Underground Storage Tank Incident Reports (LUST)	0.75 mile	0
State Spills, Leaks, Investigation & Cleanup Cost Recovery Listing (SLIC)	0.75 mile	0
State Leaking Underground Storage Tanks on Indian Land (INDIAN LUST)	0.75 mile	0
State Active Underground Storage Tank Facilities (UST)	0.5 mile	0
State Aboveground Petroleum Storage Tank Facilities (AST)	0.5 mile	0
State Underground Storage Tanks on Indian Land (INDIAN UST)	0.5 mile	0
FEMA Underground Storage Tank Listing (FEMA UST)	0.5 mile	0
State Voluntary Cleanup Program Properties (VCP)	0.75 mile	0
State Voluntary Cleanup Priority Listing on Indian Land (INDIAN VCP)	0.75 mile	0
ADDITIONAL ENVIRONMENTAL RECORDS		
U.S. Listing of Brownfields Sites (US BROWNFIELDS)	0.75 mile	0
U.S. Open Dump Inventory (ODI)	0.75 mile	0
State Waste Management Unit Database System (WMDUS/SWAT)	0.75 mile	0
State Listing of Recycling Facilities (SWRCY)	0.75 mile	0
State Registered Waste Tire Haulers Listing (HAULERS)	0.25 mile	0
State Report of the Status of Open Dumps on Indian Lands (INDIAN ODI)	0.75 mile	0
U.S. and State Clandestine Drug Labs (CDL)	0.25 mile	0
State Historical Hazardous Waste Sites (HIST Cal-Sites)	1.25 mile	0
State School Property Evaluation Program (SCH)	0.5 mile	0
State Toxic Pits Cleanup Act Sites (Toxic Pits)	1.25 mile	0
State Facility Inventory Database (CA FID UST) of historic active and inactive UST locations	0.5 mile	1
State Hazardous Substance Storage Container Database (HIST UST) of historic UST sites	0.5 mile	1
State SWEEPS UST Listing (SWEEPS UST)	0.5 mile	1
U.S. CERCLA Lien Information (LIENS 2)	0.25 mile	0
U.S. Land Use Control Information System (LUCIS) for former Navy properties	0.75 mile	0
State Environmental Liens Listing (LIENS)	0.25 mile	0

AGENCY DATABASE	SURVEY DISTANCE	NUMBER OF SITES IDENTIFIED
State Deed Restriction Listing (DEED)	0.75 mile	0
State Hazardous Materials Information Reporting System (HMIRS).	0.25 mile	0
State of California Hazardous Material Incident Report System (CHMIRS)	0.25 mile	0
State Land Disposal Sites Listing (LDS)	0.25 mile	0
State Military Cleanup Sites Listing (MCS)	0.25 mile	0
Other Local and/or State Databases and Ascertainable Records (see EDR Report for complete listing of databases and search radii)	Varied according to database	0
EDR PROPRIETARY DATABASES		
Manufactured Gas Plants: A collection of potential manufactured gas plants from searched business directories.	1.25 mile	0
EDR Historical Auto Stations: A collection of potential gas station/filling station/service station sites from searched business directories.	0.5 mile	0
EDR Historical Cleaners: A collection of potential dry cleaner sites from searched business directories.	0.5 mile	0

The locations of EDR-listed sites are shown on the radius maps accompanying the EDR Report (Appendix B). The databases searched and the information obtained is summarized in the following sections.

6.1.1 Subject Property

The subject property was identified in the EDR Report as part of the former **Van Diest Dairy (A2 and A3)** identified at 4680 Hamner Road. The facility was identified in the HIST UST, CA FID UST, and SWEEPS UST databases. According to the HIST UST database, a 500-galllon diesel UST and a 500-gallon gasoline UST were installed in 1966 and a 1,000-gallon waste oil UST was installed in 1965. Based on the agency status and results of the 1995 Phase I and II Investigation (see Section 4.6.5), these listings are not expected to have created an environmental concern to the subject property.

6.1.2 Adjacent Properties

The EDR Report identified the following facility adjacent to the subject property:

- **WW Grainger (1)** at 4700 Hamner Avenue is located adjacent to the west of the subject property. This property was listed in the RCRA-SQG, FINDS, and HAZNET databases. No RCRA violations were reported. The data in the HAZNET database is extracted from hazardous waste manifests received annually by the California Department of Toxic Substances Control (DTSC). This facility was listed for the generation of state-regulated

wastes including "unspecified aqueous solution; off-specification, aged, or surplus organics; alkaline solution without metals pH>=12.5; liquids with pH<=2; and other inorganic waste" that were manifested for offsite disposal and/or recycling. Based on the lack of violations and/or listing in other databases indicating a release, this facility is not expected to have created a negative environmental impact on the subject property.

6.1.3 Site Vicinity

URS reviewed the EDR database report to identify offsite facilities that have suspected or documented environmental concerns or RECs that may negatively impact the subject property. URS' criteria for further evaluating the potential impact of a listed offsite facility are summarized below:

- The listed offsite facility is documented or assumed to be hydrogeologically upgradient and a likely pathway exists for known releases of environmentally mobile contaminants to reach the subject property; or, contaminants from the listed offsite facility can reach the subject through other pathways (i.e., surface runoff); and,

- The offsite facility is listed as an open case on one of the following databases: Federal NPL, Federal CORRACTS, Federal CERCLIS, Federal ERNS, and State-Specific lists including, but not limited to State Hazardous Waste Sites, State SCL, State LUST, State Deed Restrictions, State Toxic Pits, Landfill (excluding transfer stations); or

- The facility is a known or suspected concern based on URS' experience or observations made during the site reconnaissance. (i.e., Dry-cleaning operations that may or may not be listed as RCRA-SQG or a non-adjacent UST site that appears to have a remediation system in place).

URS did not identify facilities that, using the criteria discussed above, appeared to be a potential concern.

6.1.4 Unmapped Sites

URS reviewed EDR's Orphan Summary, which is a listing of sites that have not been geocoded based on lack of sufficient data regarding their exact location within the general area. The subject property was not identified as an Unmapped Site. No additional Unmapped Sites identified on the Orphan Summary appear to be located within the ASTM-designated radii of the

subject property, and, therefore, URS has no reason to believe that these sites had an impact on the subject property.

6.2 REGULATORY CONTACTS

URS requested information from the local and state agencies regarding the subject property such as the status of environmental permits, violations, or corrective actions. Agencies contacted and a summary of the information obtained are provided below.

California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC), Cypress Office – The DTSC Cypress office has not yet responded to our request for information. URS performed a search of the DTSC's online ENVIRSTOR database. No listings were identified associated withthe subject property.

Regional Water Quality Control Board (RWQCB), Santa Ana Region – The RWQCB has not yet responded to our request for information. URS performed a search of the RWQCB's online GeoTracker database. No listings were identified associated withthe subject property.

California Office of the State Fire Marshal (OSFM), Pipeline Safety Division – The OSFM reported in writing that there are an 8- and a 12-inch pipeline operated by Plains All American under their jurisdiction in the vicinity of the subject property. A north-south trending pipeline marked petroleum pipeline was observed along the east side of Hamner Avenue, west of the subject property. No indications of leaks associated with the pipeline were observed. No other placards or markers indicating the presence of pipelines was observed on or adjacent to the subject property during the site visit.

South Coast Air Quality Management District (SCAQMD) – URS performed a search of SCAQMD records available on their website and no listings were found for the subject property. SCAQMD records are by street address and they are unable to provide information based on APN information.

County of Riverside, Department of Environmental Health (DEH) – The DEH responded that DEH records are by street address and they are unable to provide information based on APN information.

7.0 CONCLUSIONS AND RECOMMENDATIONS

URS has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527 of the 20.46-acre property located east of Hamner Avenue and north of Cantu-Galleano Ranch Road in the City of Eastvale, Riverside County, California. Any exceptions to or deletions from this practice are described in Sections 1.3 and 1.5.

7.1 FINDINGS

Based on the scope of work conducted for this Phase I ESA, recognized environmental conditions (RECs) were not identified in connection with current or historic operations at the subject property. Based on the information reviewed, it is URS' opinion that no further investigation of the subject property is warranted at this time.

8.0 PREPARER SIGNATURES AND QUALIFICATIONS

This section includes qualification statements of the environmental professionals responsible for conducting the ESA and preparing this report.

The site visit was conducted by and the report was written by Ms. Heather Hodgetts of the URS office in Los Angeles, California. Ms. Hodgetts has over 14 years of experience in environmental site investigations, characterizations, and assessments.

The work conducted by Ms. Hodgetts was supervised, and the report was reviewed by Ms. Debra Stott, P.G., with over 20 years experience in the environmental field, including 15 years experience with Phase I Environmental Site Assessments.

Ms. Stott declares that, to the best of her professional knowledge and belief, she meets the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

Ms. Stott has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. With the assistance of Ms. Hodgetts she has developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Debra B. Stott, P.G.
Principal Geologist

9.0 REFERENCES

ASTM, 2005, American Society of Testing and Materials (ASTM). Standard E 1527-05, "Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process", 2005.

California Department of Conservation, Division of Oil, Gas, and Geothermal (DOGGR) Online Mapping System (DOMS). http://maps.conservation.ca.gov/doms/index.html.

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Converse Consultants Inland Empire, 1995, *Geotechnical Investigation Report, Proposed Grainger Zoned Distribution Center, Mira Loma, California*, prepared for Hygienetics Environmental Services (HES), dated November 22, 1995.

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Environmental Data Resources, Inc. (EDR), The EDR Radius Map Report with GeoCheck, Inquiry Number: 3184451.2s, October 11, 2011.

Hygienetics Environmental Services (HES), 1995, *Phase I and II Environmental Site Assessment Report, Residence and Former Dairy Farm, 4680 and 4740 Hamner Avenue, Mira Loma, California*, prepared for W.W. Grainger, Inc., dated December 1995.

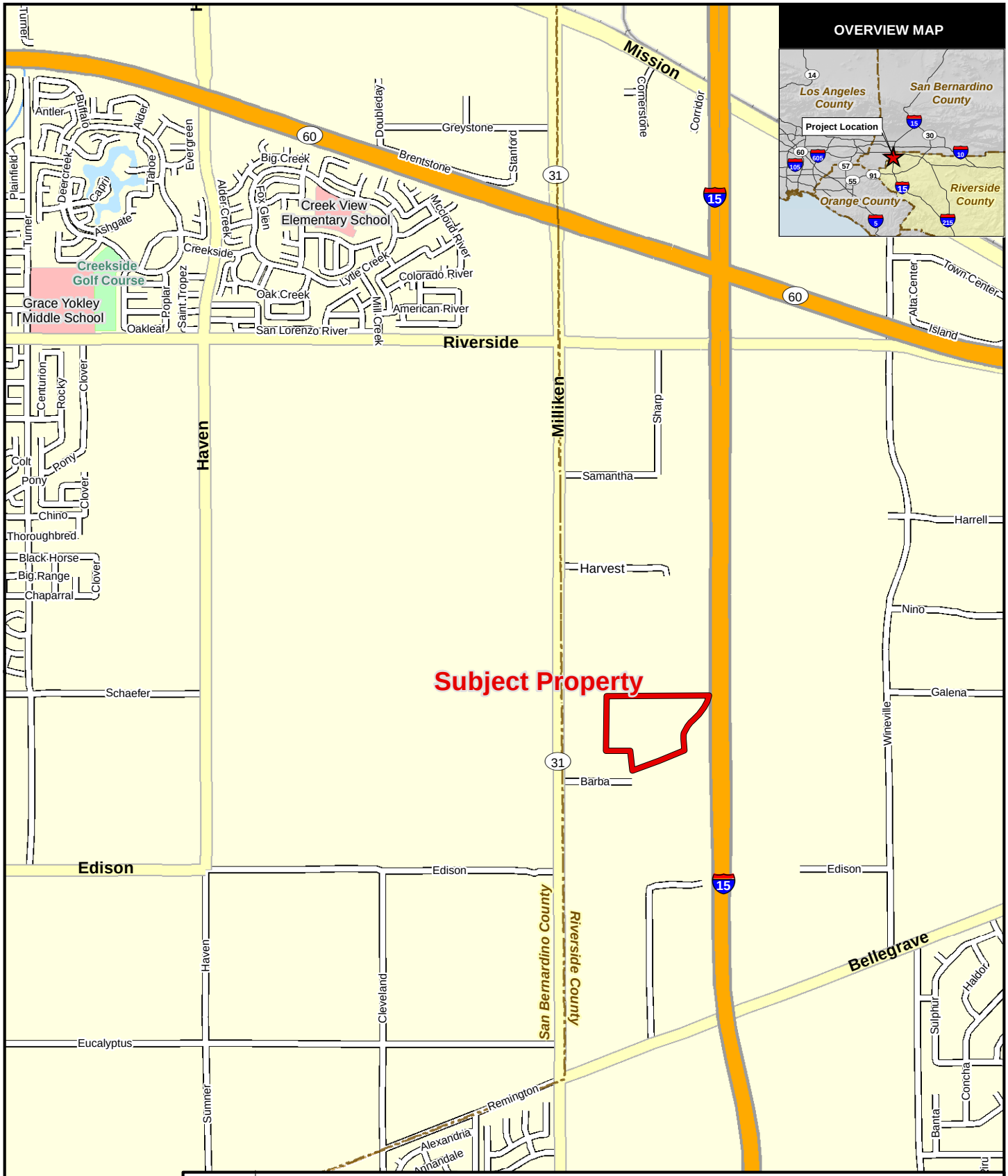
USEPA, 2005, United States Environmental Protection Agency (USEPA). 40 CFR Part 312 "Standards and Practices for All Appropriate Inquiries," November 1, 2005.

USEPA Map of Radon Zones http://www.epa.gov/iaq/radon/zonemap.html.

U.S. Fish and Wildlife Service, National Wetlands Inventory, Wetlands Mapper, http://www.fws.gov/wetlands/Data/Mapper.html

USGS 7.5-Minute Topographic Map, Guasti, California, 1981.

FIGURES



SOURCE:
ESRI (overview, roads).

SITE VICINITY MAP
20.46 ACRES OF VACANT AGRICULTURAL LAND
EAST OF HAMNER AVENUE, NORTH OF CANTU-GALLEANO RANCH ROAD
EASTVALE, CA 91752

URS

1000 0 1000 2000 Feet

SCALE: 1" = 2000' (1:24,000)
SCALE CORRECT WHEN PRINTED AT 8.5X11

CREATED BY: LG	DATE: 10-20-11	FIG. NO:
PM: HH	PROJ. NO: 29404520.10000	1

Path: G:\gis\projects\1577\29404396\map_docs\mxd\fig1_4560Hamner_vicinity.mxd, 09/21/10, lisa_garvey

LEGEND

Subject Property

Old Tire

SOURCES:
ESRI (overview, roads);
AEX (aerial April 2010).

AERIAL SITE PLAN
20.46 ACRES OF VACANT AGRICULTURAL LAND
EAST OF HAMNER AVENUE, NORTH OF CANTU-GALLEANO RANCH ROAD
EASTVALE, CA 91752

URS

200 0 200 400 Feet

SCALE: 1" = 400' (1:4800)
SCALE CORRECT WHEN PRINTED AT 8.5X11

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APPENDIX A
SITE PHOTOGRAPHS

Phase I Site Reconnaissance Photos
20.46-Acre Parcel
Eastvale, California

PHOTOGRAPH 1.

Direction of Photograph: Southwest

View of southern portion of the subject property from the southeast corner of the site.

PHOTOGRAPH 2.

Direction of Photograph: Northwest

View of central portion of the subject property from the southeast corner of the site.

PHOTOGRAPH 3.

Direction of Photograph: North

View of central portion of the subject property from the southeast corner of the site

PHOTOGRAPH 4.

Direction of Photograph: East

View of the drainage creek exiting the subject property on the southern boundary of the site.

PHOTOGRAPH 5.

Direction of Photograph: Northeast

View of the drainage creek entering the subject property on the northern boundary of the site.

PHOTOGRAPH 6.

Direction of Photograph: East

View of northeastern portion of the subject property from the north central boundary of the site.

PHOTOGRAPH 7.

Direction of Photograph: Southeast

View of eastern portion of the subject property from the north central boundary of the site.

PHOTOGRAPH 8.

Direction of Photograph: Southwest

View of central portion of the subject property from the north central boundary of the site.

PHOTOGRAPH 9.

Direction of Photograph: West

View of northwestern portion of the subject property from the north central boundary of the site.

Appendix H

Preliminary Water Quality Management Plan

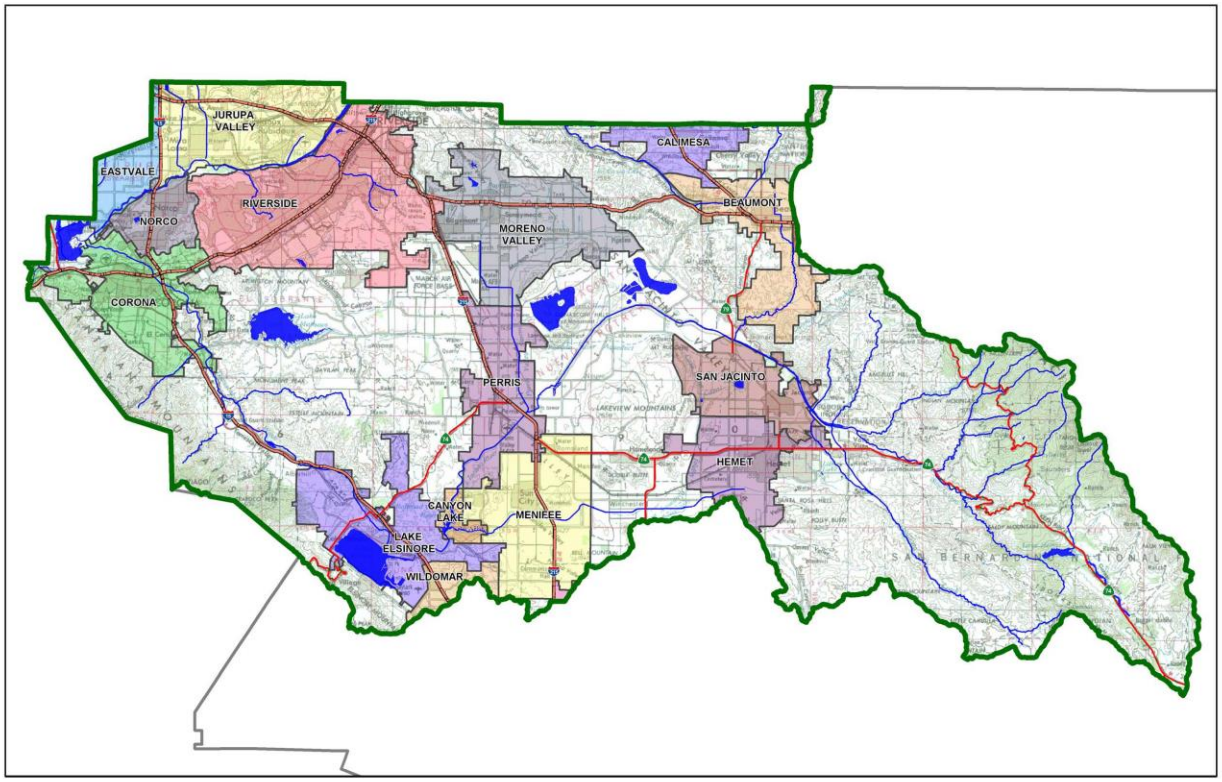
Project Specific Water Quality Management Plan

*A Template for Projects located within the **Santa Ana Watershed** Region of Riverside County*

Project Title: LBA Realty - Eastvale Industrial Development

Development No:

Design Review/Case No:



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Riverside, CA 92506

☒ **Preliminary**
☐ **Final**

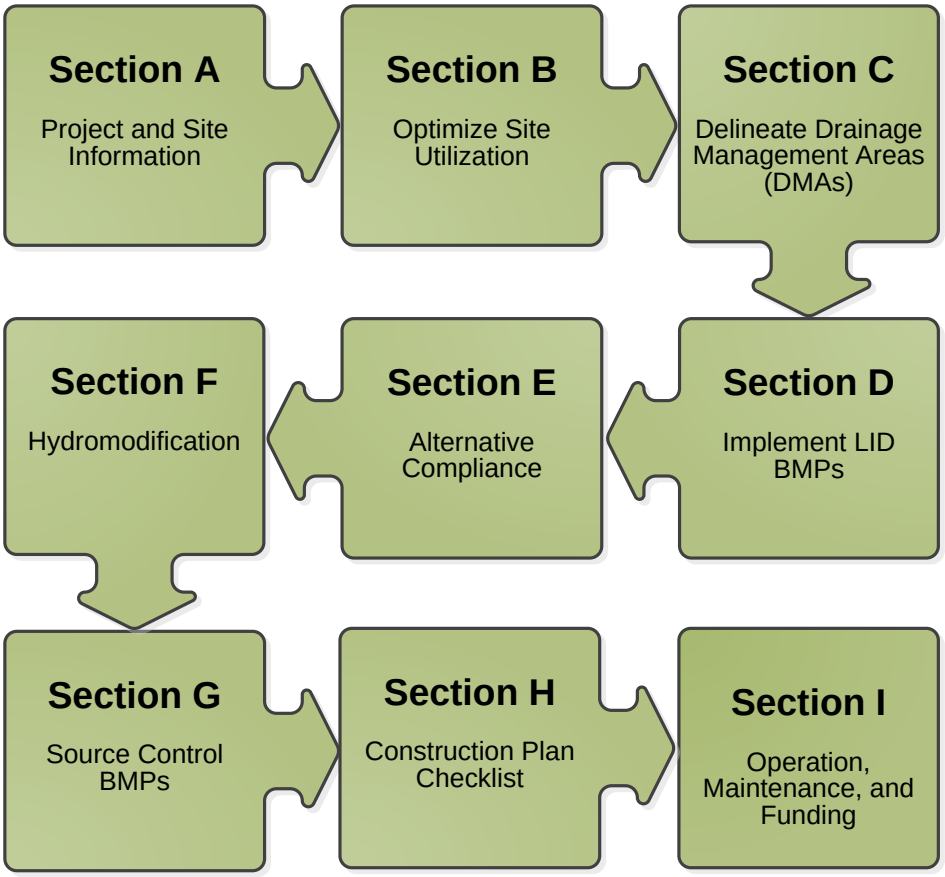
Original Date Prepared: October 13, 2014

Revision Date(s):

Prepared for Compliance with
Regional Board Order No. **R8-2010-0033**

A Brief Introduction

This Project-Specific WQMP Template for the **Santa Ana Region** has been prepared to help guide you in documenting compliance for your project. Because this document has been designed to specifically document compliance, you will need to utilize the WQMP Guidance Document as your "how-to" manual to help guide you through this process. Both the Template and Guidance Document go hand-in-hand, and will help facilitate a well prepared Project-Specific WQMP. Below is a flowchart for the layout of this Template that will provide the steps required to document compliance.



OWNER'S CERTIFICATION

This Project-Specific Water Quality Management Plan (WQMP) has been prepared for ***LBA Realty*** by ***Albert A. Webb Associates*** for the ***LBA Realty - Eastvale Industrial Development*** project.

This WQMP is intended to comply with the requirements of ***City of Eastvale*** for ***Ordinance No. 2011-04*** which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater BMPs until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under ***City of Eastvale*** Water Quality Ordinance (Municipal Code Section ***2011-04***).

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature	Date
Owner's Printed Name	Owner's Title/Position

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan meet the requirements of Regional Water Quality Control Board Order No. **R8-2010-0033** and any subsequent amendments thereto."

Preparer's Signature	Date
Preparer's Printed Name	Preparer's Title/Position

Preparer's Licensure:

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Section A: Project and Site Information

PROJECT INFORMATION	
Type of Project:	Commercial/Industrial
Planning Area:	
Community Name:	
Development Name:	LBA Realty - Eastvale Industrial Development
PROJECT LOCATION	
Latitude & Longitude (DMS): 34° 0'11.14"N 117°33'12.10"W	
Project Watershed and Sub-Watershed: Santa Ana Watershed	
APN(s): 160-020-033	
Map Book and Page No.: Thomas Bros Map Page 683 Grid: E1, E2	
PROJECT CHARACTERISTICS	
Proposed or Potential Land Use(s)	Commercial/Industrial
Proposed or Potential SIC Code(s)	4227
Area of Impervious Project Footprint (SF)	1,095,751
Total Area of proposed Impervious Surfaces within the Project Limits (SF)/or Replacement	1,095,751
Does the project consist of offsite road improvements?	☐ Y ☒ N
Does the project propose to construct unpaved roads?	☐ Y ☒ N
Is the project part of a larger common plan of development (phased project)?	☐ Y ☒ N
EXISTING SITE CHARACTERISTICS	
Total area of existing Impervious Surfaces within the project limits (SF)	0
Is the project located within any MSHCP Criteria Cell?	☒ Y ☐ N
If so, identify the Cell number:	A #118, 168
Are there any natural hydrologic features on the project site?	☐ Y ☒ N
Is a Geotechnical Report attached?	☐ Y ☒ N
If no Geotech. Report, list the NRCS soils type(s) present on the site (A, B, C and/or D)	A, C
What is the Water Quality Design Storm Depth for the project?	0.87"

The proposed project will develop approximately 28.8 acres of vacant land in the City of Eastvale, County of Riverside, California. The site is located on the northwest corner of the intersection of I-15 and Cantu Galleano Rancho Road.

The site is presently vacant with little vegetation. The site gradually slopes to the south toward Cantu Galleano Rancho Road. The proposed project consists of 1 building with associated parking, loading docks, drive aisles, and landscaped areas. All on-site flows will be treated by 1 infiltration basin and 1 underground infiltration detention system. In general, the infiltration basin will treat all on-site flows on the west side of the project and the underground infiltration detention system will treat all on-site flows on the east side of the project. Off-site flow from the northerly storage basin will be conveyed through the site by a proposed storm drain line. The off-site flows will not be treated by this project.

The storm runoff from the project discharges into a storm drain line to the south which will connect to the Eastvale MDP Line E1 Bellegrave Ave line. The flow is conveyed to Prado Basin by improved channels and pipes. This project is not required to address the Hydrological Conditions of Concern.

A.1 Maps and Site Plans

When completing your Project-Specific WQMP, include a map of the local vicinity and existing site. In addition, include all grading, drainage, landscape/plant palette and other pertinent construction plans in Appendix 2. At a **minimum**, your WQMP Site Plan should include the following:

- Drainage Management Areas
- Proposed Structural BMPs
- Drainage Path
- Drainage Infrastructure, Inlets, Overflows
- Source Control BMPs
- Buildings, Roof Lines, Downspouts
- Impervious Surfaces
- Standard Labeling

Use your discretion on whether or not you may need to create multiple sheets or can appropriately accommodate these features on one or two sheets. Keep in mind that the Co-Permittee plan reviewer must be able to easily analyze your project utilizing this template and its associated site plans and maps.

A.2 Identify Receiving Waters

Using Table A.1 below, list in order of upstream to downstream, the receiving waters that the project site is tributary to. Continue to fill each row with the Receiving Water's 303(d) listed impairments (if any), designated beneficial uses, and proximity, if any, to a RARE beneficial use. Include a map of the receiving waters in Appendix 1.

Table A.1 Identification of Receiving Waters

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Eastvale MDP Line E1 Bellegrave Ave	N/A	N/A	N/A
Cucamonga Creek, Reach 1, Valley Reach HU#801.21	Cadmium, Coliform Bacteria, Copper, Lead, Zinc	WILD, REC2, REC1, MUN, LWRM, GWR	N/A
Prado Basin Management Zone, HU#802.21	Nutrients, Pathogens	MUN, REC1, REC2, WARM, WILD, RARE	7
Mill Creek (Prado Area) HU#801.21	Nutrients, Pathogens, TSS	MUN, RARE, REC1, REC2, WARM, WILD	8
Chino Creek Reach 1A HU#801.21	Nutrients, Pathogens	MUN, RARE, REC1, REC2, WARM, WILD	9
Santa Ana River – Reach 2 HU#801.11, #801.12	Indicator Bacteria	GWR, AGR, REC2, REC1, RARE, MUN, WILD, WARM	10
Santa Ana River – Reach 1 HU#801.11	None	REC1, REC2, WARM, WILD, MUN	30

A.3 Additional Permits/Approvals required for the Project:

Table A.2 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Cert.	☐ Y	☒ N
US Army Corps of Engineers, CWA Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☐ Y	☒ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☒ Y	☐ N
Other *(please list in the space below as required)* City of Eastvale Grading Permit	☒ Y	☐ N

If yes is answered to any of the questions above, the Co-Permittee may require proof of approval/coverage from those agencies as applicable including documentation of any associated requirements that may affect this Project-Specific WQMP.

Section B: Optimize Site Utilization (LID Principles)

Review of the information collected in Section 'A' will aid in identifying the principal constraints on site design and selection of LID BMPs as well as opportunities to reduce imperviousness and incorporate LID Principles into the site and landscape design. For example, **constraints** might include impermeable soils, high groundwater, groundwater pollution or contaminated soils, steep slopes, geotechnical instability, high-intensity land use, heavy pedestrian or vehicular traffic, utility locations or safety concerns. **Opportunities** might include existing natural areas, low areas, oddly configured or otherwise unbuildable parcels, easements and landscape amenities including open space and buffers (which can double as locations for bioretention BMPs), and differences in elevation (which can provide hydraulic head). Prepare a brief narrative for each of the site optimization strategies described below. This narrative will help you as you proceed with your LID design and explain your design decisions to others.

The 2010 Santa Ana MS4 Permit further requires that LID Retention BMPs (Infiltration Only or Harvest and Use) be used unless it can be shown that those BMPs are infeasible. Therefore, it is important that your narrative identify and justify if there are any constraints that would prevent the use of those categories of LID BMPs. Similarly, you should also note opportunities that exist which will be utilized during project design. Upon completion of identifying Constraints and Opportunities, include these on your WQMP Site plan in Appendix 1.

Site Optimization

The following questions are based upon Section 3.2 of the WQMP Guidance Document. Review of the WQMP Guidance Document will help you determine how best to optimize your site and subsequently identify opportunities and/or constraints, and document compliance.

Did you identify and preserve existing drainage patterns? If so, how? If not, why?

The existing drainage patterns have been identified and it has been determined that the overall drainage patterns will be preserved with a few modifications. The existing site drains to the south toward Cantu Galleano Ranch Rd. An existing channel that runs from the north to the south and an existing basin at the southwest corner of the project will be removed. A new storm drain pipe will convey the overflow from the northerly existing off-site flood basin through the site to Cantu Galleano Ranch Road to an existing MS4 facility and Eastvale MDP Line E1 Bellegrave Ave. The proposed on-site drainage will continue to flow to the south toward Cantu Galleano Ranch Road to an existing MS4 facility and to Eastvale MDP Line E1 Bellegrave Ave.

Did you identify and protect existing vegetation? If so, how? If not, why?

The existing vegetation was identified and it was determined infeasible to protect. The site is currently vacant with little or no vegetation. Approximately 14% of the developed site will be landscaped.

Did you identify and preserve natural infiltration capacity? If so, how? If not, why?

Yes, the majority of the site is Soils Group A and the southern boundary of the site is Soils Group C. Infiltration facilities are being proposed to treat the Design Capture Volume.

Did you identify and minimize impervious area? If so, how? If not, why?

Yes, impervious area was minimized given the proposed site usage and required materials. The minimum landscaping pervious cover was achieved, per code.

Did you identify and disperse runoff to adjacent pervious areas? If so, how? If not, why?

Runoff will be dispersed to underground infiltration storage facilities or the infiltration basin.

Section C: Delineate Drainage Management Areas (DMAs)

Utilizing the procedure in Section 3.3 of the WQMP Guidance Document which discusses the methods of delineating and mapping your project site into individual DMAs, complete Table C.1 below to appropriately categorize the types of classification (e.g., Type A, Type B, etc.) per DMA for your project site. Upon completion of this table, this information will then be used to populate and tabulate the corresponding tables for their respective DMA classifications.

Table C.1 DMA Classifications

DMA Name or ID	Surface Type(s)[1]	Area (Sq. Ft.)	DMA Type
DMA A	Roofs, Ornamental Landscaping, Concrete or Asphalt	669,742	D
DMA B	Roofs, Ornamental Landscaping, Concrete or Asphalt	553,051	D

[1] *Reference Table 2-1 in the WQMP Guidance Document to populate this column*

Table C.2 Type 'A', Self-Treating Areas

DMA Name or ID	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)

Table C.3 Type 'B', Self-Retaining Areas

Self-Retaining Area				**Type 'C' DMAs that are draining to the Self-Retaining Area**		
DMA Name/ ID	Post-project surface type	Area (square feet) [A]	Storm Depth (inches) [B]	DMA Name / ID	[C] from Table C.4 = [C]	Required Retention Depth (inches) [D]

$$[D] = [B] + \frac{[B] \cdot [C]}{[A]}$$

Table C.4 Type 'C', Areas that Drain to Self-Retaining Areas

DMA					Receiving Self-Retaining DMA		
DMA Name/ ID	Area (square feet)	Post-project surface type	Runoff factor	Product	DMA name /ID	Area (square feet)	Ratio
	[A]		[B]	[C] = [A] x [B]		[D]	[C]/[D]

Table C.5 Type 'D', Areas Draining to BMPs

DMA Name or ID	BMP Name or ID
DMA A	Infiltration Basin A
DMA B	Underground Infiltration B

Note: More than one drainage management area can drain to a single LID BMP, however, one drainage management area may not drain to more than one BMP.

Section D: Implement LID BMPs

D.1 Infiltration Applicability

Is there an approved downstream 'Highest and Best Use' for stormwater runoff (see discussion in Chapter 2.4.4 of the WQMP Guidance Document for further details)? ☐ Y ☒ N

If yes has been checked, Infiltration BMPs shall not be used for the site. If no, continue working through this section to implement your LID BMPs. It is recommended that you contact your Co-Permittee to verify whether or not your project discharges to an approved downstream 'Highest and Best Use' feature.

Geotechnical Report

A Geotechnical Report or Phase I Environmental Site Assessment may be required by the Copermittee to confirm present and past site characteristics that may affect the use of Infiltration BMPs. In addition, the Co-Permittee, at their discretion, may not require a geotechnical report for small projects as described in Chapter 2 of the WQMP Guidance Document. If a geotechnical report has been prepared, include it in Appendix 3. In addition, if a Phase I Environmental Site Assessment has been prepared, include it in Appendix 4.

Is this project classified as a small project consistent with the requirements of Chapter 2 of the WQMP Guidance Document? ☐ Y ☒ N

Infiltration Feasibility

Table D.1 below is meant to provide a simple means of assessing which DMAs on your site support Infiltration BMPs and is discussed in the WQMP Guidance Document in Chapter 2.4.5. Check the appropriate box for each question and then list affected DMAs as applicable. If additional space is needed, add a row below the corresponding answer.

Table D.1 Infiltration Feasibility

Does the project site…	YES	NO
…have any DMAs with a seasonal high groundwater mark shallower than 10 feet?		X
If Yes, list affected DMAs:		
…have any DMAs located within 100 feet of a water supply well?		X
If Yes, list affected DMAs:		
…have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact?		X
If Yes, list affected DMAs:		
…have measured in-situ infiltration rates of less than 1.6 inches / hour?		X
If Yes, list affected DMAs:		
…have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface?		X
If Yes, list affected DMAs:		
…geotechnical report identify other site-specific factors that would preclude effective and safe infiltration?		X
Describe here:		

If you answered "Yes" to any of the questions above for any DMA, Infiltration BMPs should not be used for those DMAs and you should proceed to the assessment for Harvest and Use below.

D.2 Harvest and Use Assessment

Please check what applies*:*

☐ Reclaimed water will be used for the non-potable water demands for the project.

☐Downstream water rights may be impacted by Harvest and Use as approved by the Regional Board (verify with the Copermittee).

☐The Design Capture Volume will be addressed using Infiltration Only BMPs. In such a case, Harvest and Use BMPs are still encouraged, but it would not be required if the Design Capture Volume will be infiltrated or evapotranspired.

If any of the above boxes have been checked, Harvest and Use BMPs need not be assessed for the site. If neither of the above criteria applies, follow the steps below to assess the feasibility of irrigation use, toilet use and other non-potable uses (e.g., industrial use).

Irrigation Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for Irrigation Use BMPs on your site:

Step 1: Identify the total area of irrigated landscape on the site, and the type of landscaping used.

Total Area of Irrigated Landscape: 3.6 Acres

Type of Landscaping (Conservation Design or Active Turf): Conservation Design

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for irrigation use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: 25.2 Acres

Step 3: Cross reference the Design Storm depth for the project site (see Exhibit A of the WQMP Guidance Document) with the left column of Table 2-3 in Chapter 2 to determine the minimum area of Effective Irrigated Area per Tributary Impervious Area (EIATIA).

Enter your EIATIA factor: 2

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum irrigated area that would be required.

Minimum required irrigated area: 50.4 Acres

Step 5: Determine if harvesting stormwater runoff for irrigation use is feasible for the project by comparing the total area of irrigated landscape (Step 1) to the minimum required irrigated area (Step 4).

Minimum required irrigated area (Step 4)	Available Irrigated Landscape (Step 1)
50.4 Acres	3.6 Acres

Toilet Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for toilet flushing uses on your site:

Step 1: Identify the projected total number of daily toilet users during the wet season, and account for any periodic shut downs or other lapses in occupancy:

Projected Number of Daily Toilet Users: 100

Project Type: Commercial/Industrial

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for toilet use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: 25.2 Acres

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-1 in Chapter 2 to determine the minimum number or toilet users per tributary impervious acre (TUTIA).

Enter your TUTIA factor: 235

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum number of toilet users that would be required.

Minimum number of toilet users: 5922

Step 5: Determine if harvesting stormwater runoff for toilet flushing use is feasible for the project by comparing the Number of Daily Toilet Users (Step 1) to the minimum required number of toilet users (Step 4).

Minimum required Toilet Users (Step 4)	Projected number of toilet users (Step 1)
5922	100

Other Non-Potable Use Feasibility

Are there other non-potable uses for stormwater runoff on the site (e.g. industrial use)? See Chapter 2 of the Guidance for further information. If yes, describe below. If no, write N/A.

N/A

Step 1: Identify the projected average daily non-potable demand, in gallons per day, during the wet season and accounting for any periodic shut downs or other lapses in occupancy or operation.

Average Daily Demand: N/A

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for the identified non-potable use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: N/A

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-3 in Chapter 2 to determine the minimum demand for non-potable uses per tributary impervious acre.

Enter the factor from Table 2-3: N/A

Step 4: Multiply the unit value obtained from Step 4 by the total of impervious areas from Step 3 to develop the minimum number of gallons per day of non-potable use that would be required.

Minimum required use: N/A

Step 5: Determine if harvesting stormwater runoff for other non-potable use is feasible for the project by comparing the Number of Daily Toilet Users (Step 1) to the minimum required number of toilet users (Step 4).

Minimum required non-potable use (Step 4)	**Projected average daily use (Step 1)**
N/A	N/A

If Irrigation, Toilet and Other Use feasibility anticipated demands are less than the applicable minimum values, Harvest and Use BMPs are not required and you should proceed to utilize LID Bioretention and Biotreatment, unless a site-specific analysis has been completed that demonstrates technical infeasibility as noted in D.3 below.

D.3 Bioretention and Biotreatment Assessment

Other LID Bioretention and Biotreatment BMPs as described in Chapter 2.4.7 of the WQMP Guidance Document are feasible on nearly all development sites with sufficient advance planning.

Select one of the following:

☐ LID Bioretention/Biotreatment BMPs will be used for some or all DMAs of the project as noted below in Section D.4 (note the requirements of Section 3.4.2 in the WQMP Guidance Document).

☐ A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5. If you plan to submit an analysis demonstrating the technical infeasibility of LID BMPs, request a pre-submittal meeting with the Copermittee to discuss this option. Proceed to Section E to document your alternative compliance measures.

D.4 Feasibility Assessment Summaries

From the Infiltration, Harvest and Use, Bioretention and Biotreatment Sections above, complete Table D.2 below to summarize which LID BMPs are technically feasible, and which are not, based upon the established hierarchy.

Table D.2 LID Prioritization Summary Matrix

DMA Name/ID	LID BMP Hierarchy				No LID (Alternative Compliance)
	1. Infiltration	2. Harvest and use	3. Bioretention	4. Biotreatment	
DMA A	☒	☐	☐	☐	☐
DMA B	☒	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐

For those DMAs where LID BMPs are not feasible, provide a brief narrative below summarizing why they are not feasible, include your technical infeasibility criteria in Appendix 5, and proceed to Section E below to document Alternative Compliance measures for those DMAs. Recall that each proposed DMA must pass through the LID BMP hierarchy before alternative compliance measures may be considered.

N/A

D.5 LID BMP Sizing

Each LID BMP must be designed to ensure that the Design Capture Volume will be addressed by the selected BMPs. First**,** calculate the Design Capture Volume for each LID BMP using the V_{BMP} worksheet in Appendix F of the LID BMP Design Handbook. Second**,** design the LID BMP to meet the required V_{BMP} using a method approved by the Copermittee. Utilize the worksheets found in the LID BMP Design Handbook or consult with your Copermittee to assist you in correctly sizing your LID BMPs. Complete Table D.3 below to document the Design Capture Volume and the Proposed Volume for each LID BMP. Provide the completed design procedure sheets for each LID BMP in Appendix 6. You may add additional rows to the table below as needed.

Table D.3 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Enter BMP Name / Identifier Here*		
	[A]		[B]	[C]	[A] x [C]			
A	*236169*	*Roofs*	*1*	*0.89*	*210663*	*Design Storm Depth (in)*	*Design Capture Volume,* V_{BMP} *(cubic feet)*	*Proposed Volume on Plans (cubic feet)*
A	*63790*	*Ornamental Landscaping*	*0.1*	*0.11*	*7046*			
A	*253092*	*Concrete or Asphalt*	*1*	*0.89*	*225758*			
	553,051				443467	0.87	32,151	32,590

[B], [C] is obtained as described in Section 2.3.1 of the WQMP Guidance Document
[E] is obtained from Exhibit A in the WQMP Guidance Document
[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Enter BMP Name / Identifier Here*		
	[A]		[B]	[C]	[A] x [C]			
B	*205723*	*Roofs*	*1*	*0.89*	*183505*	*Design Storm Depth (in)*	*Design Capture Volume,* V_{BMP} *(cubic feet)*	*Proposed Volume on Plans (cubic feet)*
B	*93252*	*Ornamental Landscaping*	*0.1*	*0.11*	*10300*			
B	*400767*	*Concrete or Asphalt*	*1*	*0.89*	*357484*			
	669,742				551290	0.87	39,969	40,326

Section E: Alternative Compliance (LID Waiver Program)

LID BMPs are expected to be feasible on virtually all projects. Where LID BMPs have been demonstrated to be infeasible as documented in Section D, other Treatment Control BMPs must be used (subject to LID waiver approval by the Copermittee). Check one of the following Boxes:

☒ LID Principles and LID BMPs have been incorporated into the site design to fully address all Drainage Management Areas. No alternative compliance measures are required for this project and thus this Section is not required to be completed.

- *Or* -

☐ The following Drainage Management Areas are unable to be addressed using LID BMPs. A site-specific analysis demonstrating technical infeasibility of LID BMPs has been approved by the Co-Permittee and included in Appendix 5. Additionally, no downstream regional and/or sub-regional LID BMPs exist or are available for use by the project. The following alternative compliance measures on the following pages are being implemented to ensure that any pollutant loads expected to be discharged by not incorporating LID BMPs, are fully mitigated.

All Drainage Management areas are addressed by BMPs, thus Section E is not completed.

E.1 Identify Pollutants of Concern

Utilizing Table A.1 from Section A above which noted your project's receiving waters and their associated EPA approved 303(d) listed impairments, cross reference this information with that of your selected Priority Development Project Category in Table E.1 below. If the identified General Pollutant Categories are the same as those listed for your receiving waters, then these will be your Pollutants of Concern and the appropriate box or boxes will be checked on the last row. The purpose of this is to document compliance and to help you appropriately plan for mitigating your Pollutants of Concern in lieu of implementing LID BMPs.

Table E.1 Potential Pollutants by Land Use Type

Priority Development Project Categories and/or Project Features (check those that apply)	General Pollutant Categories							
	Bacterial Indicators	Metals	Nutrients	Pesticides	Toxic Organic Compounds	Sediments	Trash & Debris	Oil & Grease
☐ Detached Residential Development	P	N	P	P	N	P	P	P
☐ Attached Residential Development	P	N	P	P	N	P	P	P(2)
☐ Commercial/Industrial Development	P(3)	P	P(1)	P(1)	P(5)	P(1)	P	P
☐ Automotive Repair Shops	N	P	N	N	P(4, 5)	N	P	P
☐ Restaurants (>5,000 ft^2)	P	N	N	N	N	N	P	P
☐ Hillside Development (>5,000 ft^2)	P	N	P	P	N	P	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
Project Priority Pollutant(s) of Concern	☐	☐	☐	☐	☐	☐	☐	☐

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 is land use involving animal waste
(4) Specifically petroleum hydrocarbons
(5) Specifically solvents
(6) Bacterial indicators are routinely detected in pavement runoff

E.2 Stormwater Credits

Projects that cannot implement LID BMPs but nevertheless implement smart growth principles are potentially eligible for Stormwater Credits. Utilize Table 3-8 within the WQMP Guidance Document to identify your Project Category and its associated Water Quality Credit. If not applicable, write N/A.

Table E.2 Water Quality Credits

Qualifying Project Categories	Credit Percentage[2]
Total Credit Percentage[1]	

[1]*Cannot Exceed 50%*
[2]*Obtain corresponding data from Table 3-8 in the WQMP Guidance Document*

E.3 Sizing Criteria

After you appropriately considered Stormwater Credits for your project, utilize Table E.3 below to appropriately size them to the DCV, or Design Flow Rate, as applicable. Please reference Chapter 3.5.2 of the WQMP Guidance Document for further information.

Table E.3 Treatment Control BMP Sizing

DMA Type/ID	**DMA Area (square feet)**	**Post-Project Surface Type**	**Effective Impervious Fraction, I_f**	**DMA Runoff Factor**	**DMA Area x Runoff Factor**		***Enter BMP Name / Identifier Here***		
	[A]		[B]	[C]	[A] x [C]				
						Design Storm Depth (in)	*Minimum Design Capture Volume or Design Flow Rate (cubic feet or cfs)*	*Total Storm Water Credit % Reduction*	*Proposed Volume or Flow on Plans (cubic feet or cfs)*
	A_T = Σ[A]				Σ= [D]	[E]	$[F] = \frac{[D]x[E]}{[G]}$	[F] X (1-[H])	[I]

[B], [C] is obtained as described in Section 2.3.1 from the WQMP Guidance Document
[E] is obtained from Exhibit A in the WQMP Guidance Document
[G] is for Flow-Based Treatment Control BMPs [G] = 43,560, for Volume-Based Control Treatment BMPs, [G] = 12
[H] is from the Total Credit Percentage as Calculated from Table E.2 above
[I] as obtained from a design procedure sheet from the BMP manufacturer and should be included in Appendix 6

E.4 Treatment Control BMP Selection

Treatment Control BMPs typically provide proprietary treatment mechanisms to treat potential pollutants in runoff, but do not sustain significant biological processes. Treatment Control BMPs must have a removal efficiency of a medium or high effectiveness as quantified below:

- **High**: equal to or greater than 80% removal efficiency
- **Medium**: between 40% and 80% removal efficiency

Such removal efficiency documentation (e.g., studies, reports, etc.) as further discussed in Chapter 3.5.2 of the WQMP Guidance Document, must be included in Appendix 6. In addition, ensure that proposed Treatment Control BMPs are properly identified on the WQMP Site Plan in Appendix 1.

Table E.4 Treatment Control BMP Selection

Selected Treatment Control BMP Name or ID[1]	Priority Pollutant(s) of Concern to Mitigate[2]	Removal Efficiency Percentage[3]

[1] *Treatment Control BMPs must not be constructed within Receiving Waters. In addition, a proposed Treatment Control BMP may be listed more than once if they possess more than one qualifying pollutant removal efficiency.*
[2] *Cross Reference Table E.1 above to populate this column.*
[3] *As documented in a Co-Permittee Approved Study and provided in Appendix 6.*

Section F: Hydromodification

F.1 Hydrologic Conditions of Concern (HCOC) Analysis

Once you have determined that the LID design is adequate to address water quality requirements, you will need to assess if the proposed LID Design may still create a HCOC. Review Chapters 2 and 3 (including Figure 3-7) of the WQMP Guidance Document to determine if your project must mitigate for Hydromodification impacts. If your project meets one of the following criteria which will be indicated by the check boxes below, you do not need to address Hydromodification at this time. However, if the project does not qualify for Exemptions 1, 2 or 3, then additional measures must be added to the design to comply with HCOC criteria. This is discussed in further detail below in Section F.2.

HCOC EXEMPTION 1: The Priority Development Project disturbs less than one acre. The Copermittee has the discretion to require a Project-Specific WQMP to address HCOCs on projects less than one acre on a case by case basis. The disturbed area calculation should include all disturbances associated with larger common plans of development.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

If Yes, HCOC criteria do not apply.

HCOC EXEMPTION 2: The volume and time of concentration[1] of storm water runoff for the post-development condition is not significantly different from the pre-development condition for a 2-year return frequency storm (a difference of 5% or less is considered insignificant) using one of the following methods to calculate:

- Riverside County Hydrology Manual
- Technical Release 55 (TR-55): Urban Hydrology for Small Watersheds (NRCS 1986), or derivatives thereof, such as the Santa Barbara Urban Hydrograph Method
- Other methods acceptable to the Co-Permittee

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

If Yes, report results in Table F.1 below and provide your substantiated hydrologic analysis in Appendix 7.

Table F.1 Hydrologic Conditions of Concern Summary

	2 year – 24 hour		
	Pre-condition	**Post-condition**	**% Difference**
Time of Concentration	N/A	N/A	N/A
Volume (Cubic Feet)	N/A	N/A	N/A

[1] Time of concentration is defined as the time after the beginning of the rainfall when all portions of the drainage basin are contributing to flow at the outlet.

HCOC EXEMPTION 3: All downstream conveyance channels to an adequate sump (for example, Prado Dam, Lake Elsinore, Canyon Lake, Santa Ana River, or other lake, reservoir or naturally erosion resistant feature) that will receive runoff from the project are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Sensitivity Maps.

Does the project qualify for this HCOC Exemption? ☒ Y ☐ N

If Yes, HCOC criteria do not apply and note below which adequate sump applies to this HCOC qualifier:

The site discharges directly into an existing publicly owned and maintained MS4 facility. All downstream drainage facilities are hardlined to Bellegrave Basin and then hardlined to Prado Basin.

F.2 HCOC Mitigation

If none of the above HCOC Exemption Criteria are applicable, HCOC criteria is considered mitigated if they meet one of the following conditions:

a. Additional LID BMPS are implemented onsite or offsite to mitigate potential erosion or habitat impacts as a result of HCOCs. This can be conducted by an evaluation of site-specific conditions utilizing accepted professional methodologies published by entities such as the California Stormwater Quality Association (CASQA), the Southern California Coastal Water Research Project (SCCRWP), or other Co-Permittee approved methodologies for site-specific HCOC analysis.

b. The project is developed consistent with an approved Watershed Action Plan that addresses HCOC in Receiving Waters.

c. Mimicking the pre-development hydrograph with the post-development hydrograph, for a 2-year return frequency storm. Generally, the hydrologic conditions of concern are not significant, if the post-development hydrograph is no more than 10% greater than pre-development hydrograph. In cases where excess volume cannot be infiltrated or captured and reused, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year peak flow.

Be sure to include all pertinent documentation used in your analysis of the items a, b or c in Appendix 7.

Section G: Source Control BMPs

Source control BMPs include permanent, structural features that may be required in your project plans — such as roofs over and berms around trash and recycling areas — and Operational BMPs, such as regular sweeping and "housekeeping", that must be implemented by the site's occupant or user. The MEP standard typically requires both types of BMPs. In general, Operational BMPs cannot be substituted for a feasible and effective permanent BMP. Using the Pollutant Sources/Source Control Checklist in Appendix 8, review the following procedure to specify Source Control BMPs for your site:

1. ***Identify Pollutant Sources*:** Review Column 1 in the Pollutant Sources/Source Control Checklist. Check off the potential sources of Pollutants that apply to your site.

2. ***Note Locations on Project-Specific WQMP Exhibit*:** Note the corresponding requirements listed in Column 2 of the Pollutant Sources/Source Control Checklist. Show the location of each Pollutant source and each permanent Source Control BMP in your Project-Specific WQMP Exhibit located in Appendix 1.

3. ***Prepare a Table and Narrative*:** Check off the corresponding requirements listed in Column 3 in the Pollutant Sources/Source Control Checklist. In the left column of Table G.1 below, list each potential source of runoff Pollutants on your site (from those that you checked in the Pollutant Sources/Source Control Checklist). In the middle column, list the corresponding permanent, Structural Source Control BMPs (from Columns 2 and 3 of the Pollutant Sources/Source Control Checklist) used to prevent Pollutants from entering runoff. **Add additional narrative** in this column that explains any special features, materials or methods of construction that will be used to implement these permanent, Structural Source Control BMPs.

4. ***Identify Operational Source Control BMPs:*** To complete your table, refer once again to the Pollutant Sources/Source Control Checklist. List in the right column of your table the Operational BMPs that should be implemented as long as the anticipated activities continue at the site. Copermittee stormwater ordinances require that applicable Source Control BMPs be implemented; the same BMPs may also be required as a condition of a use permit or other revocable Discretionary Approval for use of the site.

Table G.1 Permanent and Operational Source Control Measures

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
A. On-site storm drain catch basins and grated inlets. Locations are shown on the PWQMP Exhibit in Appendix 1.	*On-site storm drain signage will utilize language, "No Dumping Drains to River", or equally approved text that is consistent with the City of Eastvale's requirements. Landscape area drains surrounded by vegetation will not be signed. Catch Basin Markers may be available from the Riverside County Flood Control and Water District Conservation District, call 951-955-1200 to verify.*	*Maintain and periodically repaint or replace inlet markings.* *Provide stormwater pollution prevention information to new site owners, lessees, or operators.* *See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in Appendix 10 (CASQA Stormwater Quality Handbook at* www.cabmphandbooks.com

	On-site drainage structures, including all storm drain clean outs, area drains, inlets, catch basins, inlet & outlet structures, forebays, & water treatment control basins shall be inspected and maintained on a regular basis to insure their operational adequacy.	*Include the following in lessee agreements: "Tenants shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains"* *Maintenance should include removal of trash, debris, & sediment and the repair of any deficiencies or damage that may impact water quality.*
B. Interior floor drains and elevator shaft sump	*The interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer*	*Inspect and maintain drains to prevent blockages and overflow.*
C. Landscape/Outdoor Pesticide Use	*The final landscape shall be designed to accomplish all of the following:* *Preserve existing native trees, shrubs and ground cover to the maximum extent possible.* *Design landscape to minimize irrigation and runoff, to promote surface infiltration where appropriate and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.* *Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.* *Consider using pest-resistant plants, especially adjacent to hardscape.* *To ensure successful establishments, select plants appropriate to site, soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency and plant interactions.* *Pesticide usage should be at a necessary minimum and be consistent with the instructions contained on product labels and with the regulations administered by the State Department of Pesticide Regulation.* *Pesticides should be used at an*	*Maintain landscaping using minimum or no pesticides* *See applicable operational BMPs in "What you should know for…. Landscape and Gardening" at http://rcflood.org/stormwater and Appendix 10.* *Provide IPM information to new owners, lessees and operators.* *Landscape maintenance should include mowing, weeding, trimming, removal of trash & debris, repair of erosion, re-vegetation, and removal of cut & dead vegetation.* *Irrigation maintenance should include the repair of leaky or broken sprinkler heads, the maintaining of timing apparatus accuracy, and the maintaining of shut off valves in good working order.*

	absolute minimum or not at all in the retention/infiltration basin. If used, it should not be applied in close proximity to the rainy season.	
D. Refuse Trash Storage areas	*Trash container storage areas shall be paved with an impervious surface, designed not to allow run-on from adjoining areas, designed to divert drainage from adjoining roofs and pavements from the surrounding area, and screened or walled to prevent off-site transport of trash.* *Trash dumpsters (containers) shall be leak proof and have attached covers or lids.* *Trash enclosures shall be roofed per City standards.* *Trash compactors shall be roofed and set on a concrete pad per City standards. The pad shall be a minimum of one foot larger all around than the trash compactor and sloped to drain to a sanitary sewer line. Connection of trash area drains to the MS4 is prohibited.* *See CASQA SD-32 BMP Fact Sheets in Appendix 10 for additional information.* *Signs shall be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.*	*Adequate number of receptacles shall be provided. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, in Appendix 10, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbook at www.cabmphandbooks.com*
E. Loading Docks	*Loading docks will not be covered and are 4 feet above finished pavement surface.*	*Move loaded and unloaded items indoors as soon as possible.* *Inspect for accumulated trash and debris. Implement good housekeeping procedures on a regular basis. Sweep areas clean instead of using wash water. Loading docks will be kept in a clean and orderly condition, through a regular program of sweeping and litter control, and immediate clean up of any spills or broken containers. Property owner will ensure that loading docks will be swept as needed. Cleanup procedures will not include the use of wash-down water. Property owner will be responsible for implementation of loading dock*

		housekeeping procedures *See the Fact Sheet SC-30, in Appendix 10, "Outdoor Loading and Unloading" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com*
F. Fire Sprinkler Test Water	*Provide a means to drain fire sprinkler test water to the sanitary sewer.*	*See the note in the Fact Sheet SC-41, in Appendix 10, "Building and Grounds Maintenance", in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com*
G. Miscellaneous Drain or Wash Water or Other Sources *Boiler drain lines* *Condensate drain lines* *Rooftop equipment* *Drainage sumps* *Roofing, gutters and trim* *Other sources*	*Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system* *Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur.* *Condensate drain lines may not discharge to the storm drain system.* *Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment.* *Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water.* *Avoid roofing, gutters and trim made of copper of other unprotected metals that may leach into runoff.* *Include controls for other sources as specified by local reviewer.*	
H. Plazas, sidewalks, and parking lots		*Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.*

Section H: Construction Plan Checklist

Populate Table H.1 below to assist the plan checker in an expeditious review of your project. The first two columns will contain information that was prepared in previous steps, while the last column will be populated with the corresponding plan sheets. This table is to be completed with the submittal of your final Project-Specific WQMP.

Table H.1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Corresponding Plan Sheet(s)
BMP A	Infiltration Basin A	14-0032PP
BMP B	Underground Infiltration B	14-0032PP

Note that the updated table — or Construction Plan WQMP Checklist — is **only a reference tool** to facilitate an easy comparison of the construction plans to your Project-Specific WQMP. Co-Permittee staff can advise you regarding the process required to propose changes to the approved Project-Specific WQMP.

Section I: Operation, Maintenance and Funding

The Copermittee will periodically verify that Stormwater BMPs on your site are maintained and continue to operate as designed. To make this possible, your Copermittee will require that you include in Appendix 9 of this Project-Specific WQMP:

1. A means to finance and implement facility maintenance in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred. A warranty covering a period following construction may also be required.
3. An outline of general maintenance requirements for the Stormwater BMPs you have selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility. Geo-locating the BMPs using a coordinate system of latitude and longitude is recommended to help facilitate a future statewide database system.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized O&M or inspections but will require typical landscape maintenance as noted in Chapter 5, pages 85-86, in the WQMP Guidance. Include a brief description of typical landscape maintenance for these areas.

Your local Co-Permittee will also require that you prepare and submit a detailed Stormwater BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the Stormwater BMPs built on your site. An agreement assigning responsibility for maintenance and providing for inspections and certification may also be required.

Details of these requirements and instructions for preparing a Stormwater BMP Operation and Maintenance Plan are in Chapter 5 of the WQMP Guidance Document.

Maintenance Mechanism: ***The project owner will maintain all stormwater BMPs. See Appendix 9.***

Will the proposed BMPs be maintained by a Home Owners' Association (HOA) or Property Owners Association (POA)?

☐ Y ☒ N

Include your Operation and Maintenance Plan and Maintenance Mechanism in Appendix 9. Additionally, include all pertinent forms of educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP in Appendix 10.

To be completed at time of the Final WQMP Submittal.

Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan and Receiving Waters Map

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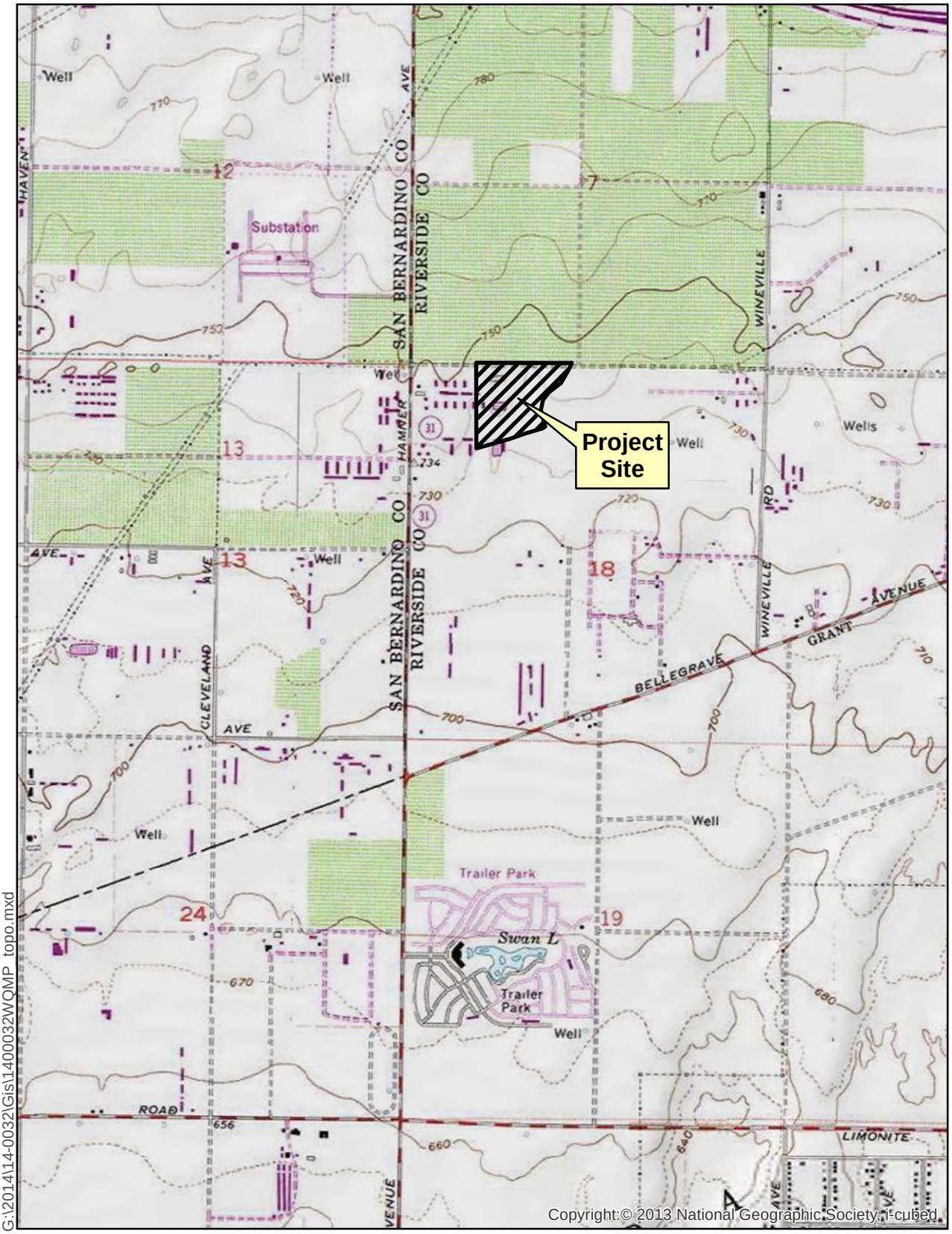
Sources: County of Riverside GIS, 2012;
Eagle Aerial, April 2012.

0 500 1,000 1,500
Feet

Aerial Photograph

LBA Realty - Eastvale
Industrial Development

Albert A. WEBB Associates



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Sources: ESRI / USGS 7.5min Quad
DRGs: CORONA NORTH / GUASTI (1981)

USGS Topography Map

LBA Realty - Eastvale
Industrial Development

0 1,000 2,000 3,000
Feet

Albert A. WEBB Associates

WQMP EXHIBIT

EXISTING FLOOD BASIN

N89°00'07"W 1335.40'

EXISTING GRAINGER WAREHOUSE

RS 56/65

STORM DRAIN LINE TO BY-PASS OFF-SITE FLOWS THROUGH SITE

DMA A
12.7 ACRES

DMA B
16.1 ACRES

BMP B: UNDERGROUND INFILTRATION DETENTION
DCV: 39,970 CF
BOTTOM AREA: 14,356 SF

CDS VORTEX PRETREATMENT

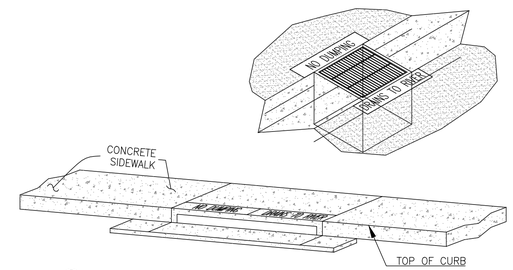
BMP A: INFILTRATION BASIN
DCV: 32,151 CF
BOTTOM AREA: 12,375 SF

CANTU-GALLEANO RANCH RD

INTERSTATE-15

LEGEND

- DMA BOUNDARY
- STORM DRAIN INLETS/CATCH BASINS
- LANDSCAPING
- ROOF
- CONCRETE
- LID BMP
- FLOW DIRECTION
- TRASH ENCLOSURE (LOCATION TBD)



1. STENCILS TO HAVE 2" LETTERS AS FOLLOWS: "NO DUMPING – DRAINS TO RIVER"
2. PLACE BOTH STENCILS CENTERED WITHIN THE CATCHBASIN OPENINGS AND WITHIN THE TOP OF THE CURB.
3. SPRAY BOTH STENCILS WITH WHITE PAINT.
4. REMOVE STENCILS WHEN PAINT IS DRY.

CATCH BASIN STENCILING DETAIL

N.T.S.

N W E S

80' 0 80'

CITY OF EASTVALE
LBA EASTVALE INDUSTRIAL DEVELOPMENT

POST CONSTRUCTION WATER QUALITY
PRELIMINARY WQMP
EXHIBIT

SCALE: N/A	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. WO
DATE: DATE			SHEET EXHIBIT
DESIGNED: DESIGNER			OF # SHEETS
CHECKED: CHECKER			DWG. NO.
PLN CK REF: REF			
F.B. F.B.			

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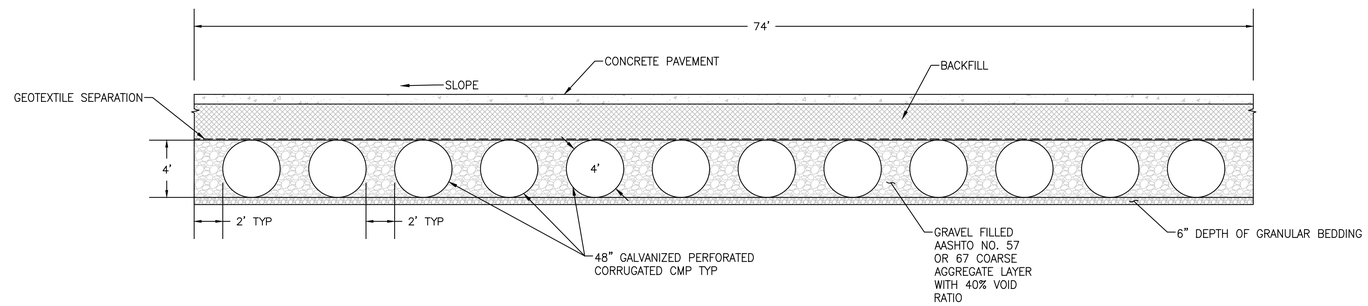
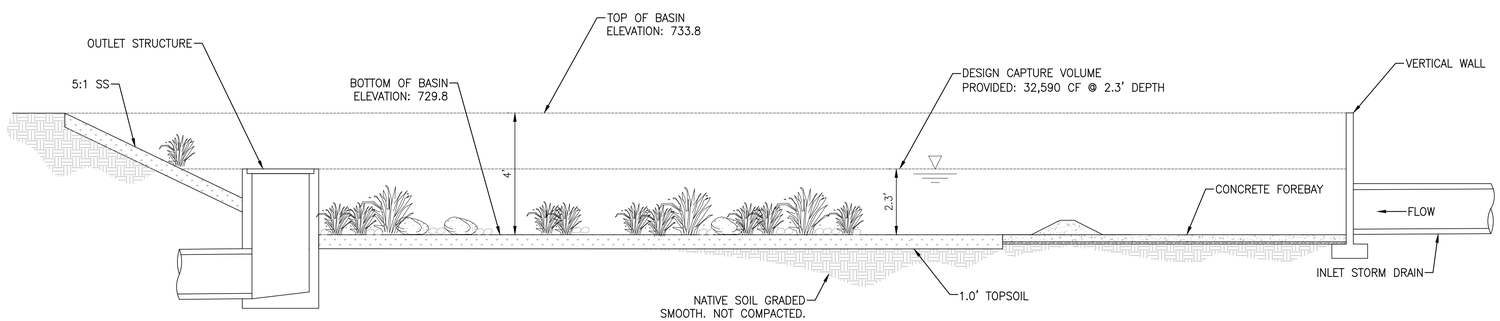


UNDERGROUND INFILTRATION DETENTION BASIN
SCHEMATIC CROSS SECTION

N.T.S.



INFILTRATION BASIN
SCHEMATIC CROSS SECTION

N.T.S.

CITY OF EASTVALE
LBA EASTVALE INDUSTRIAL DEVELOPMENT

POST CONSTRUCTION WATER QUALITY
PRELIMINARY WQMP
DETAILS

SCALE: N/A	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. WO
DATE: DATE			SHEET DETAILS
DESIGNED: DESIGNER			OF # SHEETS
CHECKED: CHECKER			
PLN CK REF: REF			DWG. NO.
F.B. F.B.			

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Appendix 2: Construction Plans

Grading and Drainage Plans

CONSTRUCTION PLANS
WILL BE PROVIDED AT THE TIME OF
THE FINAL WQMP SUBMITTAL

Appendix 3: Soils Information

Geotechnical Study and Other Infiltration Testing Data

Custom Soil Resource Report
Soil Map

Map Scale: 1:3,230 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Western Riverside Area, California (CA679)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
DaD2	Delhi fine sand, 2 to 15 percent slopes, wind-eroded	18.9	56.4%
GlC	Gorgonio loamy sand, deep, 2 to 8 percent slopes	8.4	25.1%
HhA2	Hilmar loamy sand, 0 to 2 percent slopes, eroded	6.2	18.6%
Totals for Area of Interest		**33.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments

Western Riverside Area, California

DaD2—Delhi fine sand, 2 to 15 percent slopes, wind-eroded

Map Unit Setting

National map unit symbol: hcsx
Elevation: 200 to 1,400 feet
Mean annual precipitation: 13 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 225 to 310 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Delhi and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Delhi

Setting

Landform: Alluvial fans, dunes
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear, convex
Parent material: Wind modified alluvium derived from granite

Typical profile

H1 - 0 to 10 inches: fine sand
H2 - 10 to 48 inches: sand
H3 - 48 to 60 inches: fine sandy loam

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: Sandy (1975) (R019XD035CA)

Minor Components

Hilmar

Percent of map unit: 5 percent

Unnamed

Percent of map unit: 5 percent

Tujunga

Percent of map unit: 5 percent

GIC—Gorgonio loamy sand, deep, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: hcvf
Elevation: 20 to 3,000 feet
Mean annual precipitation: 10 to 25 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 250 to 310 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Gorgonio and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gorgonio

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 15 inches: loamy sand
H2 - 15 to 60 inches: stratified gravelly loamy sand to gravelly loamy fine sand

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: Sandy (1975) (R019XD035CA)

Minor Components

Hanford
Percent of map unit: 5 percent

Soboba
Percent of map unit: 5 percent

Tujunga
Percent of map unit: 5 percent

HhA2—Hilmar loamy sand, 0 to 2 percent slopes, eroded

Map Unit Setting
National map unit symbol: hcw8
Elevation: 300 to 900 feet
Mean annual precipitation: 11 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 230 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Hilmar and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hilmar

Setting
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile
H1 - 0 to 16 inches: loamy sand
H2 - 16 to 22 inches: stratified very fine sandy loam to silt loam
H3 - 22 to 72 inches: stratified very fine sandy loam to silt loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to slightly saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 50.0
Available water storage in profile: Moderate (about 8.3 inches)

Interpretive groups
Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: Sandy (1975) (R019XD035CA)

Minor Components

Chino
Percent of map unit: 5 percent

Tujunga
Percent of map unit: 5 percent

Delhi
Percent of map unit: 5 percent

Physical Soil Properties–Western Riverside Area, California														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
DaD2—Delhi fine sand, 2 to 15 percent slopes, wind-eroded														
Delhi	0-10	-97-	- 1-	0- 3- 5	1.60-1.70	42.00-141.00	0.05-0.08	0.0-2.9	0.5-1.0	.02	.02	5	1	250
	10-48	-96-	- 2-	0- 3- 5	1.60-1.70	42.00-141.00	0.05-0.08	0.0-2.9	0.0	.02	.02			
	48-60	-69-	-22-	5-10- 15	1.50-1.60	14.00-42.00	0.13-0.15	0.0-2.9	0.0	.32	.32			
GlC—Gorgonio loamy sand, deep, 2 to 8 percent slopes														
Gorgonio	0-15	-79-	-17-	0- 5- 10	1.60-1.70	42.00-141.00	0.06-0.10	0.0-2.9	1.0-3.0	.15	.15	5	2	134
	15-60	-79-	-17-	0- 5- 10	1.60-1.70	42.00-141.00	0.04-0.06	0.0-2.9	0.0	.10	.15			
HhA2—Hilmar loamy sand, 0 to 2 percent slopes, eroded														
Hilmar	0-16	-79-	-17-	0- 5- 10	1.55-1.65	42.00-141.00	0.06-0.10	0.0-2.9	0.5-1.0	.24	.24	2	2	134
	16-22	-32-	-56-	8-12- 15	—	0.42-1.40	0.14-0.17	0.0-2.9	0.0	.64	.64			
	22-72	-32-	-56-	8-12- 15	—	0.42-1.40	0.14-0.17	0.0-2.9	0.0	.64	.64			

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba).

Engineering Properties–Western Riverside Area, California														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*Pct*	*Pct*					*Pct*	
DaD2—Delhi fine sand, 2 to 15 percent slopes, wind-eroded														
Delhi	85	A	0-10	Fine sand	SM, SP-SM	A-1, A-2, A-3	0	0	100	100	40-70	5-25	15-20	NP
			10-48	Sand, fine sand	SM, SP-SM	A-1, A-2, A-3	0	0	100	100	40-70	5-25	15-20	NP
			48-60	Fine sandy loam	SM	A-4	0	0	100	100	65-80	35-50	20-30	NP-5
GlC—Gorgonio loamy sand, deep, 2 to 8 percent slopes														
Gorgonio	85	A	0-15	Loamy sand	SM	A-1, A-2	0	0	80-100	75-95	40-70	20-30	15-20	NP
			15-60	Stratified gravelly loamy sand to gravelly loamy fine sand	SM	A-1	0	5-15	65-85	60-80	30-50	10-25	15-20	NP
HhA2—Hilmar loamy sand, 0 to 2 percent slopes, eroded														
Hilmar	85	C	0-16	Loamy sand	SM	A-2	0	0	100	100	50-75	15-30	15-20	NP
			16-22	Stratified very fine sandy loam to silt loam	ML	A-4	0	0	100	100	90-100	60-85	25-35	NP-10
			22-72	Stratified very fine sandy loam to silt loam	ML	A-4	0	0	100	100	90-100	60-85	25-35	NP-10

Appendix 4: Historical Site Conditions

Phase I Environmental Site Assessment or Other Information on Past Site Use

N/A

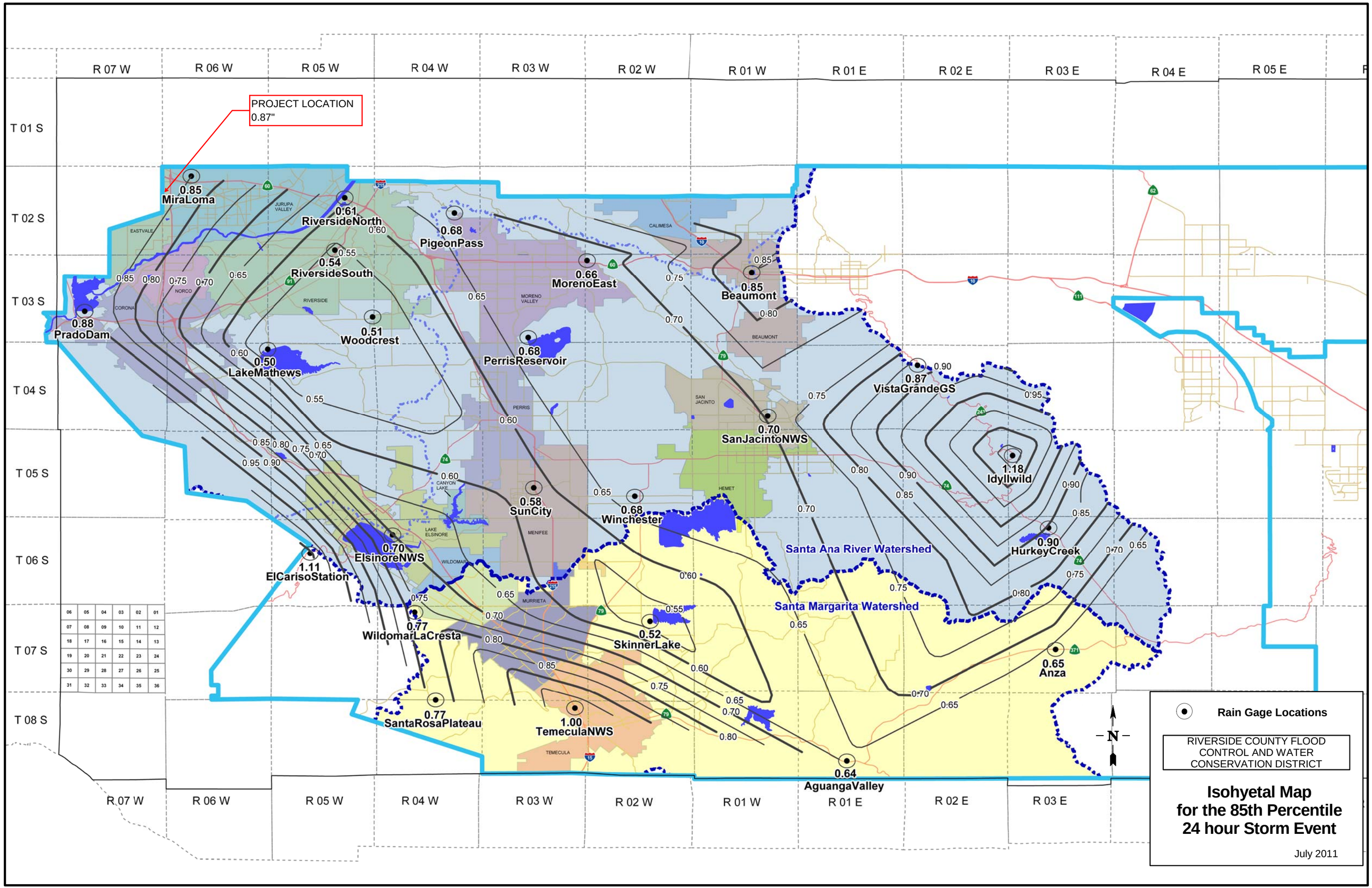
Appendix 5: LID Infeasibility

LID Technical Infeasibility Analysis

N/A

Appendix 6: BMP Design Details

BMP Sizing, Design Details and other Supporting Documentation


R 07 W
R 06 W
R 05 W
R 04 W
R 03 W
R 02 W
R 01 W
R 01 E
R 02 E
R 03 E
R 04 E
R 05 E
T 01 S
T 02 S
T 03 S
T 04 S
T 05 S
T 06 S
T 07 S
T 08 S
PROJECT LOCATION
0.87"
0.85
MiraLoma
0.61
RiverSideNorth
0.68
PigeonPass
0.54
RiverSideSouth
0.66
MorenoEast
0.85
Beaumont
0.88
PradoDam
0.51
Woodcrest
0.50
LakeMathews
0.68
PerrisReservoir
0.87
VistaGrandeGS
0.70
SanJacintoNWS
1.18
Idyllwild
0.58
SunCity
0.68
Winchester
0.90
HurkeyCreek
0.70
ElsinoreNWS
1.11
ElCarisoStation
0.77
WildomarLaCresta
0.52
SkinnerLake
0.65
Anza
0.77
SantaRosaPlateau
1.00
TemeculaNWS
0.64
AguangaValley
Santa Ana River Watershed
Santa Margarita Watershed
Rain Gage Locations
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
Isohyetal Map
for the 85th Percentile
24 hour Storm Event
July 2011
N

WQMP Project Report

County of Riverside Stormwater Program

Santa Ana River Watershed Geodatabase

Monday, October 06, 2014

Note: The information provided in this report and on the Stormwater Geodatabase for the County of Riverside Stormwater Program is intended to provide basic guidance in the preparation of the applicant's Water Quality Management Plan (WQMP) and should not be relied upon without independent verification.

Project Site Parcel Number(s):	160020027, 160020021
Latitude/Longitude:	34.0029, -117.5539
Thomas Brothers Page:	683
Project Site Acreage:	33.52
Watershed(s):	SANTA ANA
This Project Site Resides in the following Hydrologic Unit (s) (HUC):	**HUC Name** - HUC Number **Lower Cucamonga Creek** - 180702030705
The HUCs Contribute stormwater to the following 303d listed water bodies and TMDLs which may include drainage from your proposed Project Site:	**WBID Name** - WBID Number **Cucamonga Creek Reach 1 (Valley Reach)** - CAR8012100019990211101136 **Santa Ana River, Reach 3** - CAR8012100019990211140353
These 303d listed Water bodies and TMDLs have the following Pollutants of Concern (POC):	**Bacterial Indicators** - Coliform Bacteria, Pathogens **Metals/Metalloids** - Cadmium, Copper, Lead, Zinc
Is the Site subject to Hydromodification:	Yes
Limitations on Infiltration:	**Project Site Onsite Soils Group(s)** - A, C **Known Groundwater Contamination Plumes within 1000'** - No **Adjacent Water Supply Wells(s)** - No information available please contact your local water agency for more information. Your local contact agency is JURUPA C.S.D.. Your local wholesaler contact agency is METROPOLITAN WATER DISTRICT.
Environmentally Sensitive Areas within 200'(Fish and Wildlife Habitat/Species):	None
Environmentally Sensitive Areas within 200'(CVMSHCP):	None
Environmentally Sensitive Areas within 200'(WRMSHCP):	Burrowing Owl Survey Required Area,Narrow Endemic Plants Survey Req. - Area 7
Groundwater elevation from Mean Sea Level:	562
85th Percentile Design Storm Depth (in):	0.865
Groundwater Basin:	Chino-North
MSHCP/CVMSHCP Criteria Cell(s):	Click here for detailed MSHCP report
Retention Ordinance Information:	No Data
Studies and Reports Related to Project Site:	IBI Scores - Southern Cal bulletin118_4-sc water_fact_3_7.11 8039-SAR-Hydromodification final UWMP 051011 JCSD Master Water Plan 2005 Comprehensive Bacteria Reduction Plan Eastvale MDP 34th Annual Report Chino Basin Watermaster 2012 Annual Report of Santa Ana River Eastvale ADP Map Eastvale ADP Report

DMA A

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name ALBERT A. WEBB ASSOCIATES | Date 10/9/2014

Designed by RC | Case No

Company Project Number/Name LBA EASTVALE INDUSTRIAL

BMP Identification

BMP NAME / ID INFILTRATION BASIN A

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth,
from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.87 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
A	*236169*	*Roofs*	*1*	*0.89*	*210662.7*			
A	*63790*	*Ornamental Landscaping*	*0.1*	*0.11*	*7046.1*			
A	*253092*	*Concrete or Asphalt*	*1*	*0.89*	*225758.1*			
	553051	***Total***			**443466.9**	**0.87**	***32151.4***	***32590***

Notes:

Infiltration Basin - Design Procedure (Rev. 03-2012)	BMP ID	Legend:	Required Entries / Calculated Cells

Company Name:	Albert A. Webb Associates	Date:	10-Oct
Designed by:	REC	County/City Case No.:	

Design Volume

a) Tributary area (BMP subarea)	A_T =	12.7	acres
b) Enter V_{BMP} determined from Section 2.1 of this Handbook	V_{BMP}=	32,151	ft^3

Maximum Depth

a) Infiltration rate	I =	1.6	in/hr
b) Factor of Safety (See Table 1, Appendix A: "Infiltration Testing" from this BMP Handbook)	FS =	3	
c) Calculate D_1 $\quad D_1 = \dfrac{I\ (in/hr) \times 72\ hrs}{12\ (in/ft) \times FS}$	D_1 =	3.2	ft
d) Enter the depth of freeboard (at least 1 ft)		1	ft
e) Enter depth to historic high ground water (measured from **top** of basin)		30	ft
f) Enter depth to top of bedrock or impermeable layer (measured from **top** of basin)		30	ft
g) D_2 is the smaller of: Depth to groundwater - (10 ft + freeboard) and Depth to impermeable layer - (5 ft + freeboard)	D_2 =	19.0	ft
h) D_{MAX} is the smaller value of D_1 and D_2 but shall not exceed 5 feet	D_{MAX} =	3.2	ft

Basin Geometry

a) Basin side slopes (no steeper than 4:1)	z =	4	:1
b) Proposed basin depth (excluding freeboard)	d_B =	3	ft
c) Minimum bottom surface area of basin (A_S= V_{BMP}/d_B)	A_S =	10717	ft^2
d) Proposed Design Surface Area	A_D =	12375	ft^2

Forebay

a) Forebay volume (minimum 0.5% V_{BMP})	Volume =	161	ft^3
b) Forebay depth (height of berm/splashwall. 1 foot min.)	Depth =	1	ft
c) Forebay surface area (minimum)	Area =	161	ft^2
d) Full height notch-type weir	Width (W) =	6.0	in

Notes:

DMA B

Santa Ana Watershed - BMP Design Volume, V_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name	ALBERT A. WEBB ASSOCIATES	Date	10/9/2014
Designed by	RC	Case No	
Company Project Number/Name	LBA EASTVALE INDUSTRIAL		

BMP Identification

BMP NAME / ID: UNDERGROUND INFILTRATION B

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

85th Percentile, 24-hour Rainfall Depth,
from the Isohyetal Map in Handbook Appendix E

D_{85}= 0.87 inches

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Storm Depth (in)*	*Design Capture Volume, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
B	*205723*	*Roofs*	*1*	*0.89*	*183504.9*			
B	*93252*	*Ornamental Landscaping*	*0.1*	*0.11*	*10300.4*			
B	*400767*	*Concrete or Asphalt*	*1*	*0.89*	*357484.2*			
	699742		***Total***		**551289.5**	**0.87**	***39968.5***	***40,326***

Notes:

Infiltration Basin - Design Procedure (Rev. 03-2012)	BMP ID	Legend:	Required Entries / Calculated Cells

Company Name:	Albert A. Webb Associates	Date:	10-Oct
Designed by:	REC	County/City Case No.:	

Design Volume

a) Tributary area (BMP subarea)	A_T =	16.1	acres
b) Enter V_{BMP} determined from Section 2.1 of this Handbook	V_{BMP}=	39,969	ft^3

Maximum Depth

a) Infiltration rate	I =	1.6	in/hr
b) Factor of Safety (See Table 1, Appendix A: "Infiltration Testing" from this BMP Handbook)	FS =	3	
c) Calculate D_1 $\quad D_1 = \dfrac{I\ (in/hr) \times 72\ hrs}{12\ (in/ft) \times FS}$	D_1 =	3.2	ft
d) Enter the depth of freeboard (at least 1 ft)		1	ft
e) Enter depth to historic high ground water (measured from **top** of basin)		30	ft
f) Enter depth to top of bedrock or impermeable layer (measured from **top** of basin)		30	ft
g) D_2 is the smaller of: Depth to groundwater - (10 ft + freeboard) and Depth to impermeable layer - (5 ft + freeboard)	D_2 =	19.0	ft
h) D_{MAX} is the smaller value of D_1 and D_2 but shall not exceed 5 feet	D_{MAX} =	3.2	ft

Basin Geometry

a) Basin side slopes (no steeper than 4:1)	Slope no steeper than 4:1	z =	0	:1
b) Proposed basin depth (excluding freeboard)	Depth may not exceed Dmax	d_B =	4	ft
c) Minimum bottom surface area of basin (A_S= V_{BMP}/d_B)		A_S =	9992	ft^2
d) Proposed Design Surface Area		A_D =	14356	ft^2

Forebay

a) Forebay volume (minimum 0.5% V_{BMP})	Volume =	200	ft^3
b) Forebay depth (height of berm/splashwall. 1 foot min.)	Depth =	1	ft
c) Forebay surface area (minimum)	Area =	200	ft^2
d) Full height notch-type weir	Width (W) =	6.0	in

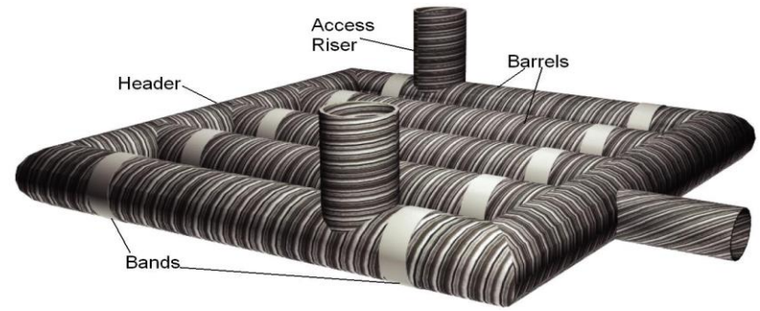
Notes: Underground Infiltration Detention Facility - see additional calculation worksheets

DYODS™
Design Your Own Detention System

CONTECH CMP DETENTION SYSTEMS

CONTECH CONSTRUCTION PRODUCTS INC.

For design assistance, drawings,
and pricing send completed worksheet to:
dyods@contech-cpi.com

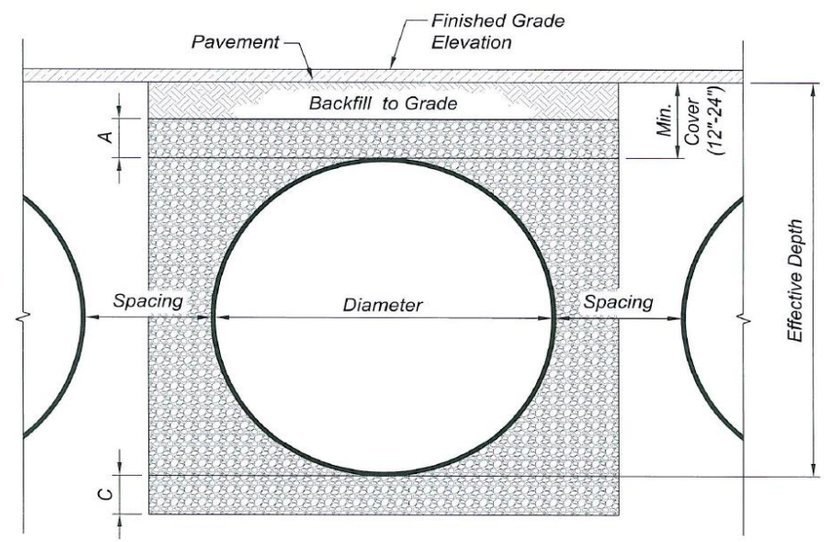


Project Summary

Date:	10/6/2014	
Project Name:	LBA Eastvale	
City / County:	Riverside County	
State:	40% voids in the gravel	
Designed By:	EA	
Company:	Albert A. Webb Associates	**Enter Information in Blue Cells**
Telephone:	(951) 686-1070	

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	40,000	
Limiting Width (ft):	76.50	
Invert Depth Below Asphalt (ft):	8.00	
Solid or Perforated Pipe:	Perforated	
Shape Or Diameter (in):	48	12.57 ft^2 Pipe Area
Number Of Headers:	1	
Spacing between Barrels (ft):	2.00	
Stone Width Around Perimeter of System (ft):	2	
Depth A: Porous Stone Above Pipe (in):	0	
Depth C: Porous Stone Below Pipe (in):	0	
Stone Porosity (0 to 40%):	40	



System Sizing

Pipe Storage:	28,928	cf	
Porous Stone Storage:	11,398	cf	
Total Storage Provided:	40,326	cf	100.8% Of Required Storage
Number of Barrels:	12	barrels	
Length per Barrel:	186.0	ft	
Length Per Header:	70.0	ft	
Rectangular Footprint (W x L):	74. ft x 194. ft		

CONTECH Materials

Total CMP Footage:	2,302	ft
Approximate Total Pieces:	99	pcs
Approximate Coupling Bands:	98	bands
Approximate Truckloads:	13	trucks

Construction Quantities**

Total Excavation:	4254	cy
Porous Stone Backfill For Storage:	1055	cy stone
Backfill to Grade Excluding Stone:	2127	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout

Barrel 12	186
Barrel 11	186
Barrel 10	186
Barrel 9	186
Barrel 8	186
Barrel 7	186
Barrel 6	186
Barrel 5	186
Barrel 4	186
Barrel 3	186
Barrel 2	186
Barrel 1	186

Barrel Footage (w/o headers)

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Infiltration Calculations

14-0032 LBA Eastvale Industrial

Infiltration Basin A

Infiltration Rate	1.6	IN/HR
Factor of Safety	3	
Effective Infiltration Rate	0.533	IN/HR
Effective Infiltration Rate	1.23E-05	CFS/SF (OR FT/S)
Area	12375	SF
Infiltration Flowrate	0.153	CFS
Volume	32151	CF
Time	58.5	HR

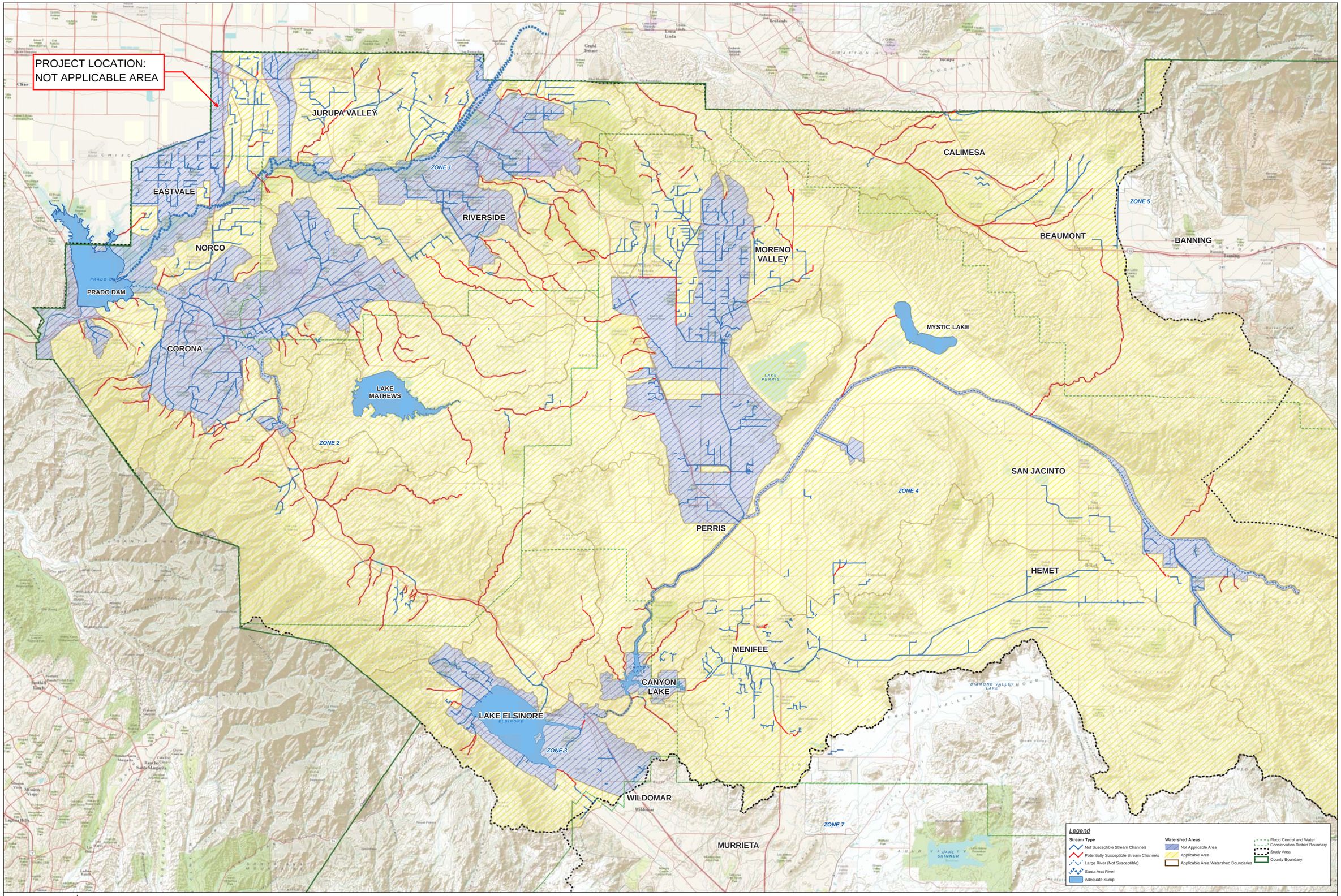
Underground Infiltration B

12 EA 186 LF 48" Barrels

Infiltration Rate	1.6	IN/HR
Factor of Safety	3	
Effective Infiltration Rate	0.533	IN/HR
Effective Infiltration Rate	1.23E-05	CFS/SF (OR FT/S)
Footprint Length	194	FT
Footprint Width	74	FT
Area	14356	SF
Infiltration Flowrate	0.177	CFS
Volume	40085	CF
Time	62.8	HR

Appendix 7: Hydromodification

Supporting Detail Relating to Hydrologic Conditions of Concern



HCOC Applicability Map

Hydromodification Susceptibility Documentation Report and Mapping
Riverside County Flood Control and Water Conservation District

Map 2

Appendix 8: Source Control

Pollutant Sources/Source Control Checklist

SOURCE CONTROL
WILL BE COMPLETED AND ADDRESSED AT THE TIME OF
THE FINAL WQMP SUBMITTAL

Appendix 9: O&M

Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanisms

O&M
ADDITIONAL INFORMATION WILL BE ADDED
AT THE TIME OF THE FINAL WQMP SUBMITTAL

Covenant and Agreement

Water Quality Management Plan and Urban Runoff BMP Transfer, Access and Maintenance Agreement

Recorded at the request of:

County of _____

After recording, return to:

County of _____

County Clerk _____

Water Quality Management Plan and Urban Runoff BMP Transfer, Access and Maintenance Agreement

OWNER: _____

PROPERTY LOCATION: _____

APNS: _____

THIS AGREEMENT is made and entered into in

_____, California, this _____ day of

_____, by and between

_____, herein after

referred to as "Owner" and the COUNTY OF ___ _____, a

municipal corporation, located in the County of Riverside, State of California hereinafter

referred to as "COUNTY";

WHEREAS, the Owner owns real property ("Property") in the County of _____, State of California, more specifically described in Exhibit "A" and depicted in Exhibit "B", each of which exhibits is attached hereto and incorporated herein by this reference;

WHEREAS, at the time of initial approval of development project known as _____ within the Property described herein, the City required the project to employ Best Management Practices, hereinafter referred to as "BMPs," to minimize pollutants in urban runoff;

WHEREAS, the Owner has chosen to install and/or implement BMPs as described in the Water Quality Management Plan, on file with the City, hereinafter referred to as "WQMP", to minimize pollutants in urban runoff and to minimize other adverse impacts of urban runoff;

WHEREAS, said WQMP has been certified by the Owner and reviewed and approved by the City;

WHEREAS, said BMPs, with installation and/or implementation on private property and draining only private property, are part of a private facility with all maintenance or replacement, therefore, the sole responsibility of the Owner in accordance with the terms of this Agreement;

WHEREAS, the Owner is aware that periodic and continuous maintenance, including, but not necessarily limited to, filter material replacement and sediment removal, is required to assure peak performance of all BMPs in the WQMP and that, furthermore, such maintenance activity will require compliance with all Local, State, or Federal laws and regulations, including those pertaining to confined space and waste disposal methods, in effect at the time such maintenance occurs;

NOW THEREFORE, it is mutually stipulated and agreed as follows:

1. Owner hereby provides the City of City's designee complete access, of any duration, to the BMPs and their immediate vicinity at any time, upon reasonable notice, or in the event of emergency, as determined by City's Director of Public Works no advance notice, for the purpose of inspection, sampling, testing of the Device, and in case of emergency, to undertake all necessary repairs or other preventative measures at owner's expense as provided in paragraph 3 below. City shall make every effort at all times to minimize or avoid interference with Owner's use of the Property.

2. Owner shall use its best efforts diligently to maintain all BMPs in a manner assuring peak performance at all times. All reasonable precautions shall be exercised by Owner and Owner's representative or contractor in the removal and extraction of any material(s) from the BMPs and the ultimate disposal of the material(s) in a manner consistent with all relevant laws and regulations in effect at the time. As may be requested from time to time by the City, the Owner shall provide the City with documentation identifying the material(s) removed, the quantity, and disposal destination.

3. In the event Owner, or its successors or assigns, fails to accomplish the necessary maintenance contemplated by this Agreement, within five (5) days of being given written notice by the City, the City is hereby authorized to cause any maintenance necessary to be done and charge the entire cost and expense to the Owner or Owner's successors or assigns, including administrative costs, attorneys fees and interest thereon at the maximum rate authorized by the Civil Code from the date of the notice of expense until paid in full.

4. The City may require the owner to post security in form and for a time period satisfactory to the city to guarantee the performance of the obligations state herein. Should the Owner fail to perform the obligations under the Agreement, the City may, in the case of a cash bond, act for the Owner using the proceeds from it, or in the case of a

surety bond, require the sureties to perform the obligations of the Agreement. As an additional remedy, the Director may withdraw any previous Urban Runoff-related approval with respect to the property on which BMPs have been installed and/or implemented until such time as Owner repays to City its reasonable costs incurred in accordance with paragraph 3 above.

5. This agreement shall be recorded in the Office of the Recorder of Riverside County, California, at the expense of the Owner and shall constitute notice to all successors and assigns of the title to said Property of the obligation herein set forth, and also a lien in such amount as will fully reimburse the City, including interest as herein above set forth, subject to foreclosure in event of default in payment.

6. In event of legal action occasioned by any default or action of the Owner, or its successors or assigns, then the Owner and its successors or assigns agree(s) to pay all costs incurred by the City in enforcing the terms of this Agreement, including reasonable attorney's fees and costs, and that the same shall become a part of the lien against said Property.

7. It is the intent of the parties hereto that burdens and benefits herein undertaken shall constitute covenants that run with said Property and constitute a lien there against.

8. The obligations herein undertaken shall be binding upon the heirs, successors, executors, administrators and assigns of the parties hereto. The term "Owner" shall include not only the present Owner, but also its heirs, successors, executors, administrators, and assigns. Owner shall notify any successor to title of all or part of the Property about the existence of this Agreement. Owner shall provide such notice prior to such successor obtaining an interest in all or part of the Property. Owner shall provide a copy of such notice to the City at the same time such notice is provided to the successor.

9. Time is of the essence in the performance of this Agreement.

10. Any notice to a party required or called for in this Agreement shall be served in person, or by deposit in the U.S. Mail, first class postage prepaid, to the address set forth below. Notice(s) shall be deemed effective upon receipt, or seventy-two (72) hours after deposit in the U.S. Mail, whichever is earlier. A party may change a notice address only by providing written notice thereof to the other party.

IF TO CITY:	**IF TO OWNER:**
_____	_____
_____	_____
_____	_____
_____	_____

IN WITNESS THEREOF, the parties hereto have affixed their signatures as of the date first written above.

APPROVED AS TO FORM:

_____
County Attorney

_____
COUNTY OF

_____
Name

_____
Title

ATTEST:

_____
County Clerk Date

NOTARIES ON FOLLOWING PAGE

OWNER:

_____
Name

_____
Title

OWNER

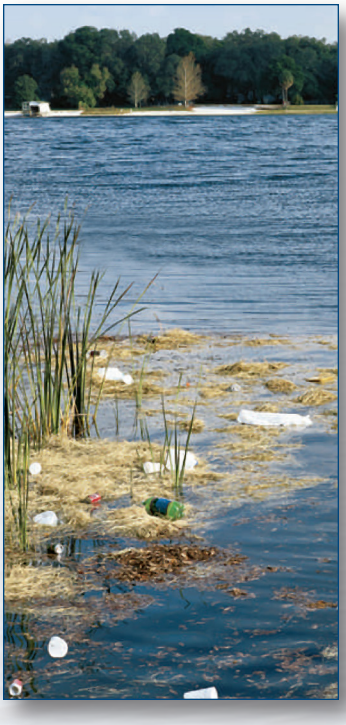
_____
Name

_____
Title

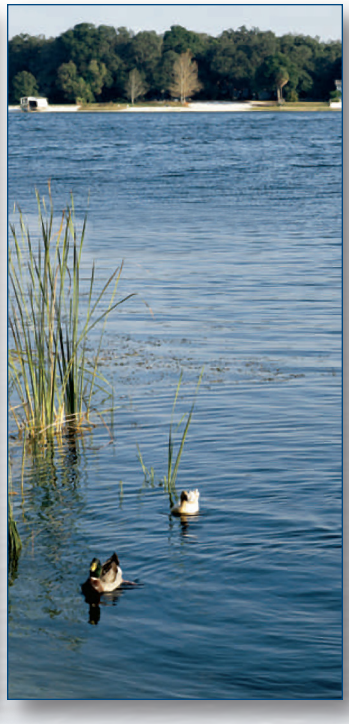
UrbanGreen™ Hydrodynamic Separation

Pretreatment for Green Stormwater Solutions

Before CDS®



After CDS®



HDS Benefits

- Cost effective method of gross pollutant removal
- Pretreatment reduces size and increases longevity of land based BMPs
- Variety of sizes to meet range of applications and flows
- Easy, low-cost maintenance

HDS Applications

- Pre-treatment for rainwater harvesting/stormwater reuse
- Pre-treatment for infiltration and bioretention
- Urban retrofit/redevelopment
- Sediment and trash protection for ponds/lakes
- Pump protection

CDS Features

- Captures and retains 100% of floatables and neutrally buoyant debris 2.4 mm or larger
- Proven removal of solids, oil and grease
- Patented indirect screening capability keeps screen from clogging
- Retention of all captured pollutants, even at high flows
- Easy access to remove captured pollutants
- Performance verified by NJCAT and WA Ecology
- Flexible design
  - Allows for multiple inlet pipes
  - In-line, grate, and curb inlet configurations
  - Easily installed in existing storm drain

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URBANGREEN™

CONTECH®
ENGINEERED SOLUTIONS

CDS Guide
Operation, Design, Performance and Maintenance

CDS®

Using patented continuous deflective separation technology, the CDS system screens, separates and traps debris, sediment, and oil and grease from stormwater runoff. The indirect screening capability of the system allows for 100% removal of floatables and neutrally buoyant material without blinding. Flow and screening controls physically separate captured solids, and minimize the re-suspension and release of previously trapped pollutants. Inline units can treat up to 6 cfs, and internally bypass flows in excess of 50 cfs (1416 L/s). Available precast or cast-in-place, offline units can treat flows from 1 to 300 cfs (28.3 to 8495 L/s). The pollutant removal capacity of the CDS system has been proven in lab and field testing.

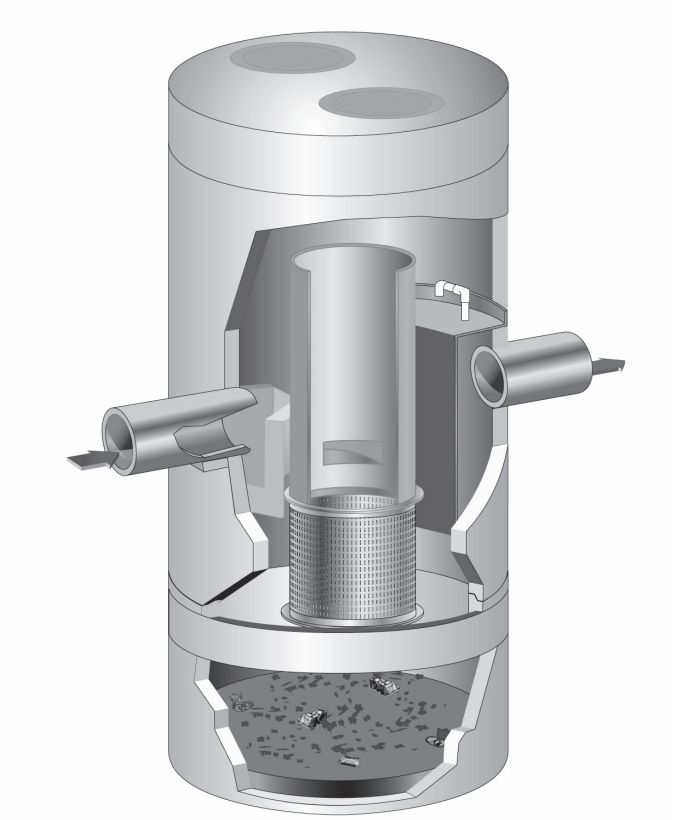
Operation Overview

Stormwater enters the diversion chamber where the diversion weir guides the flow into the unit's separation chamber and pollutants are removed from the flow. All flows up to the system's treatment design capacity enter the separation chamber and are treated.

Swirl concentration and screen deflection force floatables and solids to the center of the separation chamber where 100% of floatables and neutrally buoyant debris larger than the screen apertures are trapped.

Stormwater then moves through the separation screen, under the oil baffle and exits the system. The separation screen remains clog free due to continuous deflection.

During the flow events exceeding the treatment design capacity, the diversion weir bypasses excessive flows around the separation chamber, so captured pollutants are retained in the separation cylinder.



Design Basics

There are three primary methods of sizing a CDS system. The Water Quality Flow Rate Method determines which model size provides the desired removal efficiency at a given flow rate for a defined particle size. The Rational Rainfall Method™ or the and Probabilistic Method is used when a specific removal efficiency of the net annual sediment load is required.

Typically in the Unites States, CDS systems are designed to achieve an 80% annual solids load reduction based on lab generated performance curves for a gradation with an average particle size (d50) of 125 microns (μm). For some regulatory environments, CDS systems can also be designed to achieve an 80% annual solids load reduction based on an average particle size (d50) of 75 microns (μm) or 50 microns (μm).

Water Quality Flow Rate Method

In some cases, regulations require that a specific treatment rate, often referred to as the water quality design flow (WQQ), be treated. This WQQ represents the peak flow rate from either an event with a specific recurrence interval, e.g. the six-month storm, or a water quality depth, e.g. 1/2-inch (13 mm) of rainfall.

The CDS is designed to treat all flows up to the WQQ. At influent rates higher than the WQQ, the diversion weir will direct most flow exceeding the WQQ around the separation chamber. This allows removal efficiency to remain relatively constant in the separation chamber and eliminates the risk of washout during bypass flows regardless of influent flow rates.

Treatment flow rates are defined as the rate at which the CDS will remove a specific gradation of sediment at a specific removal efficiency. Therefore the treatment flow rate is variable, based on the gradation and removal efficiency specified by the design engineer.

Rational Rainfall Method™

Differences in local climate, topography and scale make every site hydraulically unique. It is important to take these factors into consideration when estimating the long-term performance of any stormwater treatment system. The Rational Rainfall Method combines site-specific information with laboratory generated performance data, and local historical precipitation records to estimate removal efficiencies as accurately as possible.

Short duration rain gauge records from across the United States and Canada were analyzed to determine the percent of the total annual rainfall that fell at a range of intensities. US stations' depths were totaled every 15 minutes, or hourly, and recorded in 0.01-inch increments. Depths were recorded hourly with 1-mm resolution at Canadian stations. One trend was consistent at all sites; the vast majority of precipitation fell at low intensities and high intensity storms contributed relatively little to the total annual depth.

These intensities, along with the total drainage area and runoff coefficient for each specific site, are translated into flow rates using the Rational Rainfall Method. Since most sites are relatively small and highly impervious, the Rational Rainfall Method is appropriate. Based on the runoff flow rates calculated for each intensity, operating rates within a proposed CDS system are

determined. Performance efficiency curve determined from full scale laboratory tests on defined sediment PSDs is applied to calculate solids removal efficiency. The relative removal efficiency at each operating rate is added to produce a net annual pollutant removal efficiency estimate.

Probabilistic Rational Method

The Probabilistic Rational Method is a sizing program Contech developed to estimate a net annual sediment load reduction for a particular CDS model based on site size, site runoff coefficient, regional rainfall intensity distribution, and anticipated pollutant characteristics.

The Probabilistic Method is an extension of the Rational Method used to estimate peak discharge rates generated by storm events of varying statistical return frequencies (e.g. 2-year storm event). Under the Rational Method, an adjustment factor is used to adjust the runoff coefficient estimated for the 10-year event, correlating a known hydrologic parameter with the target storm event. The rainfall intensities vary depending on the return frequency of the storm event under consideration. In general, these two frequency dependent parameters (rainfall intensity and runoff coefficient) increase as the return frequency increases while the drainage area remains constant.

These intensities, along with the total drainage area and runoff coefficient for each specific site, are translated into flow rates using the Rational Method. Since most sites are relatively small and highly impervious, the Rational Method is appropriate. Based on the runoff flow rates calculated for each intensity, operating rates within a proposed CDS are determined. Performance efficiency curve on defined sediment PSDs is applied to calculate solids removal efficiency. The relative removal efficiency at each operating rate is added to produce a net annual pollutant removal efficiency estimate.

Treatment Flow Rate

The inlet throat area is sized to ensure that the WQQ passes through the separation chamber at a water surface elevation equal to the crest of the diversion weir. The diversion weir bypasses excessive flows around the separation chamber, thus preventing re-suspension or re-entrainment of previously captured particles.

Hydraulic Capacity

The hydraulic capacity of a CDS system is determined by the length and height of the diversion weir and by the maximum allowable head in the system. Typical configurations allow hydraulic capacities of up to ten times the treatment flow rate. The crest of the diversion weir may be lowered and the inlet throat may be widened to increase the capacity of the system at a given water surface elevation. The unit is designed to meet project specific hydraulic requirements.

Performance

Full-Scale Laboratory Test Results

A full-scale CDS system (Model CDS2020-5B) was tested at the facility of University of Florida, Gainesville, FL. This CDS unit was evaluated under controlled laboratory conditions of influent flow rate and addition of sediment.

Two different gradations of silica sand material (UF Sediment & OK-110) were used in the CDS performance evaluation. The particle size distributions (PSDs) of the test materials were analyzed using standard method "Gradation ASTM D-422 "Standard Test Method for Particle-Size Analysis of Soils" by a certified laboratory.

UF Sediment is a mixture of three different products produced by the U.S. Silica Company: "Sil-Co-Sil 106", "#1 DRY" and "20/40 Oil Frac". Particle size distribution analysis shows that the UF Sediment has a very fine gradation (d50 = 20 to 30 μm) covering a wide size range (Coefficient of Uniformity, C averaged at 10.6). In comparison with the hypothetical TSS gradation specified in the NJDEP (New Jersey Department of Environmental Protection) and NJCAT (New Jersey Corporation for Advanced Technology) protocol for lab testing, the UF Sediment covers a similar range of particle size but with a finer d50 (d50 for NJDEP is approximately 50 μm) (NJDEP, 2003).

The OK-110 silica sand is a commercial product of U.S. Silica Sand. The particle size distribution analysis of this material, also included in Figure 1, shows that 99.9% of the OK-110 sand is finer than 250 microns, with a mean particle size (d50) of 106 microns. The PSDs for the test material are shown in Figure 1.

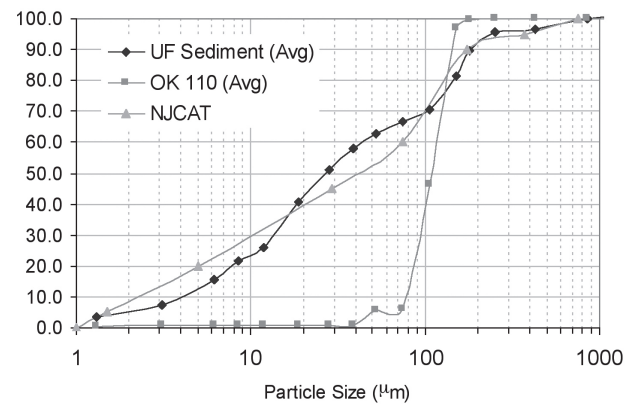


Figure 1. Particle size distributions

Tests were conducted to quantify the performance of a specific CDS unit (1.1 cfs (31.3-L/s) design capacity) at various flow rates, ranging from 1% up to 125% of the treatment design capacity of the unit, using the 2400 micron screen. All tests were conducted with controlled influent concentrations of approximately 200 mg/L. Effluent samples were taken at equal time intervals across the entire duration of each test run. These samples were then processed with a Dekaport Cone sample splitter to obtain representative sub-samples for Suspended Sediment Concentration (SSC) testing using ASTM D3977-97 "Standard Test Methods for Determining Sediment Concentration in Water Samples", and particle size distribution analysis.

Results and Modeling

Based on the data from the University of Florida, a performance model was developed for the CDS system. A regression analysis was used to develop a fitting curve representative of the scattered data points at various design flow rates. This model, which demonstrated good agreement with the laboratory data, can then be used to predict CDS system performance with respect

to SSC removal for any particle size gradation, assuming the particles are inorganic sandy-silt. Figure 2 shows CDS predictive performance for two typical particle size gradations (NJCAT gradation and OK-110 sand) as a function of operating rate.

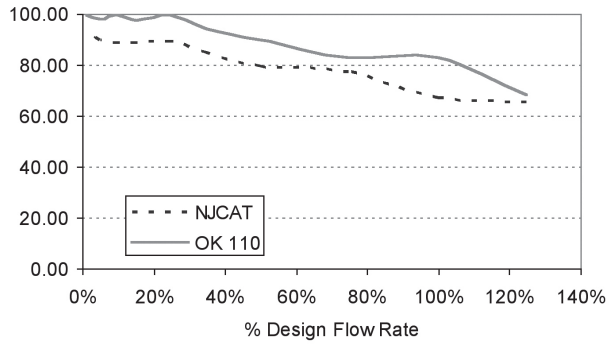


Figure 2. CDS stormwater treatment predictive performance for various particle gradations as a function of operating rate.

Many regulatory jurisdictions set a performance standard for hydrodynamic devices by stating that the devices shall be capable of achieving an 80% removal efficiency for particles having a mean particle size (d50) of 125 microns (e.g. Washington State Department of Ecology — WASDOE - 2008). The model can be used to calculate the expected performance of such a PSD (shown in Figure 3). The model indicates (Figure 4) that the CDS system with 2400 micron screen achieves approximately 80% removal at the design (100%) flow rate, for this particle size distribution (d50 = 125 μm).

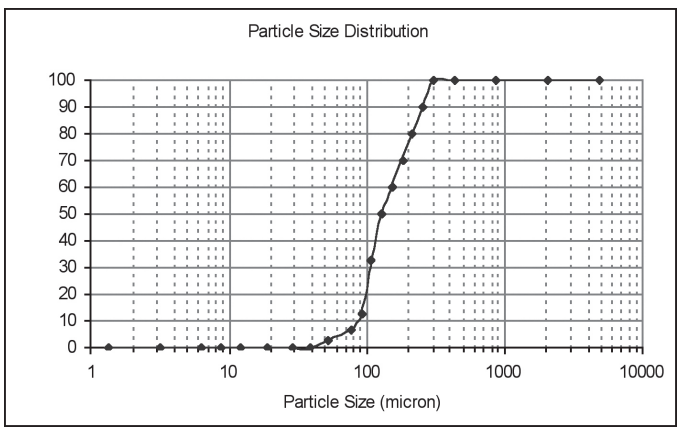


Figure 3. WASDOE PSD

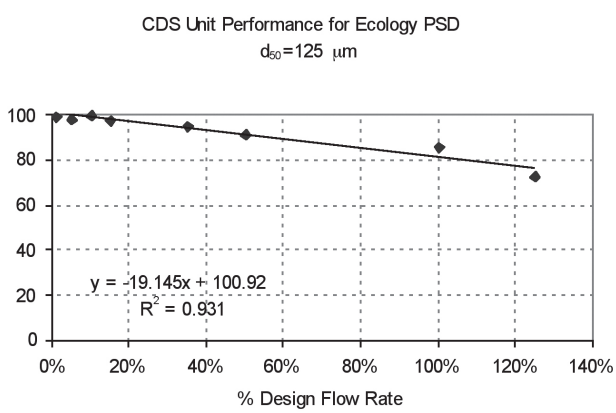


Figure 4. Modeled performance for WASDOE PSD.

Maintenance

The CDS system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit. For example, unstable soils or heavy winter sanding will cause the grit chamber to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (e.g. spring and fall) however more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment washdown areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

The visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet and separation screen. The inspection should also quantify the accumulation of hydrocarbons, trash, and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified

during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided.

Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber (cylinder and screen) and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen. For deep units, a single manhole access point would allows both sump cleanout and access outside the screen.

The CDS system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. If absorbent material is used, it should be replaced when significant discoloration has occurred. Performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to that for easier removal of sediment. The level of sediment is easily determined by measuring from finished grade down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the as-built drawing for the unit to determine weather the height of the sediment pile off the bottom of the sump floor exceeds 75% of the total height of isolated sump.

Cleaning

Cleaning of a CDS systems should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.

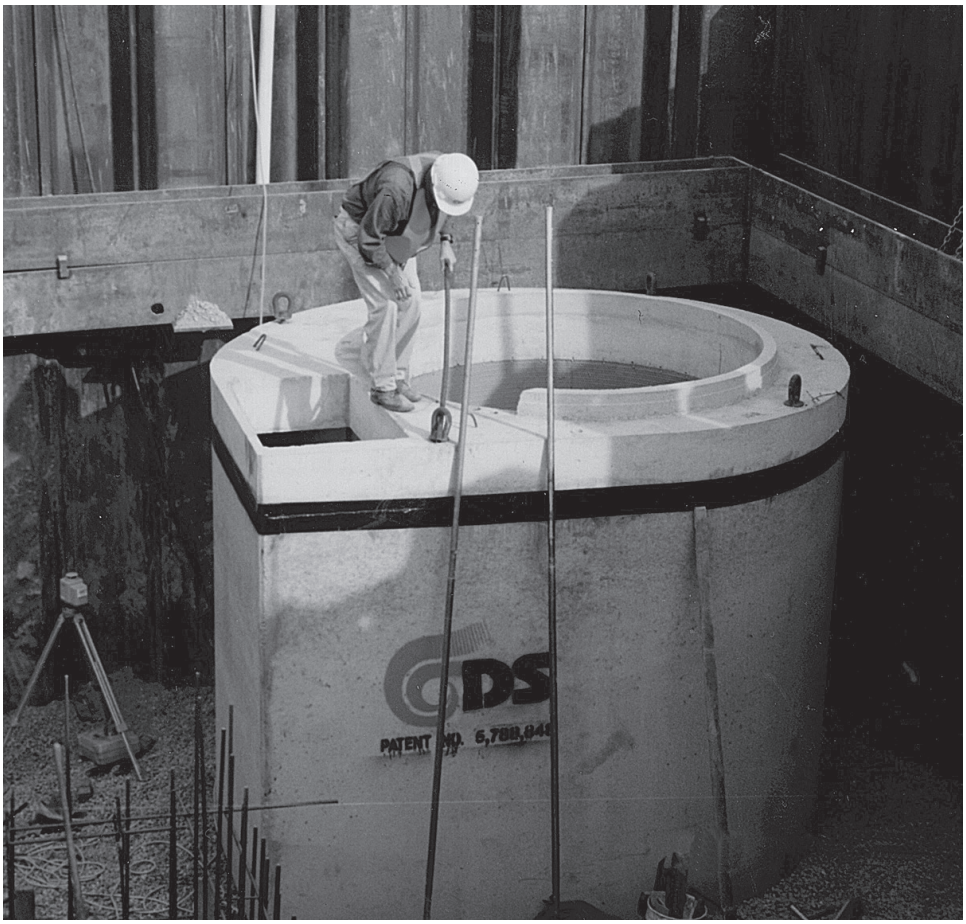
In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. The screen should be cleaned to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure that proper safety precautions have been followed. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the CDS system should be done in accordance with local regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins or deep sump manholes. Check your local regulations for specific requirements on disposal.

CDS Model	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	yd3	m3
CDS2015-4	4	1.2	3.0	0.9	0.5	0.4
CDS2015	5	1.5	3.0	0.9	1.3	1.0
CDS2020	5	1.5	3.5	1.1	1.3	1.0
CDS2025	5	1.5	4.0	1.2	1.3	1.0
CDS3020	6	1.8	4.0	1.2	2.1	1.6
CDS3030	6	1.8	4.6	1.4	2.1	1.6
CDS3035	6	1.8	5.0	1.5	2.1	1.6
CDS4030	8	2.4	4.6	1.4	5.6	4.3
CDS4040	8	2.4	5.7	1.7	5.6	4.3
CDS4045	8	2.4	6.2	1.9	5.6	4.3

Table 1: CDS Maintenance Indicators and Sediment Storage Capacities

Note: To avoid underestimating the volume of sediment in the chamber, carefully lower the measuring device to the top of the sediment pile. Finer silty particles at the top of the pile may be more difficult to feel with a measuring stick. These finer particles typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile.



CDS Inspection & Maintenance Log

CDS Model: _____ Location: _____

Date	Water depth to sediment[1]	Floatable Layer Thickness[2]	Describe Maintenance Performed	Maintenance Personnel	Comments

1. The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than eighteen inches the system should be cleaned out. **Note: To avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.**

2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

7

Support

- Drawings and specifications are available at www.ContechES.com/urbangreen.
- Site-specific design support is available from our engineers.

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The product(s) described may be protected by one or more of the following US patents: 5,322,629; 5,624,576; 5,707,527; 5,759,415; 5,788,848; 5,985,157; 6,027,639; 6,350,374; 6,406,218; 6,641,720; 6,511,595; 6,649,048; 6,991,114; 6,998,038; 7,186,058; 7,296,692; 7,297,266; related foreign patents or other patents pending.

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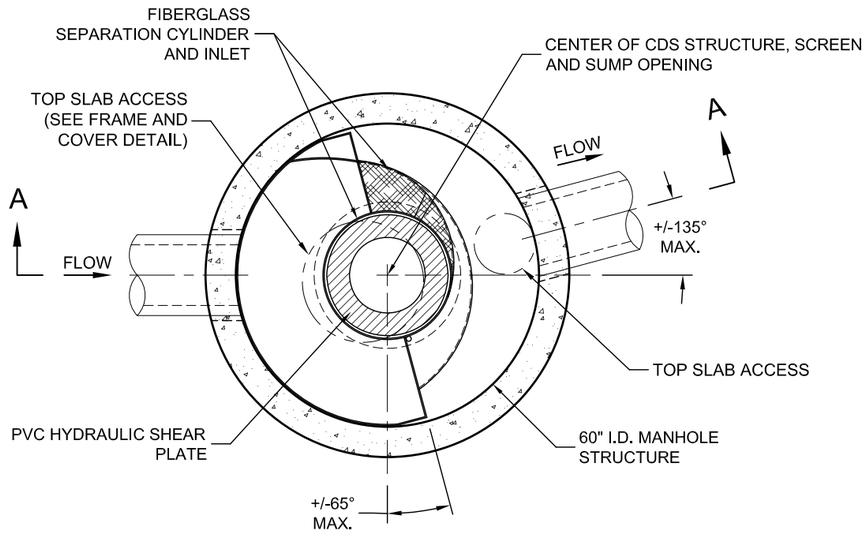
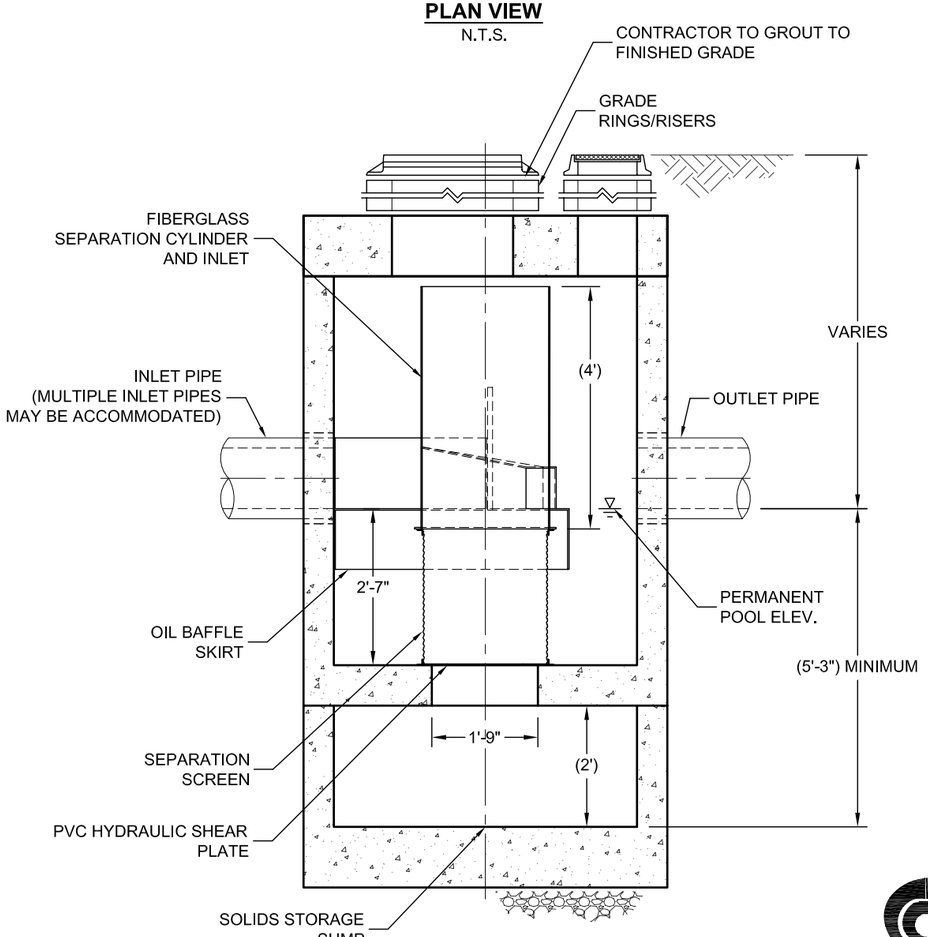


PLAN VIEW
N.T.S.



SECTION A-A
N.T.S.

CDS2020 DESIGN NOTES

CDS2020 RATED TREATMENT CAPACITY IS 1.1 CFS, OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 14.0 CFS. IF THE SITE CONDITIONS EXCEED 14.0 CFS, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

THE STANDARD CDS2020 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

DESIGNATION (MODEL SUFFIX)	CONFIGURATION DESCRIPTION
G	GRATED INLET ONLY (NO INLET PIPE)
GP	GRATED INLET WITH INLET PIPE OR PIPES
K	CURB INLET ONLY (NO INLET PIPE)
KP	CURB INLET WITH INLET PIPE OR PIPES
B	SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
W	SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS

FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS)			*
PEAK FLOW RATE (CFS)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*
SCREEN APERTURE (2400 OR 4700)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT	
	*	*	

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH STORMWATER SOLUTIONS REPRESENTATIVE. www.contechstormwater.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE AND CASTINGS SHALL MEET AASHTO HS20 LOAD RATING.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
3. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
4. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
5. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,788,848; 6,641,720; 6,511,595; 6,581,783; RELATED FOREIGN PATENTS, OR OTHER PATENTS PENDING.

CONTECH STORMWATER SOLUTIONS
contechstormwater.com

CDS2020
PRECAST CONCRETE WATER QUALITY SYSTEM
STANDARD DETAIL

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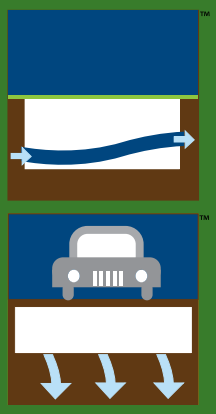
UrbanGreen™

Metal Detention and Infiltration Products



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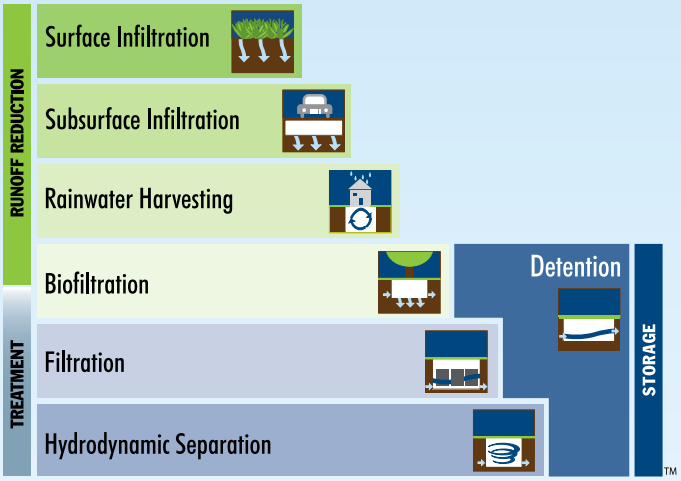
CONTECH®
ENGINEERED SOLUTIONS

Corrugated Metal Pipe for Stormwater Detention and Infiltration

Selecting the right stormwater solution just got easier...

It's simple to choose the right low impact development (LID) solution to achieve your runoff reduction goals with the Contech UrbanGreen™ Staircase. First, select the runoff reduction practices that are most appropriate for your site, paying particular attention to pretreatment needs. If the entire design storm cannot be retained, select a treatment best management practice (BMP) for the balance. Finally, select a detention system to address any outstanding downstream erosion.



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Learn more about our low impact development at: www.ContechES.com/lid

Meet your stormwater quantity and runoff reduction requirements with ease.

Contech's corrugated metal pipe (CMP) underground detention/infiltration systems can be sized and shaped to meet your site-specific needs. The versatile material provides almost limitless opportunities to match individual site requirements while lowering site development costs.

Durable

- Proven service life – Exceeds 100-years with proper specification that meets all AASHTO and ASTM pipe specifications
- Handles fill heights in excess of 100 feet – steel combines strength with soil
- 100% traceable material – maintains performance even when recycled
- Homogenous material – eliminates failures due to stress cracks, shrinkage cracks and air voids
- Various coatings available with predictable service life
  - Aluminized Steel™ Type 2
  - Galvanized
  - CORLIX®
  - TRENCHCOAT®

Learn more about our available coatings at: www.ContechES.com/cmp

Various coatings available.

Versatile

- Wide range of shapes and sizes – round and pipe-arch in diameters from 6 to 144 inches
- Variety of layouts – rectangular, L-shape and staggered cells are frequently used
- Array of fittings – tees, wyes, elbow, saddle branches, manifolds, reducers and custom fabrication available

Sustainable

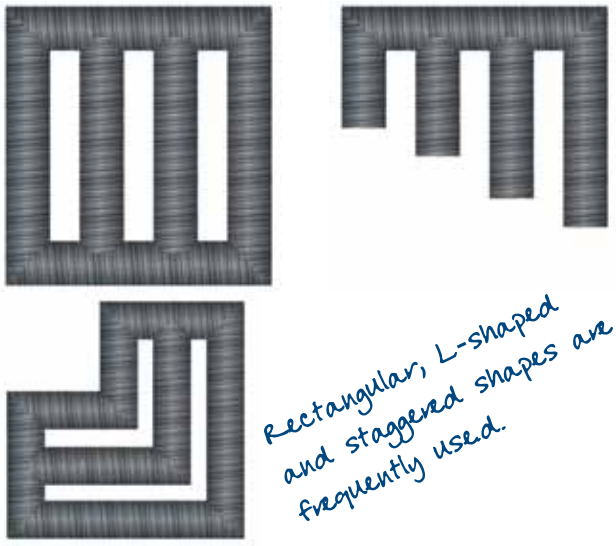
- World's most recycled content – can count towards LEED® credits
- Requires less energy and materials to produce – lowers carbon footprint

Learn how Contech products can help contribute to LEED credits at: www.ContechES.com/LEED

Easy to Install and Maintain

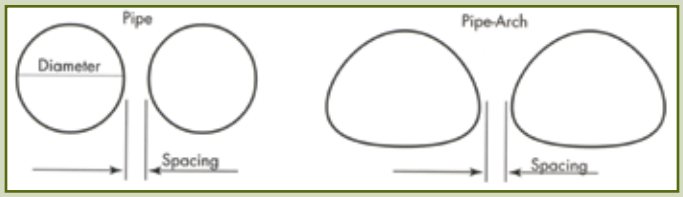
- Flexible and forgiving during installation
- Lightweight for easy handling
- Quick assembly shortens site development time
- Integrated outlet control structure eliminates need for downstream control structure
- Manhole riser sections, complete with ladders facilitate any access and scheduled maintenance

Tees, wyes, elbows, saddle branches, manifolds and reducers are available



Rectangular, L-shaped and staggered shapes are frequently used.

Typical Spacing for Multiple Barrels



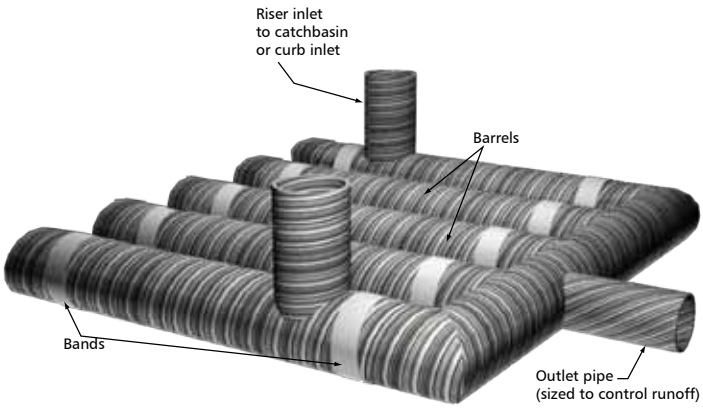
Diameter	Spacing*	Pipe-Arch Span	Spacing*
Up to 24″	12″	Up to 36″	12″
24″ to 72″	1/2 Diameter of Pipe	36″ to 108″	1/3 Span of Pipe-Arch
72″ +	36″	108″ to 189″	36″

* Spacing shown provides room for proper backfill to enable the structure to develop adequate side support. Spacing with AASHTO M-145, A-1, A-2, A-3 granular fill. Closer spacing is possible depending on quality of backfill and placing and compaction methods.

Applications

Detention

Contech CMP detention systems store stormwater runoff exceeding a site's allowable discharge rate and release it slowly over time. Installed belowgrade, the systems maximize property usage and meet your specific water quantity requirements. CMP detention systems are available in all AASHTO M-36 Types.



CMP detention system

High Volume Storage

Contech plate systems allow for high volume stormwater storage in small footprint areas. The systems are offered in a wide variety of shapes and sizes in both aluminum and galvanized steel. Full-pipe systems and three-sided structures with open bottoms can be used for infiltration.

Typically, Contech plate systems are used on high vertical rise applications or in areas where the smallest possible footprint is of the greatest concern. The systems are bolted together in the field, which reduces the number of freight loads. Remote sites or projects with challenging accessibility often utilize plate systems.

Plate system for high volume storage.

Perforated CMP infiltration system

Infiltration

CMP pipe and pipe-arch is available fully or partially perforated to meet your Low Impact Development (LID) requirements. Subsurface perforated CMP infiltration systems store stormwater runoff in the pipe and surrounding stone during a storm until it can be slowly released into the surrounding native soil.

Stormwater runoff is stored in the pipe and surrounding stone.

Meet Your Low Impact Development Requirements

Pipe-arch for low profile application.

Low Profile

When vertical space must be maximized, the CMP can be utilized in a pipe-arch shape. The low, wide pipe-arch design allows for greater storage in a shallow profile than typical round pipe without losing any structural integrity. Like our round pipe, pipe arch is produced in six wall thicknesses including 18, 16, 14, 12, 10 and 8 gage, which are available with either helical or annular corrugations.

Applications

On-Site Manufacturing

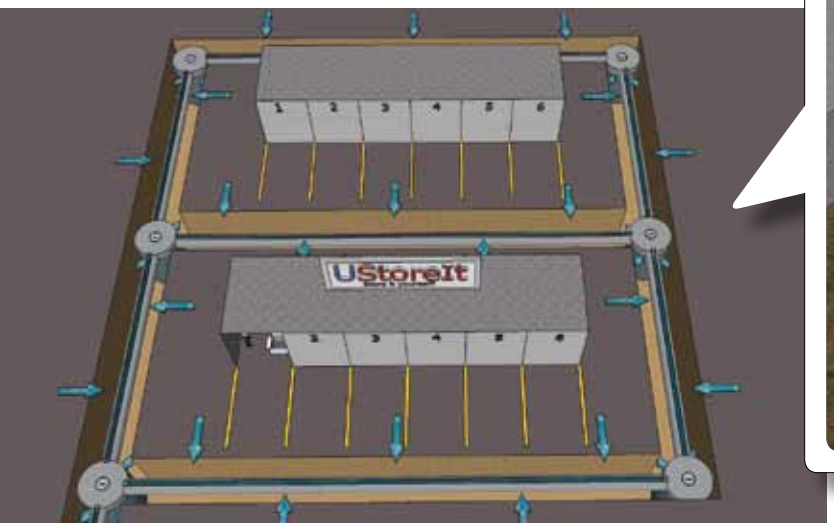
If your job site is remote or you have limited storage space or restricted traffic patterns, take advantage of our Mobile Production Vehicle (MPV) for fast and cost effective on-site steel pipe manufacturing. The PIPE MPV® is designed to be a self-supporting factory that can be quickly deployed and put into production. Once on site, pipe manufacturing progresses quickly enough to allow pipe installation within four hours.

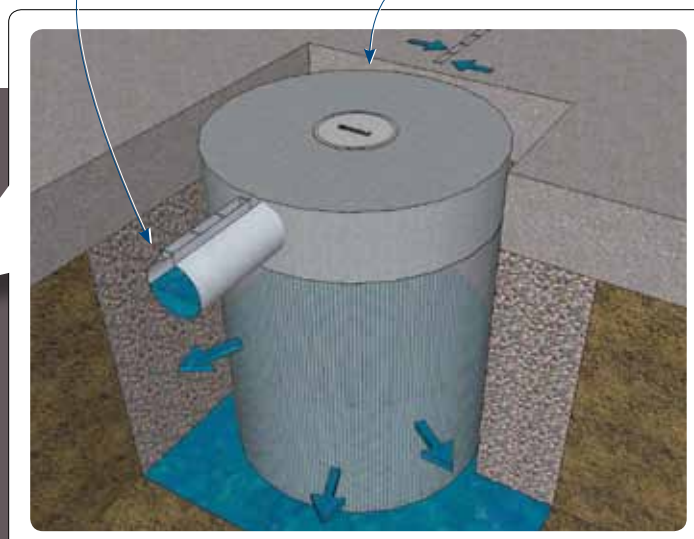
The PIPE MPV can produce corrugated metal pipe in a variety of sizes. Diameters from 36" – 192" and lengths up to 35' can be accommodated. This pipe meets the same levels of quality construction as does all Contech manufactured pipe, with high coil feedrate speeds and the same lock-seem edge process used in conventional pipe manufacturing.

Mobile Production vehicle

Innovative Solutions for Challenging Sites

The flexibility of CMP allows you to create innovative solutions when dealing with challenging sites. For example, when trying to meet runoff reduction requirements, your site may be mostly impervious or you may have a thin, shallow clay layer just below the surface, limiting the infiltration capacity of surface BMPs. One solution is to utilize CMP infiltration wells. First, collect the site runoff using our Slotted Drain™ around the perimeter of each drive isle. The Slotted Drain then directs water into vertical lengths of perforated CMP. The vertical perforated CMP is long enough to penetrate the clay layer and infiltrate the stormwater into a highly permeable alluvial layer about 12'-14' belowground. This allows the developer to meet the LID requirements and eliminate the need for the extended detention basin.





Sizing

Round Pipe - CMP and Plate (CMP → 12-in to 144-in; Plate → 60-in to 240-in)

Diameter (inches)	Volume (ft^3/ft)	Min. Cover Height	Diameter (inches)	Volume (ft^3/ft)	Min. Cover Height	Diameter (inches)	Volume (ft^3/ft)	Min. Cover Height	Diameter (inches)	Volume (ft^3/ft)	Min. Cover Height
12	.78	12″	60	19.6	12″	120	78.5	18″	180	176	24″
15	1.22	12″	66	23.7	12″	126	86.5	18″	186	188	24″
18	1.76	12″	72	28.2	12″	132	95.0	18″	192	201	24″
21	2.40	12″	78	33.1	12″	138	103.8	18″	198	213	30″
24	3.14	12″	84	38.4	12″	144	113.1	18″	204	227	30″
30	4.9	12″	90	44.1	12″	150	122	24″	210	240	30″
36	7.0	12″	96	50.2	12″	156	132	24″	216	254	30″
42	9.6	12″	102	56.7	18″	162	143	24″	222	268	30″
48	12.5	12″	108	63.6	18″	168	153	24″	228	283	30″
54	15.9	12″	114	70.8	18″	174	165	24″	234	298	30″

Pipe-Arch - CMP

1/2″ Deep Corrugations											
Shape (inches)	Volume (ft^3/ft)	Min. Cover Height	Shape (inches)	Volume (ft^3/ft)	Min. Cover Height	Shape (inches)	Volume (ft^3/ft)	Min. Cover Height	Shape (inches)	Volume (ft^3/ft)	Min. Cover Height
17 x 13	1.1	12″	28 x 20	2.9	12″	49 x 33	8.9	12″	71 x 47	18.1	12″
21 x 15	1.6	12″	35 x 24	4.5	12″	57 x 38	11.6	12″	77 x 52	21.9	12″
24 x 18	2.2	12″	42 x 29	6.5	12″	64 x 43	14.7	12″	83 x 57	26.0	12″
1″ Deep Corrugations											
60 x 46	15.6	15″	81 x 59	27.4	18″	103 x 71	42.4	18″	128 x 83	60.5	24″
66 x 51	19.3	15″	87 x 63	32.1	18″	112 x 75	48.0	21″	137 x 87	67.4	24″
73 x 55	23.2	18″	95 x 67	37.0	18″	117 x 79	54.2	21″	142 x 91	74.5	24″

Pipe-Arch - MULTI-PLATE®

2″ Deep Corrugations												
	Shape (ft-in)	Volume (ft^3/ft)	Min. Cover Height	Shape (inches)	Volume (ft^3/ft)	Min. Cover Height	Shape (inches)	Volume (ft^3/ft)	Min. Cover Height	Shape (inches)	Volume (ft^3/ft)	Min. Cover Height
18-in Corner Radius (Rc)	6-1 x 4-7	22	12″	8-7 x 5-11	41	18″	8-7 x 5-11	41	18″	14-1 x 8-9	97	24″
	6-4 x 4-9	24	12″	8-10 x 6-1	43	18″	8-10 x 6-1	43	18″	14-3 x 8-11	101	24″
	6-9 x 4-11	26	12″	9-4 x 6-3	46	18″	9-4 x 6-3	46	18″	14-10 x 9-1	105	24″
	7-0 x 5-1	29	12″	9-6 x 6-5	49	18″	9-6 x 6-5	49	18″	15-4 x 9-3	109	24″
	7-3 x 5-3	31	12″	9-9 x 6-7	52	18″	9-9 x 6-7	52	18″	15-6 x 9-5	114	24″
	7-8 x 5-5	33	12″	10-3 x 6-9	55	18″	10-3 x 6-9	55	18″	15-8 x 9-7	118	24″
	7-11 x 5-7	36	12″	10-8 x 6-11	58	18″	10-8 x 6-11	58	18″	15-10 x 9-10	122	24″
	8-2 x 5-9	38	18″	10-11 x 7-1	61	18″	10-11 x 7-1	61	18″	16-5 x 9-11	126	30″
							13-11 x 8-7	93	24″	16-7 x 10-1	131	30″
31-in Corner Radius (Rc)	13-3 x 9-4	98	24″	15-4 x 10-4	124	24″	17-2 x 11-4	153	30″	19-3 x 12-4	185	30″
	13-6 x 9-6	102	24″	15-7 x 10-6	129	24″	17-5 x 11-6	158	30″	19-6 x 12-6	191	30″
	14-0 x 9-8	106	24″	15-10 x 10-8	134	24″	17-11 x 11-8	163	30″	19-8 x 12-8	196	30″
	14-2 x 9-10	111	24″	16-3 x 10-10	138	30″	18-1 x 11-10	168	30″	19-11 x 12-10	202	30″
	14-5 x 10-0	115	24″	16-6 x 11-0	143	30″	18-7 x 12-0	174	30″	20-5 x 13-0	208	30″
	14-11 x 10-2	120	24″	17-0 x 11-2	148	30″	18-9 x 12-2	179	30″	20-7 x 13-2	214	36″

Next Steps

Learn more

Read our white paper, *Economic Optimization of Infiltration Systems*, to learn more. You'll receive free PDH credits for completing a quick quiz.

Available at www.ContechES.com/cmp

Quick Links:

- LEED information – www.ContechES.com/leed
- LID Application Guide – www.ContechES.com/lid
- Articles – www.ContechES.com/pdh

Connect with us

We're here to make your job easier – and that includes being able to get in touch with us when you need to. Search for your local rep at **www.ContechES.com**

While you're there, be sure to check out our upcoming seminar schedule or request an in-house technical presentation.

Links to Stormwater Tools:

To use the Design Your Own Detention System tool, visit: www.ContechES.com/dyods

To use the Land Value Calculator, visit: www.ContechES.com/lvc

(Please scroll to the bottom right to download the Land Value Calculator)

To use the Rain Water Harvesting Runoff Reduction Calculator tool, visit: www.ContechES.com/rwh-calculator

Start a Project

If you are ready to begin a project, contact your local representative to get started. Or you can check out our design toolbox for all our online resources at www.ContechES.com/designtoolbox.

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FSC

URBANGREEN™

CMP Detention and Infiltration Installation Guide

CONTECH®
ENGINEERED SOLUTIONS

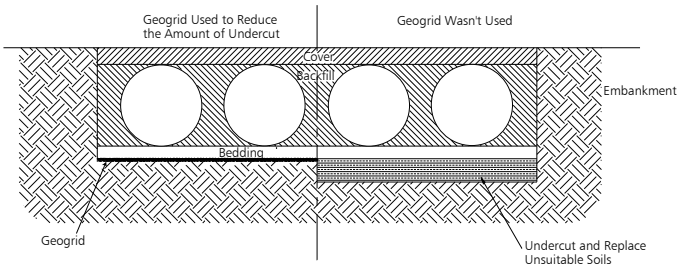
CMP Detention Installation Guide

Proper installation of a flexible underground detention system will ensure long-term performance. The configuration of these systems often requires special construction practices that differ from conventional flexible pipe construction. Contech Engineered Solutions strongly suggests scheduling a pre-construction meeting with your local Sales Engineer to determine if additional measures, not covered in this guide, are appropriate for your site.

Foundation

Construct a foundation that can support the design loading applied by the pipe and adjacent backfill weight as well as maintain its integrity during construction.

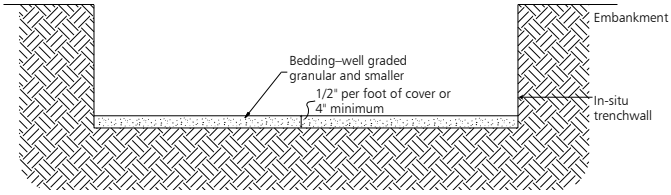
If soft or unsuitable soils are encountered, remove the poor soils down to a suitable depth and then build up to the appropriate elevation with a competent backfill material. The structural fill material gradation should not allow the migration of fines, which can cause settlement of the detention system or pavement above. If the structural fill material is not compatible with the underlying soils an engineering fabric should be used as a separator. In some cases, using a stiff reinforcing geogrid reduces over excavation and replacement fill quantities.



Grade the foundation subgrade to a uniform or slightly sloping grade. If the subgrade is clay or relatively non-porous and the construction sequence will last for an extended period of time, it is best to slope the grade to one end of the system. This will allow excess water to drain quickly, preventing saturation of the subgrade.

Bedding

A 4 to 6-inch thick, well-graded, granular material is the preferred pipe bedding. If construction equipment will operate for an extended period of time on the bedding, use either an engineering fabric or a stiff geogrid to ensure the base material maintains its integrity.



Using an open-graded bedding material is acceptable; however, an engineering fabric separator is required between the base and the subgrade.

Grade the base to a smooth, uniform grade to allow for the proper placement of the pipe.

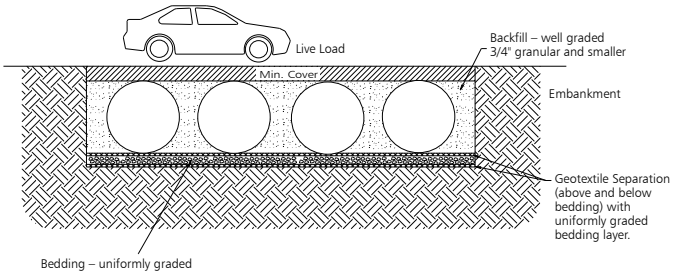
In-Situ Trench Wall

If excavation is required, the trench wall needs to be capable of supporting the load that the pipe sheds as the system is loaded. If soils are not capable of supporting these loads, the pipe can deflect. Perform a simple soil pressure check using the applied loads to determine the limits of excavation beyond the spring line of the outer most pipes.

In most cases the requirements for a safe work environment and proper backfill placement and compaction take care of this concern.

Backfill Material

Typically, the best backfill material is an angular, well-graded, granular fill meeting the requirements of AASHTO A-1, A-2 or A-3. In some cases, it may be desirable to use a uniformly graded material for the first 18- to 24-inches. This type of material is easier to place under the haunches of the pipe and requires little compactive effort. Depending on the bedding material, a separation geotextile might be required above and below these initial lifts.



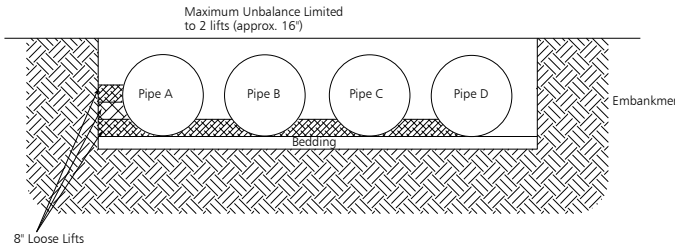
Open-graded fill is typically not used beyond the initial 18- to 24-inches because this type of fill often does not provide adequate confining restraint to the pipes. If a uniformly graded material (particles all one size) is used, install a geotextile separation fabric to prevent the migration of fines into the backfill.

Backfill using controlled low-strength material (CLSM or "flowable fill") when the spacing between the pipes will not allow for placement and adequate compaction of the backfill. Work closely with the local Contech Sales Engineer regarding the special installation techniques required when using CLSM.

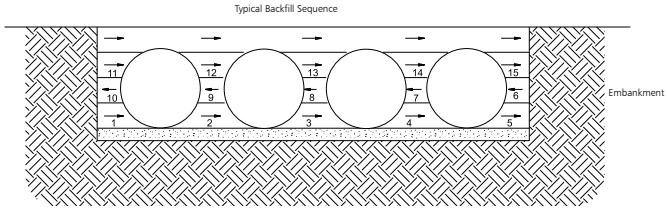
Backfill Placement

Place backfill in 8-inch loose lifts and compact to 90% AASHTO T99 standard proctor density. Material shall be worked into the pipe haunches by means of shovel-slicing, rodding, air tamper, vibratory rod, or other effective methods. If AASHTO T99 procedures are determined infeasible by the geotechnical

engineer of record, compaction is considered adequate when no further yielding of the material is observed under the compactor, or under foot, and the geotechnical engineer of record (or representative thereof) is satisfied with the level of compaction.

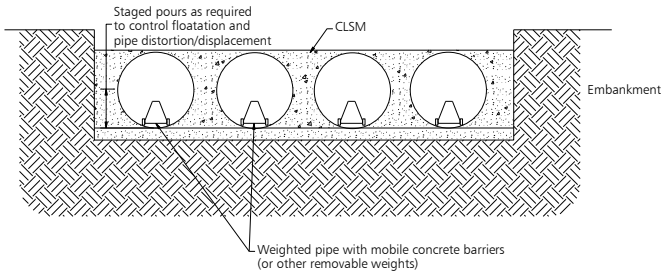


For large systems, conveyor systems, backhoes with long reaches or draglines with stone buckets may be used to place backfill. Once minimum cover for construction loading across the entire width of the system is reached, advance the equipment to the end of the recently placed fill, and begin the sequence again until the system is completely backfilled. This type of construction sequence provides room for stockpiled backfill directly behind the backhoe, as well as the movement of construction traffic. Material stockpiles on top of the backfilled detention system should be limited to 8- to 10-feet high and must provide balanced loading across all barrels. To determine the proper cover over the pipes to allow the movement of construction equipment



see Table 1, or contact your local Contech Sales Engineer.

When flowable fill is used, you must prevent pipe floatation. Typically, small lifts are placed between the pipes and then allowed to set-up prior to the placement of the next lift. The allowable thickness of the CLSM lift is a function of a proper balance between the uplift force of the CLSM, the opposing weight of the pipe, and the effect of other restraining measures. The pipe can carry limited fluid pressure without pipe distortion or displacement, which also affects the CLSM lift thickness. Your local Contech Sales Engineer can help determine the proper lift thickness.



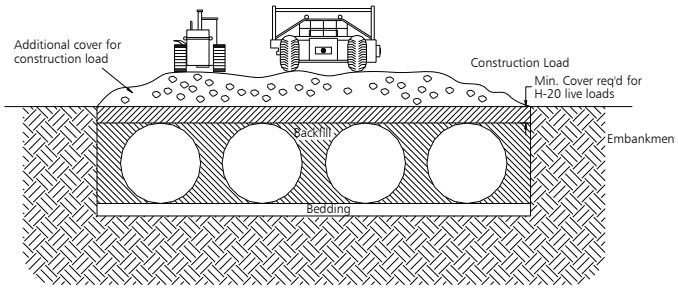
Construction Loading

Typically, the minimum cover specified for a project assumes H-20 live load. Because construction loads often exceed design live loads, increased temporary minimum cover requirements are necessary. Since construction equipment varies from job to job, it is best to address equipment specific minimum cover requirements with your local Contech Sales Engineer during your pre-construction meeting.

Corrugated Steel Pipe General Guidelines for Minimum Cover Required for Heavy Off-Road Construction Equipment

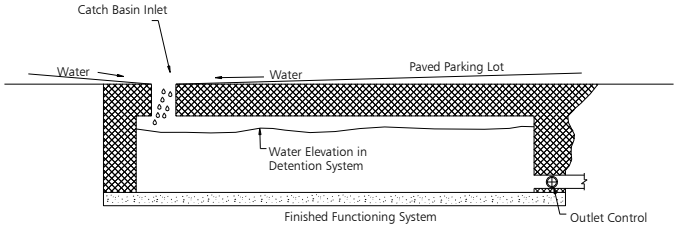
Pipe Span, Inches	Minimum Cover (feet) for Indicated Axle Loads (kips)			
	18-50	50-75	75-110	110-150
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

Table 1



Additional Considerations

Because most systems are constructed below-grade, rainfall can rapidly fill the excavation; potentially causing floatation and movement of the previously placed pipes. To help mitigate potential problems, it is best to start the installation at the downstream end with the outlet already constructed to allow a route for the water to escape. Temporary diversion measures may be required for high flows due to the restricted nature of the outlet pipe.



CMP Pre-Construction Checklist

Contech Field Contact and Phone: _____

Contech Plant Contact and Phone: _____

Contractor Contact and Phone: _____

Project Name: _____

Site Address: _____

Precon Attendees: _____

Topics to Review:

- ☐ Truck access and pipe storage availability/expectation
- ☐ Pipe unloading and handling safety, equipment and procedures
- ☐ System layout and shop drawing review
- ☐ Shipping schedule and installation sequence
- ☐ Joint configuration and assembly
- ☐ Connection with unlike storm sewer materials
- ☐ Backfill material selection and placement strategy
- ☐ Backfill sequence, lift thickness and balanced loading
- ☐ Compaction requirement (90%) and equipment
- ☐ Additional cover requirements for heavy construction loads
- ☐ CMP riser concrete cap installation

Notes: _____

_____

_____

_____

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Support

- Drawings and specifications are available at www.ContechES.com/cmp

Maintenance

Underground storm water detention and retention systems should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size or configuration of the system.

Inspection

Inspection is the key to effective maintenance and is easily performed. CONTECH recommends ongoing quarterly inspections of the accumulated sediment. Sediment deposition and transport may vary from year to year and quarterly inspections will help insure that systems are cleaned out at the appropriate time. Inspections should be performed more often in the winter months in climates where sanding operations may lead to rapid accumulations, or in equipment washdown areas. It is very useful to keep a record of each inspection. A sample inspection log is included for your use.

Systems should be cleaned when inspection reveals that accumulated sediment or trash is clogging the discharge orifice. CONTECH suggests that all systems be designed with an access/inspection manhole situated at or near the inlet and the outlet orifice. Should it be necessary to get inside the system to perform maintenance activities, all appropriate precautions regarding confined space entry and OSHA regulations should be followed.

Cleaning

Maintaining an underground detention or retention system is easiest when there is no flow entering the system. For this reason, it is a good idea to schedule the cleanout during dry weather.

Accumulated sediment and trash can typically be evacuated through the manhole over the outlet orifice. If maintenance is not performed as recommended, sediment and trash may accumulate in front of the outlet orifice. Manhole covers should be securely seated following cleaning activities.

Inspection & Maintenance Log

__" Diameter System			Location: Anywhere, USA		
Date	**Depth of Sediment**	**Accumulated Trash**	**Maintenance Performed**	**Maintenance Personnel**	**Comments**
12/01/99	2"	None	Removed Sediment	B. Johnson	Installed
03/01/00	1"	Some	Removed Sediment and Trash	B. Johnson	Swept parking lot
06/01/00	0"	None	None		
09/01/00	0"	Heavy	Removed Trash	S. Riley	
12/01/00	1"	None	Removed Sediment	S. Riley	
4/01/01	0"	None	None	S. Riley	
04/15/01	2"	Some	Removed Sediment and Trash	ACE Environmental Services	

SAMPLE

SPECIFICATION FOR CORRUGATED STEEL PIPE – GALVANIZED STEEL:

SCOPE:
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE GALVANIZED CORRUGATED STEEL PIPE(CSP) DETAILED IN THE PROJECT PLANS.

MATERIALS:
THE GALVANIZED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M 218 OR ASTM A 929.

PIPE:
THE CSP SHALL BE MANUFACTURED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF AASHTO M–36 OR ASTM A 760. THE PIPE SIZES, GAUGES AND CORRUGATIONS SHALL BE AS SHOWN ON THE PROJECT PLANS.

ALL FABRICATION OF THE PRODUCT SHALL OCCUR WITHIN THE UNITED STATES.

HANDLING & ASSEMBLY:
SHALL BE IN ACCORDANCE WITH NCSPA'S (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) RECOMMENDATIONS.

INSTALLATION:
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II OR ASTM A 798 AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS, THE CONTRACTOR MUST BRING THEM TO THE ATTENTION OF THE PROJECT ENGINEER.

IT IS ALWAYS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

CONSTRUCTION LOADS:
CONSTRUCTION LOADS MAY BE HIGHER THAT FINAL LOADS. FOLLOW THE MANUFACTURERS OR NCSPA'S GUIDELINES.

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CONTECH ID# 0000

SPECIFICATION

GALVANIZED
CORRUGATED STEEL PIPE
CONTECH DWG #1011248A

SCALE:	1" = 1'-0"
DRAWN BY:	JPP
DATE:	8/16/2000
REV. BY:	JSM
DATE:	3/2/05
SHEET:	1 of 1

H:\ACAD Data\ES Standard Details\Specs\CMP\CSP GALV SPEC (1011248).dwg 3/3/2005 3:58:32 PM EST

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

EDUCATIONAL MATERIALS WILL BE COMPLETED AND ADDRESSED AT THE TIME OF THE FINAL WQMP SUBMITTAL

Appendix I

Noise Modeling Results

Rincon Consultants
<Analysis By?>

11 August 2015
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LBA Realty Industrial EIR
RUN: Eastvale Existing Conditions
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	No Barrier LAeq1h Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.4	66	64.4	10	----	64.4	0.0	8	-8.0
Receiver2	2	1	0.0	60.1	66	60.1	10	----	60.1	0.0	8	-8.0
Receiver4	4	1	0.0	67.7	66	67.7	10	Snd Lvl	67.7	0.0	8	-8.0
Receiver5	5	1	0.0	64.7	66	64.7	10	----	64.7	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	4	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Rincon Consultants
<Analysis By?>

11 August 2015
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LBA Realty Industrial EIR
RUN: Eastvale With Project
BARRIER DESIGN: INPUT HEIGHTS

ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	No Barrier LAeq1h Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.5	66	64.5	10	----	64.5	0.0	8	-8.0
Receiver2	2	1	0.0	60.2	66	60.2	10	----	60.2	0.0	8	-8.0
Receiver4	4	1	0.0	67.7	66	67.7	10	Snd Lvl	67.7	0.0	8	-8.0
Receiver5	5	1	0.0	64.7	66	64.7	10	----	64.7	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	4	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Appendix J

Traffic Impact Study

LINSCOTT
LAW &
GREENSPAN
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TRAFFIC IMPACT ANALYSIS REPORT

LBA REALTY INDUSTRIAL DEVELOPMENT PROJECT

Eastvale, California
August 7, 2015

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TRAFFIC IMPACT ANALYSIS REPORT

LBA REALTY INDUSTRIAL DEVELOPMENT PROJECT

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1.0 INTRODUCTION

This traffic impact analysis addresses the potential traffic impacts and circulation needs associated with the LBA Realty Industrial Development Project (hereinafter referred to as Project), a proposed 456,173 square-foot (SF) industrial/warehouse building (inclusive of the 10,000 SF mezzanine). The project site is generally located north of Cantu-Galleano Ranch Road and east of Hamner Avenue in the City of Eastvale, California.

This traffic report documents the findings and recommendations of a traffic impact analysis conducted by Linscott, Law & Greenspan Engineers (LLG) to determine the potential impacts associated with the proposed Project. The traffic analysis evaluates the operating conditions at nine (9) key study intersections within the project vicinity, estimates the trip generation potential of the proposed project, and forecasts future operating conditions without and with the proposed project. Where necessary, intersection improvements/mitigation measures are identified.

This traffic report satisfies City of Eastvale criteria and is consistent with the requirements and procedures outlined in the most current *Riverside County Transportation Department Traffic Impact Analysis Preparation Guide*. The Scope of Work for this traffic study, which is included in ***Appendix A***, was developed in conjunction with City of Eastvale staff.

The project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing peak hour traffic information has been collected at nine (9) key study locations on a "typical" weekday for use in the preparation of intersection level of service calculations. A "typical" weekday constitutes a Tuesday, Wednesday or Thursday and refers to a non-holiday condition when local schools are in session. Information concerning cumulative projects (planned and/or approved) in the vicinity of the proposed Project has been researched at the City of Eastvale, City of Ontario and City of Jurupa Valley. Based on our research, there are twelve (12) cumulative projects in the City of Eastvale, twenty-nine (29) cumulative projects in the City of Ontario and six (6) cumulative projects in the City of Jurupa Valley within a two-mile radius of the subject site. These forty-seven (47) cumulative projects were considered in the cumulative traffic analysis for this project.

This traffic report analyzes existing and future weekday AM peak hour and PM peak hour traffic conditions for a near-term (Year 2019) traffic setting upon completion of the proposed Project. Peak hour traffic forecasts for the Year 2019 horizon year have been projected by increasing existing traffic volumes by an annual growth rate of 2.0% per year and adding traffic volumes generated by forty-seven (47) cumulative projects.

1.1 Study Area

The nine (9) key study intersections selected for evaluation were determined based on coordination with City of Eastvale staff. The intersections listed below provide both local access to the study area and define the extent of the boundaries for this traffic impact investigation. The jurisdiction where each key study intersection is located is also identified.

1. Milliken Avenue at SR-60 EB Ramps (Caltrans/City of Eastvale)
2. Hamner Avenue at SR-60 WB Ramps (Caltrans/City of Eastvale)
3. Hamner Avenue at Riverside Drive (City of Eastvale)
4. Hamner Avenue at Harvest Drive (City of Eastvale)
5. Hamner Avenue at Micro Drive (City of Eastvale)
6. Hamner Avenue at Cantu-Galleano Ranch Road (City of Eastvale)
7. Hamner Avenue at Bellegrave Avenue (City of Eastvale)
8. I-15 SB Ramps at Cantu-Galleano Ranch Road (Caltrans/City of Eastvale)
9. I-15 NB Ramps at Cantu-Galleano Ranch Road (Caltrans/City of Eastvale)

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the project and depicts the study locations and surrounding street system. The Level of Service (LOS) investigations at these key locations were used to evaluate the potential traffic-related impacts associated with area growth, cumulative projects and the proposed Project. When necessary, this report recommends intersection improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service and/or mitigate the impact of the project.

Included in this Traffic Impact Analysis are:

- Existing traffic counts,
- Estimated project traffic generation/distribution/assignment,
- Estimated cumulative project traffic generation/distribution/assignment,
- AM and PM peak hour capacity analyses for existing traffic conditions,
- AM and PM peak hour capacity analyses for existing plus project traffic conditions,
- AM and PM peak hour capacity analyses for existing plus ambient growth to the Year 2019 plus project traffic conditions,
- AM and PM peak hour capacity analyses for Year 2019 cumulative plus project traffic conditions,
- Caltrans Facilities Analysis,
- Site Access and Internal Circulation Evaluation,
- Area Traffic Improvements, and
- Project-Related Fair-Share Contributions.

2.0 PROJECT DESCRIPTION

The Project site is a vacant parcel of land generally located north of Cantu-Galleano Ranch Road and east of Hamner Avenue in the City of Eastvale, California. The project site is bound by Micro Drive on the north, Cantu-Galleano Ranch Road on the south, existing industrial buildings off Hamner Avenue on the west and the I-15 Freeway to the east. ***Figure 2-1*** presents an aerial depiction of the site.

Figure 2-2 presents the proposed site plan for the proposed Project. Review of the proposed site plan indicates that the proposed Project will consist of a 456,173 SF industrial/warehouse building (inclusive of the 10,000 SF mezzanine). The proposed project is expected to be constructed in one phase and will open by the Year 2019.

2.1 Site Access

As shown in *Figure 2-2*, access to the proposed Project will be provided via one full access signalized driveway located along Cantu-Galleano Ranch Road, located directly opposite the proposed full-access signalized driveway that will serve the Goodman Commerce Center project site. The proposed access driveway will also provide access to the existing Grainger building located to the west of the site. The current Grainger driveway located along Cantu-Galleano Ranch Road will be closed as part of the proposed Project.

3.0 EXISTING CONDITIONS

3.1 Existing Street System

Regional access to the project site is provided via the SR-60 Freeway and the I-15 Freeway. Direct access to the project site from the SR-60 Freeway is provided via the interchange at Milliken Avenue/Hamner Avenue. Direct access to the project site from the I-15 Freeway is provided via the interchange at Cantu-Galleano Ranch Road. The principal local network of streets serving the proposed project site is Hamner Avenue and Cantu-Galleano Ranch Road. The following discussion provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

Hamner Avenue is generally a four-lane, divided roadway north of Cantu-Galleano Ranch Road and a two-lane, divided roadway between Cantu-Galleano Ranch Road and Bellegrave Avenue, oriented in the north-south direction. On-street parking is generally not permitted along Hamner Avenue in the vicinity of the project site. The posted speed limit on Hamner Avenue is 50 miles per hour (mph). Traffic signals control the study intersections of Hamner Avenue at the SR-60 WB Ramps, the SR-60 EB Ramps, Riverside Drive, Harvest Drive, Micro Drive, Cantu-Galleano Ranch Road and Bellegrave Avenue.

Cantu-Galleano Ranch Road is generally a four-lane, divided roadway west of the I-15 Freeway and a six-lane, divided roadway east of the I-15 Freeway, oriented in the east-west direction. Cantu-Galleano Ranch Road borders the project site to the south and will provide access to the project site via one full access driveway. On-street parking is generally not permitted along Cantu-Galleano Ranch Road in the vicinity of the project site. Traffic signals control the study intersections of Cantu-Galleano Ranch Road at Hamner Avenue, the I-15 SB Ramps and the I-15 NB Ramps.

Figure 3-1 presents an inventory of the existing roadway conditions for the arterials and intersections evaluated in this report. This figure identifies the number of travel lanes for key arterials, as well as intersection configurations and controls for the key area study intersections.

3.2 Existing Traffic Volumes

Nine (9) key study intersections have been identified as the locations at which to evaluate existing and future traffic operating conditions. Some portion of potential project-related traffic will pass through each of these intersections and their analysis will reveal the expected relative impacts of the project. These key study intersections were selected for evaluation based on discussions with City of Eastvale staff. The data collection for the nine (9) key study intersections and roadway segments were conducted by Transportation Studies, Inc. in May 2015 and June 2015. It should be noted that traffic counts were also conducted at the existing Grainger driveway located along Cantu-Galleano Ranch Road, since those trips are to be relocated to the proposed Project driveway as part of the Project.

Figures 3-2 and ***3-3*** illustrate the existing AM and PM peak hour traffic volumes at the nine (9) key study intersections evaluated in this report, respectively. *Figure 3-3* also presents the existing average daily traffic volumes for the key roadway segments in the vicinity of the proposed Project. The existing AM and PM peak hour traffic volumes illustrated in *Figures 3-2* and *3-3* are comprised of passenger vehicles, large 2-axle trucks, 3-axle trucks and 4+ axle trucks. The truck traffic turning movements were converted to passenger car equivalents (P.C.E.'s) using SANBAG approved factors. P.C.E. factors of 1.5, 2.0 and 3.0 were utilized for large 2-axle trucks, 3-axle trucks and 4+ axle trucks, respectively.

Appendix B contains the detailed peak hour count sheets for the key intersections evaluated in this report and the summary tables for converting truck traffic turning movements to P.C.E.'s. *Appendix B* also contains the average daily traffic volumes for the key roadway segments.

3.3 Existing Intersection Conditions

In conformance with City of Eastvale and Riverside County Transportation Department requirements, existing AM and PM peak hour operating conditions for the signalized and unsignalized intersections were evaluated using the *Highway Capacity Manual* methodology.

3.3.1 *Highway Capacity Manual (HCM) Method of Analysis (Signalized Intersections)*

Based on the HCM operations method of analysis, level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents, and when there are no other vehicles on the road.

In the HCM, only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. In contrast, in previous versions of the HCM (1994 and earlier), delay included only stopped delay. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle. The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay value range for signalized intersections are shown in ***Table 3-1***.

3.3.2 *Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)*

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. This methodology estimates the average control delay for each of the subject movements and determines the level of service for each movement. For all-way stop controlled intersections, the overall average control delay measured in seconds per vehicle, and level of service is then calculated for the entire intersection. For one-way and two-way stop-controlled (minor street stop-controlled) intersections, this methodology estimates the worst side street delay, measured in seconds per vehicle and determines the level of service for that approach. The HCM

control delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding HCM control delay value range, as shown in ***Table 3-2***.

3.3.3 *Level of Service Criteria*

City of Eastvale

According to the City of Eastvale General Plan, Policy C-10; seek to maintain the following target levels of service: "C" along all City-maintained roads. A peak hour level of service of "D" may be allowed in commercial and employment areas, and at intersections of any combination of major highways, urban arterials, secondary highways, or freeway ramp intersections. Given that Milliken Avenue, Hamner Avenue and Cantu-Galleano Ranch Road are classified as Urban Arterials in the City of Eastvale General Plan, LOS D is considered the LOS requirement for the nine (9) key study intersections.

Caltrans

Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities"; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For this analysis, LOS D is the target level of service standard and will be utilized to assess the project impacts at the state-controlled study intersections, consistent with City of Eastvale requirements.

3.4 Existing Level of Service Results

Table 3-3 summarizes the existing peak hour service level calculations for the nine (9) key study intersections based on existing traffic volumes and current street geometry. Review of *Table 3-3* indicates that eight (8) of the nine (9) key study intersections currently operate at an acceptable level of service during the AM and PM peak hours. The lone exception is the intersection of Hamner Avenue/Riverside Drive, which currently operates at unacceptable LOS F during the PM peak hour.

Appendix C presents the HCM/LOS calculations for the nine (9) key study intersections for the AM peak hour and PM peak hour.

TABLE 3-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS[1]

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and ≤ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and ≤ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and ≤ 55.0	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and ≤ 80.0	Very long traffic delays. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high *v/c* ratios. Individual cycle failures are frequent occurrences.
F	≥ 80.0	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

[1] Source: *Highway Capacity Manual.*

TABLE 3-2

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS [2]

Level of Service (LOS)	Highway Capacity Manual (HCM) Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

[2] Source: *Highway Capacity Manual.*

TABLE 3-3
EXISTING PEAK HOUR LEVEL OF SERVICE SUMMARY

Key Intersections		Time Period	Minimum Acceptable LOS	Control Type	HCM	LOS
1.	Milliken Avenue at SR-60 WB Ramps	AM PM	LOS D	3∅ Traffic Signal	12.4 s/v 14.3 s/v	B B
2.	Hamner Avenue at SR-60 EB Ramps	AM PM	LOS D	3∅ Traffic Signal	16.8 s/v 21.7 s/v	B C
3.	Hamner Avenue at Riverside Drive	AM PM	LOS D	6∅ Traffic Signal	49.7 s/v **83.3 s/v**	D **F**
4.	Hamner Avenue at Harvest Drive	AM PM	LOS D	3∅ Traffic Signal	5.8 s/v 9.6 s/v	A A
5.	Hamner Avenue at Micro Drive	AM PM	LOS D	3∅ Traffic Signal	5.6 s/v 9.7 s/v	A A
6.	Hamner Avenue at Cantu-Galleano Ranch Road	AM PM	LOS D	3∅ Traffic Signal	23.6 s/v 24.0 s/v	C C
7.	Hamner Avenue at Bellegrave Avenue	AM PM	LOS D	8∅ Traffic Signal	38.0 s/v 34.1 s/v	D C
8.	I-15 SB Ramps at Cantu-Galleano Ranch Road	AM PM	LOS D	2∅ Traffic Signal	12.6 s/v 11.2 s/v	B B
9.	I-15 NB Ramps at Cantu-Galleano Ranch Road	AM PM	LOS D	3∅ Traffic Signal	13.3 s/v 13.7 s/v	B B

Notes:
- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1 and 3-2* for the LOS definitions
- **Bold HCM/LOS values** indicate adverse service levels based on City of Eastvale LOS standards

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the proposed Project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the impact of the proposed project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast project traffic. If necessary, the need for site-specific and/or cumulative local area traffic improvements can then be evaluated and the significance of the project's impacts identified.

5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the Ninth Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2012].

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project and presents the forecast daily and peak hour project traffic volumes for a "typical" weekday. As shown in the upper portion of this table, the trip generation potential for the proposed Project was forecast using ITE Land Use Code 152: High Cube Warehouse average trip rates. To account for the truck trip potential of the proposed Project, truck traffic was forecast using the following daily, AM peak hour and PM peak hour truck percentages for High Cube Warehouse uses based on information contained within the *San Bernardino/Riverside County Warehouse/Distribution Center Vehicle Trip Generation Study (January 2005).* A passenger car equivalent (PCE) of 2.5 was applied to each truck trip generation estimate.

- High Cube Warehousing Truck Percentages = Daily: 48%, AM: 55% and PM: 41%

As shown in the bottom of *Table 5-1*, the trip generation potential for the proposed Project totals 1,318 daily PCE trips, with 92 PCE trips (64 inbound, 28 outbound) forecast during the AM peak hour and 90 PCE trips (28 inbound, 62 outbound) forecast during the PM peak hour.

5.2 Project Traffic Distribution and Assignment

Traffic distribution determines the directional orientation of traffic. It is based upon the location, intensity of use, accessibility of existing and planned residential areas, employment centers, and other commercial activities. Traffic assignment is the determination of specific trip routes, given the previously developed traffic distribution. Primary factors in route selection are the generalized travel direction, minimum time and minimum distance paths.

The general, directional traffic distribution pattern for the passenger cars (i.e. employees and visitors) and truck components of the Project are graphically presented in ***Figure 5-1*** and ***Figure 5-2,*** respectively. Project traffic volumes entering and exiting the project site have been distributed and assigned to the adjacent street system based upon the following considerations:

- the site's proximity to major traffic carriers (i.e. I-15 Freeway, etc.),
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- review of traffic distribution information provided in the *Traffic Impact Analysis for the Goodman Commerce Center,* prepared by Albert Webb Associates (June 2013), and
- ingress/egress availability at the project site.

The anticipated AM and PM peak hour project traffic volumes associated with the proposed Project are presented in ***Figures 5-3*** and ***5-4***, respectively. *Figure 5-4* also presents the daily project traffic volumes. Please note that the traffic volume assignments presented in *Figures 5-3* and *5-4* reflect the traffic distribution characteristics illustrated in *Figures 5-1* and *5-2* and the project traffic generation forecast presented in *Table 5-1*. It should be noted that the trip generation methodology and forecasts were approved by City staff prior to proceeding with further analyses.

5.3 Existing Plus Project Traffic Conditions

The existing plus project traffic conditions have been generated based upon existing conditions and the estimated project traffic. These forecast traffic conditions have been prepared pursuant to the City's traffic study guidelines and are consistent with the California Environmental Quality Act (CEQA) guidelines, which require that the potential impacts of a Project be evaluated upon the circulation system as it currently exists. This traffic volume scenario and the related capacity analyses will identify the roadway improvements necessary to mitigate the direct traffic impacts of the Project, if any.

Figures 5-5 and ***5-6*** present projected AM and PM peak hour traffic volumes at the nine (9) key study intersections with the addition of the trips generated by the proposed Project to existing traffic volumes, respectively. *Figure 5-6* also presents the existing plus project daily traffic volumes.

TABLE 5-1
PROJECT TRAFFIC GENERATION FORECAST[3]

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Generation Factors:							
▪ 152: High Cube Warehouse (TE/1000 SF)	1.68	0.08	0.03	0.11	0.04	0.08	0.12
Proposed Project Generation Forecast:							
▪ LBA Realty Industrial Development (456,173 SF)							
➢ [a] Passenger Cars	398	16	6	22	10	22	32
➢ [b] Truck Trips[4]	368	19	9	28	7	16	23
➢ [c] Truck P.C.E. Trips[5]	920	48	22	70	18	40	58
Total Traffic Generation Forecast [a] + [c]	**1,318**	**64**	**28**	**92**	**28**	**62**	**90**

Notes:
TE/1000 SF = Trip ends per 1,000 SF of development
P.C.E. = passenger car equivalent

3 Source: *Trip Generation*, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012).

4 Source: *San Bernardino/Riverside County Warehouse/Distribution Center Vehicle Trip Generation Study (January 2005).* High Cube Warehouse Truck Estimates: AM peak hour: 55% trucks, PM peak hour: 41% trucks, ADT: 48% trucks.

5 P.C.E. = 2.5 vehicles per truck.

6.0 FUTURE TRAFFIC CONDITIONS

6.1 Ambient Traffic Growth

Horizon year, background traffic growth estimates have been calculated using an ambient growth factor. The ambient traffic growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The future growth in traffic volumes has been calculated at two percent (2.0%) per year. Applied to existing Year 2015 traffic volumes results in a eight percent (8.0%) growth in existing volumes to horizon year 2019.

6.2 Cumulative Projects Traffic Characteristics

In order to make a realistic estimate of future on-street conditions prior to implementation of the proposed Project, the status of other known development projects (cumulative projects) within a two-mile radius of the proposed project has been researched at the City of Eastvale, City of Ontario and City of Jurupa Valley. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development. Based on our research, there are twelve (12) cumulative projects in the City of Eastvale, twenty-nine (29) cumulative projects in the City of Ontario and six (6) cumulative projects in the City of Jurupa Valley within a two-mile radius of the subject site. These forty-seven (47) cumulative projects have been included as part of the cumulative background setting.

Table 6-1 provides the location and a brief description for each of the forty-seven (47) cumulative projects. ***Figure 6-1*** graphically illustrates the location of the cumulative projects. These cumulative projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections.

Table 6-2 presents the development totals and resultant trip generation for the cumulative projects. As shown in *Table 6-2*, the cumulative projects are forecast to generate a total of 131,996 daily trips, with 7,820 trips (3,596 inbound and 4,224 outbound) forecast during the AM peak hour and 10,862 trips (5,619 inbound and 5,243 outbound) forecast during the PM peak hour.

The AM and PM peak hour traffic volumes associated with the forty-seven (47) cumulative projects are presented in ***Figures 6-2*** and ***6-3***, respectively. *Figure 6-3* also presents the daily cumulative project traffic volumes.

6.3 Year 2019 Traffic Volumes

Figures 6-4 and ***6-5*** illustrate the Year 2019 forecast AM and PM peak hour existing plus ambient growth traffic volumes, with the inclusion of the trips generated by the proposed Project, respectively. *Figure 6-5* also presents the existing plus ambient growth (Year 2019) plus project daily traffic volumes. ***Figures 6-6*** and ***6-7*** illustrate the Year 2019 cumulative forecast AM and PM peak hour traffic volumes, with the inclusion of the trips generated by the proposed Project, respectively. *Figure 6-7* also presents the Year 2019 cumulative plus project daily traffic volumes.

TABLE 6-1
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[6]

No.	Cumulative Project	Location/Address	Description
City of Eastvale Development			
1.	11-0354 – Arco Gas Station	South of Riverside Drive and east of Hamner Avenue	18 VFP Gas Station with Store and Car Wash, 2.8 TSF Fast-Food without Drive-Thru, 2.1 TSF Fast-Food with Drive-Thru
2.	14-1077 – Grainger Site	North of Cantu-Galleano Ranch Road and east of Hamner Avenue	226.0 TSF Industrial Expansion
3.	10-0271 – Eastvale Commerce Center	North of Bellegrave Avenue and east of Hamner Avenue	249.0 TSF Shopping Center, 130 Room Hotel, 3,100.0 TSF High Cube Warehouse, 610.0 TSF Business Park
4.	10-0124 – TR31252 (The Lodge)	North of Limonite Avenue and west of Sumner Avenue	205 DU Single Family Detached
5.	TR32821	North of Limonite Avenue and west of Cleveland Avenue	350 DU Condo/Townhome
6.	TR32909	North of Limonite Avenue and east of Cleveland Avenue	140 DU Single Family Detached
7.	14-0032 – Tio's Mexican Restaurant	North of Limonite Avenue and east of Hamner Avenue	2.411 TSF High Turnover (Sit-Down) Restaurant
8.	Eastvale Gateway South	South of Limonite Avenue and east of Hamner Avenue	20.132 TSF Shopping Center
9.	11-0366 – Eastvale South	South of Limonite Avenue and east of Hamner Avenue	70.0 TSF Medical-Dental Office
10.	14-0046 – Kasbergen/ William Lyons Homes	South of Limonite Avenue and west of I-15	220 DU Condo/Townhome
11.	15-1508	South of Riverside Avenue and east of Hamner Avenue	156.478 TSF Industrial
12.	Leal Master Plan	North of Limonite Avenue and west of Hamner Avenue	660 DU Apartment, 450 Room Hotel, 1,525.0 TSF Shopping Center, 46.0 TSF General Office, 46.0 TSF Medical Office, 100.0 TSF Civic Center
City of Ontario Development			
13.	TM 18026	North of Chino Avenue and west of Haven Avenue	106 DU Single Family Detached

Notes:

- VFP = Vehicle Fueling Position
- TSF = Thousand Square-Feet
- DU = Dwelling Units

[6] Source: City of Eastvale, City of Ontario and City of Jurupa Valley Planning Department staff.

TABLE 6-1 (CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[7]

No.	Cumulative Project	Location/Address	Description
14.	TM 18476	North of Schaefer Avenue and east of Turner Avenue	143 DU Single Family Detached
15.	TM 18027	North of Schaefer Avenue and west of Haven Avenue	90 DU Single Family Detached
16.	TM 18925	South of Chino Avenue and west of Mill Creek Avenue	143 DU Single Family Detached
17.	TM 17931	North of Eucalyptus Avenue and east of Mill Creek Avenue	105 DU Single Family Detached
18.	TM 17932	South of Eucalyptus Avenue and east of Mill Creek Avenue	82 DU Single Family Detached
19.	TM 17933	North of Bellegrave Avenue and east of Mill Creek Avenue	107 DU Single Family Detached
20.	TM 17935	South of Eucalyptus Avenue and west of Milliken Avenue	61 DU Single Family Detached
21.	TM 17936	North of Bellegrave Avenue and west of Milliken Avenue	90 DU Single Family Detached
22.	TM 18876	North of Eucalyptus Avenue and west of Milliken Avenue	74 DU Single Family Detached
23.	TM 18878	South of Eucalyptus Avenue and west of Milliken Avenue	157 DU Single Family Detached
24.	TM 18419	South of Schaefer Avenue and east of Archibald Avenue	229 DU Single Family Detached
25.	TM 18937	North of Edison Avenue and east of Archibald Avenue	122 DU Single Family Detached
26.	TM 18991	South of Schaefer Avenue and west of Haven Avenue	15 DU Single Family Detached, 20 DU Multi-Family
27.	TM 18992	South of Schaefer Avenue and west of Haven Avenue	225 DU Single Family Detached, 2 DU Multi-Family
28.	TM 18993	South of Schaefer Avenue and west of Haven Avenue	210 DU Single Family Detached
29.	TM 18994	North of Edison Avenue and west of Haven Avenue	136 DU Single Family Detached, 2 DU Multi-Family
30.	TM 18995	North of Edison Avenue and west of Haven Avenue	98 DU Townhome

Notes:

- VFP = Vehicle Fueling Position
- TSF = Thousand Square-Feet
- DU = Dwelling Units

[7] Source: City of Eastvale, City of Ontario and City of Jurupa Valley Planning Department staff.

TABLE 6-1 (CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[8]

No.	Cumulative Project	Location/Address	Description
31.	TM 18662	North of Eucalyptus Avenue and west of Haven Avenue	329 DU Single Family Detached
32.	TM 18081	South of Eucalyptus Avenue and east of Archibald Avenue	60 DU Single Family Detached
33.	TM 18065	South of Eucalyptus Avenue and east of Archibald Avenue	68 DU Single Family Detached
34.	TM 18066	South of Eucalyptus Avenue and east of Archibald Avenue	47 DU Single Family Detached
35.	TM 18067	South of Eucalyptus Avenue and west of Haven Avenue	62 DU Single Family Detached
36.	TM 18068	South of Eucalyptus Avenue and west of Haven Avenue	50 DU Single Family Detached
37.	TM 18073	North of Bellegrave Avenue and west of Haven Avenue	134 DU Single Family Detached
38.	TM 18074	North of Bellegrave Avenue and west of Haven Avenue	167 DU Single Family Detached
39.	TM 18998	North of Bellegrave Avenue and west of Haven Avenue	114 DU Single Family Detached
40.	TM 19907	North of Bellegrave Avenue and west of Haven Avenue	108 DU Single Family Detached
41.	TM 19909	North of Bellegrave Avenue and west of Haven Avenue	117 DU Single Family Detached
City of Jurupa Valley			
42.	Space Center	South of Iberia Street and west of Etiwanda Avenue	1,126,100 SF Industrial
43.	Harvest Villages	North of Limonite Avenue and west of Wineville Avenue	138 DU Single Family Detached
44.	The Oaks	North of Bellegrave Avenue and west of Etiwanda Avenue	217 DU Single Family Detached
45.	Rancho del Sol	North of Bellegrave Avenue and east of Wineville Avenue	203 DU Single Family Detached
46.	Turnleaf	North of Bellegrave Avenue and east of Wineville Avenue	300 DU Single Family Detached
47.	Harmony Trails	South of Cantu-Galleano Ranch Road and east of Wineville Avenue	176 DU Single Family Detached

Notes:

- VFP = Vehicle Fueling Position; TSF = Thousand Square-Feet; DU = Dwelling Units

[8] Source: City of Eastvale, City of Ontario and City of Jurupa Valley Planning Department staff.

TABLE 6-2
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[9]

Cumulative Project Description		Daily 2-Way	AM Peak Hour			PM Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
1.	11-0354 – Arco Gas Station	4,233	120	101	221	102	97	199
2.	14-1077 – Grainger Site	653	33	13	46	15	29	44
3.	10-0271 – Eastvale Commerce Center[10]	29,061	1,183	412	1,595	734	1,308	2,042
4.	10-0124 – TR31252 (The Lodge)	1,952	39	115	154	129	76	205
5.	TR32821	2,034	26	128	154	122	60	182
6.	TR32909	1,333	26	79	105	88	52	140
7.	14-0032 – Tio's Mexican Restaurant	230	13	10	23	8	6	14
8.	Eastvale Gateway South	774	11	6	17	24	25	49
9.	11-0366 – Eastvale South	2,529	132	35	167	70	180	250
10.	14-0046 – Kasbergen/ William Lyons Homes	1,278	16	81	97	76	38	114
11.	15-1508	452	24	9	33	12	19	31
12.	Leal Master Plan	41,758	971	662	1,633	1,360	1,566	2,926
13.	TM 18026	1,009	20	60	80	67	39	106
14.	TM 18476	1,361	27	80	107	90	53	143
15.	TM 18027	857	17	51	68	57	33	90
16.	TM 18925	1,361	27	80	107	90	53	143
17.	TM 17931	1,000	20	59	79	66	39	105
18.	TM 17932	781	16	46	62	52	30	82
19.	TM 17933	1,019	20	60	80	67	40	107
20.	TM 17935	581	12	34	46	38	23	61
21.	TM 17936	857	17	51	68	57	33	90
22.	TM 18876	704	14	42	56	47	27	74
23.	TM 18878	1,495	30	88	118	99	58	157
24.	TM 18419	2,180	43	129	172	144	85	229
25.	TM 18937	1,161	23	69	92	77	45	122
26.	TM 18991	259	5	15	20	16	9	25
27.	TM 18992	2,154	42	128	170	143	83	226
28.	TM 18993	1,999	40	118	158	132	78	210

[9] Unless otherwise noted; Source: *Trip Generation*, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012).
[10] Source: *Goodman Commerce Center Traffic Impact Analysis, prepared by Albert A. Webb Associates, dated June 2013.*

TABLE 6-2 (CONTINUED)
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[11]

Cumulative Project Description		Daily 2-Way	AM Peak Hour			PM Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
29.	TM 18994	1,307	26	77	103	87	50	137
30.	TM 18995	569	7	36	43	34	17	51
31.	TM 18662	3,132	62	185	247	207	122	329
32.	TM 18081	571	11	34	45	38	22	60
33.	TM 18065	647	13	38	51	43	25	68
34.	TM 18066	447	9	26	35	30	17	47
35.	TM 18067	590	12	35	47	39	23	62
36.	TM 18068	476	10	28	38	32	18	50
37.	TM 18073	1,276	25	76	101	84	50	134
38.	TM 18074	1,590	31	94	125	105	62	167
39.	TM 18998	1,085	22	64	86	72	42	114
40.	TM 19907	1,028	20	61	81	68	40	108
41.	TM 19909	1,114	22	66	88	74	43	117
42.	Space Center	3,254	165	61	226	72	146	218
43.	Harvest Villages	1,314	26	78	104	87	51	138
44.	The Oaks	2,066	41	122	163	137	80	217
45.	Rancho del Sol	1,933	38	114	152	128	75	203
46.	Turnleaf	2,856	56	169	225	189	111	300
47.	Harmony Trails	1,676	33	99	132	111	65	176
Cumulative Projects Total Trip Generation Potential		**131,996**	**3,596**	**4,224**	**7,820**	**5,619**	**5,243**	**10,862**

[11] Unless otherwise noted; Source: *Trip Generation*, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012).

7.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

The relative impact of the proposed Project during the AM peak hour and PM peak hour was evaluated based on analysis of future operating conditions at the nine (9) key study intersections, without, then with the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future volume-to-capacity relationships and service level characteristics at each study intersection. The significance of the potential impacts of the Project at each key intersection was then evaluated using the following traffic impact criteria.

7.1 Impact Criteria and Thresholds

7.1.1 *City of Eastvale*

According to the City of Eastvale General Plan, Policy C-10; seek to maintain the following target levels of service: "C" along all City-maintained roads. A peak hour level of service of "D" may be allowed in commercial and employment areas, and at intersections of any combination of major highways, urban arterials, secondary highways, or freeway ramp intersections. Given that Milliken Avenue, Hamner Avenue and Cantu-Galleano Ranch Road are classified as Urban Arterials in the City of Eastvale General Plan, LOS D is considered the LOS requirement for the nine (9) key study intersections.

Project related significant impacts are identified by comparing without project conditions to with project conditions based on the following criteria:

- If the LOS deteriorates from an acceptable LOS (LOS D or better) to an unacceptable LOS (LOS E or F); or
- If the intersection is already operating at an unacceptable LOS (LOS E or LOS F) under without project traffic conditions and the proposed project adds more than 5 seconds of delay.

7.1.2 *Caltrans*

Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities"; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For this analysis, LOS D is the target level of service standard and will be utilized to assess the project impacts at the state-controlled study intersections.

7.2 Traffic Impact Analysis Scenarios

The following scenarios are those for which HCM/LOS calculations have been performed at the nine (9) key study intersections:

1. Existing Traffic Conditions;
2. Existing Plus Project Traffic Conditions;
3. Scenario (2) with Mitigation, if necessary;
4. Existing Plus Ambient Growth to the Year 2019 Plus Project Traffic Conditions;
5. Scenario (4) with Mitigation, if necessary;
6. Year 2019 Cumulative Plus Project Traffic Conditions; and
7. Scenario (6) with Mitigation, if necessary.

8.0 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

8.1 Existing Plus Project Traffic Conditions

Table 8-1 summarizes the peak hour level of service results at the nine (9) key study intersections for Existing Plus Project traffic conditions. The first column (1) of HCM/LOS values in *Table 8-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-3*). The second column (2) lists existing plus project traffic conditions. The third column (3) indicates whether the traffic associated with the project will have a significant impact based on the LOS standards and the significant impact criteria defined in this report. The fourth column (4) indicates the anticipated level of service with planned and/or recommended improvements.

8.1.1 *Existing Traffic Conditions*

As previously presented in *Table 3-3*, eight of the nine (9) key study intersections currently operate at an acceptable level of service during the AM and PM peak hours. The lone exception is the intersection of Hamner Avenue/Riverside Drive, which currently operates at unacceptable LOS F during the PM peak hour.

8.1.2 *Existing Plus Project Traffic Conditions*

Review of Columns 2 and 3 of *Table 8-1* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the nine (9) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of Hamner Avenue/Riverside Drive is forecast to operate at unacceptable LOS F during the PM peak hour with the addition of project traffic, the proposed Project is expected to add less than 5.0 seconds to the HCM value. The remaining eight (8) key study intersections currently operate and are forecast to continue to operate at an acceptable service level during the AM and PM peak hours with the addition of Project generated traffic to existing traffic.

Appendix C presents the Existing Plus Project HCM/LOS calculations for the nine (9) key study intersections.

TABLE 8-1
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersections	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact		(4) Existing Plus Project With Improvements	
			HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
1. Milliken Avenue at SR-60 WB Ramps	AM	LOS D	12.4 s/v	B	12.4 s/v	B	0.0 s/v	No	--	--
	PM		14.3 s/v	B	14.2 s/v	B	0.0 s/v	No	--	--
2. Hamner Avenue at SR-60 EB Ramps	AM	LOS D	16.8 s/v	B	17.0 s/v	B	0.2 s/v	No	--	--
	PM		21.7 s/v	C	22.0 s/v	C	0.3 s/v	No	--	--
3. Hamner Avenue at Riverside Drive	AM	LOS D	49.7 s/v	D	49.6 s/v	D	0.0 s/v	No	--	--
	PM		**83.3 s/v**	**F**	**83.8 s/v**	**F**	0.5 s/v	No	--	--
4. Hamner Avenue at Harvest Drive	AM	LOS D	5.8 s/v	A	5.8 s/v	A	0.0 s/v	No	--	--
	PM		9.6 s/v	A	9.7 s/v	A	0.1 s/v	No	--	--
5. Hamner Avenue at Micro Drive	AM	LOS D	5.6 s/v	A	5.6 s/v	A	0.0 s/v	No	--	--
	PM		9.7 s/v	A	9.8 s/v	A	0.1 s/v	No	--	--

Notes:
- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1 and 3-2* for the LOS definitions
- **Bold HCM/LOS values** indicate adverse service levels based on City of Eastvale LOS standards

TABLE 8-1 (CONTINUED)
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersections	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact		(4) Existing Plus Project With Improvements	
			HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
6. Hamner Avenue at Cantu-Galleano Ranch Road	AM	LOS D	23.6 s/v	C	24.5 s/v	C	0.9 s/v	No	--	--
	PM		24.0 s/v	C	24.3 s/v	C	0.3 s/v	No	--	--
7. Hamner Avenue at Bellegrave Avenue	AM	LOS D	38.0 s/v	D	38.5 s/v	D	0.5 s/v	No	--	--
	PM		34.1 s/v	C	34.3 s/v	C	0.2 s/v	No	--	--
8. I-15 SB Ramps at Cantu-Galleano Ranch Road	AM	LOS D	12.6 s/v	B	12.8 s/v	B	0.2 s/v	No	--	--
	PM		11.2 s/v	B	11.7 s/v	B	0.5 s/v	No	--	--
9. I-15 NB Ramps at Cantu-Galleano Ranch Road	AM	LOS D	13.3 s/v	B	13.4 s/v	B	0.1 s/v	No	--	--
	PM		13.7 s/v	B	13.9 s/v	B	0.2 s/v	No	--	--

Notes:
- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1 and 3-2* for the LOS definitions
- **Bold HCM/LOS values** indicate adverse service levels based on City of Eastvale LOS standards

8.2 Existing Plus Ambient Growth (Year 2019) Plus Project Traffic Conditions

Table 8-2 summarizes the peak hour level of service results at the nine (9) key study intersections for Existing Plus Ambient Growth (Year 2019) Plus Project traffic conditions. The first column (1) of HCM/LOS values in *Table 8-2* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-3*). The second column (2) presents existing plus ambient growth (Year 2019) plus project traffic conditions. The third column (3) indicates whether the traffic associated with the project will have a significant impact based on the LOS standards and the significant impact criteria defined in this report. The fourth column (4) indicates the anticipated level of service with planned and/or recommended improvements.

Review of Columns 2 and 3 of *Table 8-2* indicates that traffic associated with the proposed Project will significantly impact one of the nine (9) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. The remaining eight key study intersections are forecast to continue to operate at an acceptable service level during the AM and PM peak hours with the addition of Project generated traffic to existing traffic and ambient growth traffic. The location projected to operate at an unacceptable LOS with the addition of project traffic to existing traffic and ambient growth traffic is as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	HCM	LOS	HCM	LOS
3. Hamner Avenue at Riverside Drive	64.6 s/v	E	104.5 s/v	F

As shown in Column 4 of *Table 8-2*, the implementation of improvements at the impacted intersection completely offsets the impact of the proposed project. The impacted intersection of Hamner Avenue/Riverside Drive is forecast to operate at an acceptable LOS during the AM and PM peak hours with implementation of improvements (See Column 4 of *Table 8-2*).

Appendix C contains the Existing Plus Ambient Growth (Year 2019) Plus Project HCM/LOS calculations for the nine (9) key study intersections.

8.3 Year 2019 Cumulative Plus Project Traffic Conditions

Table 8-3 summarizes the peak hour level of service results at the nine (9) key study intersections for Year 2019 Cumulative Plus Project traffic conditions. The first column (1) of HCM/LOS values in *Table 8-3* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-3*). The second column (2) presents Year 2019 cumulative plus project traffic conditions (i.e. existing plus ambient growth plus cumulative projects plus project). The third column (3) indicates whether the traffic associated with the project will have a significant impact based on the LOS standards and the significant impact criteria defined in this report. The fourth column (4) indicates the anticipated level of service with planned and/or recommended improvements.

TABLE 8-2

EXISTING PLUS AMBIENT GROWTH (YEAR 2019) PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersections	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing Plus Ambient Plus Project Traffic Conditions		(3) Significant Impact		(4) Existing Plus Ambient Plus Project With Improvements	
			HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
1. Milliken Avenue at SR-60 WB Ramps	AM	LOS D	12.4 s/v	B	12.8 s/v	B	0.4 s/v	No	--	--
	PM		14.3 s/v	B	14.4 s/v	B	0.1 s/v	No	--	--
2. Hamner Avenue at SR-60 EB Ramps	AM	LOS D	16.8 s/v	B	17.8 s/v	B	1.0 s/v	No	--	--
	PM		21.7 s/v	C	24.5 s/v	C	2.8 s/v	No	--	--
3. Hamner Avenue at Riverside Drive	AM	LOS D	49.7 s/v	D	**64.6 s/v**	**E**	**14.9 s/v**	**Yes**	40.3 s/v	D
	PM		**83.3 s/v**	**F**	**104.5 s/v**	**F**	**21.2 s/v**	**Yes**	42.6 s/v	D
4. Hamner Avenue at Harvest Drive	AM	LOS D	5.8 s/v	A	5.9 s/v	A	0.1 s/v	No	--	--
	PM		9.6 s/v	A	9.9 s/v	A	0.3 s/v	No	--	--
5. Hamner Avenue at Micro Drive	AM	LOS D	5.6 s/v	A	5.7 s/v	A	0.1 s/v	No	--	--
	PM		9.7 s/v	A	10.0 s/v	A	0.3 s/v	No	--	--

Notes:
- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1 and 3-2* for the LOS definitions
- **Bold HCM/LOS values** indicate adverse service levels based on City of Eastvale LOS standards

TABLE 8-2 (CONTINUED)
EXISTING PLUS AMBIENT GROWTH (YEAR 2019) PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersections	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing Plus Ambient Plus Project Traffic Conditions		(3) Significant Impact		(4) Existing Plus Ambient Plus Project With Improvements	
			HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
6. Hamner Avenue at Cantu-Galleano Ranch Road	AM	LOS D	23.6 s/v	C	29.2 s/v	C	5.6 s/v	No	--	--
	PM		24.0 s/v	C	28.5 s/v	C	4.5 s/v	No	--	--
7. Hamner Avenue at Bellegrave Avenue	AM	LOS D	38.0 s/v	D	44.6 s/v	D	6.6 s/v	No	--	--
	PM		34.1 s/v	C	37.3 s/v	D	3.2 s/v	No	--	--
8. I-15 SB Ramps at Cantu-Galleano Ranch Road	AM	LOS D	12.6 s/v	B	13.1 s/v	B	0.5 s/v	No	--	--
	PM		11.2 s/v	B	12.0 s/v	B	0.8 s/v	No	--	--
9. I-15 NB Ramps at Cantu-Galleano Ranch Road	AM	LOS D	13.3 s/v	B	13.7 s/v	B	0.4 s/v	No	--	--
	PM		13.7 s/v	B	13.9 s/v	B	0.2 s/v	No	--	--

Notes:
- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1 and 3-2* for the LOS definitions
- **Bold HCM/LOS values** indicate adverse service levels based on City of Eastvale LOS standards

TABLE 8-3

YEAR 2019 CUMULATIVE PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersections	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Year 2019 Cumulative Plus Project Traffic Conditions		(3) Significant Impact		(4) Year 2019 Plus Project With Improvements	
			HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
1. Milliken Avenue at SR-60 WB Ramps	AM	LOS D	12.4 s/v	B	14.6 s/v	B	2.2 s/v	No	--	--
	PM		14.3 s/v	B	16.8 s/v	B	2.5 s/v	No	--	--
2. Hamner Avenue at SR-60 EB Ramps	AM	LOS D	16.8 s/v	B	28.1 s/v	C	11.3 s/v	No	--	--
	PM		21.7 s/v	C	45.5 s/v	D	23.8 s/v	No	--	--
3. Hamner Avenue at Riverside Drive	AM	LOS D	49.7 s/v	D	**133.9 s/v**	**F**	**84.2 s/v**	**Yes**	38.6 s/v	D
	PM		**83.3 s/v**	**F**	**211.5 s/v**	**F**	**128.2 s/v**	**Yes**	47.9 s/v	D
4. Hamner Avenue at Harvest Drive	AM	LOS D	5.8 s/v	A	6.9 s/v	A	1.1 s/v	No	--	--
	PM		9.6 s/v	A	16.4 s/v	B	6.8 s/v	No	--	--
5. Hamner Avenue at Micro Drive	AM	LOS D	5.6 s/v	A	5.7 s/v	A	0.1 s/v	No	--	--
	PM		9.7 s/v	A	15.9 s/v	B	6.2 s/v	No	--	--

Notes:
- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1 and 3-2* for the LOS definitions
- **Bold HCM/LOS values** indicate adverse service levels based on City of Eastvale LOS standards

TABLE 8-3 (CONTINUED)
YEAR 2019 CUMULATIVE PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersections	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Year 2019 Cumulative Plus Project Traffic Conditions		(3) Significant Impact		(4) Year 2019 Plus Project With Improvements	
			HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
6. Hamner Avenue at Cantu-Galleano Ranch Road	AM	LOS D	23.6 s/v	C	**278.0 s/v**	**F**	**254.4 s/v**	**Yes**	53.2 s/v	D
	PM		24.0 s/v	C	**307.7 s/v**	**F**	**283.7 s/v**	**Yes**	40.7 s/v	D
7. Hamner Avenue at Bellegrave Avenue	AM	LOS D	38.0 s/v	D	**94.7 s/v**	**F**	**56.7 s/v**	**Yes**	43.8 s/v	D
	PM		34.1 s/v	C	**132.6 s/v**	**F**	**98.5 s/v**	**Yes**	33.6 s/v	C
8. I-15 SB Ramps at Cantu-Galleano Ranch Road	AM	LOS D	12.6 s/v	B	54.9 s/v	D	42.3 s/v	No	15.4 s/v	B
	PM		11.2 s/v	B	**74.8 s/v**	**E**	**63.6 s/v**	**Yes**	16.0 s/v	B
9. I-15 NB Ramps at Cantu-Galleano Ranch Road	AM	LOS D	13.3 s/v	B	36.4 s/v	D	23.1 s/v	No	--	--
	PM		13.7 s/v	B	40.8 s/v	D	27.1 s/v	No	--	--

Notes:
- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1 and 3-2* for the LOS definitions
- **Bold HCM/LOS values** indicate adverse service levels based on City of Eastvale LOS standards

Review of Columns 2 and 3 of *Table 8-3* indicates that traffic associated with the proposed Project will significantly impact four of the nine (9) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. The remaining five key study intersections are forecast to continue to operate at an acceptable service level during the AM and PM peak hours with the addition of Project generated traffic to existing traffic, ambient growth traffic and cumulative projects traffic. The locations projected to operate at an unacceptable LOS with the addition of project traffic to existing traffic, ambient growth traffic and cumulative projects traffic is as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	HCM	LOS	HCM	LOS
3. Hamner Avenue at Riverside Drive	133.9 s/v	F	211.5 s/v	F
6. Hamner Avenue at Cantu-Galleano Ranch Road	278.0 s/v	F	307.7 s/v	F
7. Hamner Avenue at Bellegrave Avenue	94.7 s/v	F	132.6 s/v	F
8. I-15 SB Ramps at Cantu-Galleano Ranch Road	---	---	74.8 s/v	E

As shown in Column 4 of *Table 8-3*, the implementation of improvements at the impacted intersections completely offsets the impact of the proposed project. The four impacted intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours with implementation of improvements (See Column 4 of *Table 8-3*).

Appendix C contains the Year 2019 Cumulative Plus Project HCM/LOS calculations for the nine (9) key study intersections.

9.0 CALTRANS FACILITIES ANALYSIS

Caltrans requires the use of analysis methods provided in the Highway Capacity Manual (*HCM)* for the analysis of ramp intersections and basic freeway segments. As discussed previously in Section 7.1.2, Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities"; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For this analysis, LOS D is the target level of service standard and will be utilized to assess the project impacts at the state-controlled study intersections.

Ramp Intersection Capacity Analyses were conducted for the following four (4) key ramp study intersections:

1. Milliken Avenue at SR-60 EB Ramps
2. Hamner Avenue at SR-60 WB Ramps
8. I-15 SB Ramps at Cantu-Galleano Ranch Road
9. I-15 NB Ramps at Cantu-Galleano Ranch Road

Additionally, Basic Freeway Segment Analysis for freeway segments was conducted for the following six (6) Caltrans freeway segments in the vicinity of the proposed Project for Existing traffic conditions:

1. I-15 Northbound *from* Limonite Avenue *to* Cantu-Galleano Ranch Road
2. I-15 Northbound *from* Cantu-Galleano Ranch Road *to* SR-60 Freeway
3. SR-60 Westbound *from* Milliken Avenue *to* Haven Avenue
4. SR-60 Eastbound *from* Haven Avenue *to* Milliken Avenue
5. I-15 Southbound from SR-60 Freeway *to* Cantu-Galleano Ranch Road
6. I-15 Southbound from Cantu-Galleano Ranch Road *to* Limonite Avenue

9.1 Ramp Intersection Capacity Analysis

Tables 8-1, 8-2, 8-3 presented previously in Section 8.0 summarized the peak hour LOS results for the four (4) ramp intersections for Existing Plus Project Traffic Conditions, Existing Plus Ambient Growth (Year 2019) Plus Project Traffic Conditions and Year 2019 Cumulative Plus Project Traffic Conditions, respectively.

9.2 Basic Freeway Segment Capacity Analysis

9.2.1 *Existing Traffic Conditions*

Table 9-1 summarizes the peak hour level of service results at the aforementioned six (6) key freeway segments for Existing traffic conditions. Review of *Table 9-1* indicates that four of the six key freeway segments currently operate at LOS C or better during the AM and/or PM peaks hours (i.e. key freeway segments #2, #4, #5 and #6). Key freeway segment #1 currently operates at LOS D

during the AM and PM peak hours. Key freeway segment #3 currently operates at LOS D during the PM peak hour.

Per Caltrans guidelines, the following is stated in the *Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002*:

> *"The following criterion is a starting point in determining when a TIS is needed. When a project:*
>
> 1. *Generates over 100 peak hour trips assigned to a State highway facility…..*
> 2. *Generates 50 to 100 peak hour trips assigned to a State highway facility and noticeable delay approaching LOS C or D…..*
> 3. *Generates 1 to 49 peak hour trips assigned to a State highway facility and noticeable delay approaching LOS E or F….."*

Based on the Caltrans criteria above and the results of the basic freeway segments analysis for Existing traffic conditions as presented in *Table 9-1*, it is determined that no additional analysis is needed for the Caltrans Facilities since the Project does not generate greater than 100 peak hour trips assigned to a state highway facility and all freeway segments are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours under Existing traffic conditions. In fact, the proposed Project is forecast to generate less than 50 peak hour trips on all key freeway segments, except the segment on I-15 between the SR-60 interchange and Cantu-Galliano Ranch Road, which is forecast the generate 53 AM peak hour trips and 50 PM peak hour trips, but currently operates at LOS C.

Appendix D contains the Basic Freeway Segment Analysis Calculation worksheets for all freeway segments for Existing traffic conditions.

TABLE 9-1
EXISTING PEAK HOUR FREEWAY MAINLINE CAPACITY ANALYSIS SUMMARY

Key Basic Freeway Segment	Time Period	Lanes	Project Trips	(1) Existing Traffic Conditions		
				Peak Hour Volume (pc/h/ln)	Density (pc/mi/ln)	LOS
1. I-15 Northbound *from* Limonite Avenue *to* Cantu-Galleano Ranch Road	AM	3	14	1,776	27.7	D
	PM		7	1,760	27.4	D
2. I-15 Northbound *from* Cantu-Galleano Ranch Road *to* SR-60	AM	5	17	1,203	18.5	C
	PM		34	1,148	17.7	B
3. SR-60 Westbound *from* Milliken Avenue *to* Haven Avenue	AM	5	7	1,633	25.2	C
	PM		14	1,761	27.4	D
4. SR-60 Eastbound *from* Haven Avenue *to* Milliken Avenue	AM	5	15	1,490	22.9	C
	PM		7	1,575	24.3	C
5. I-15 Southbound *from* SR-60 *to* Cantu-Galleano Ranch Road	AM	4	36	1,542	23.7	C
	PM		16	1,619	25.0	C
6. I-15 Southbound *from* Cantu-Galleano Ranch Road *to* Limonite Avenue	AM	4	6	1,438	22.1	C
	PM		13	1,517	23.3	C

10.0 SITE ACCESS AND INTERNAL CIRCULATION EVALUATION

10.1 Level of Service Analysis For Project Access Locations

Vehicular access to the proposed Project will be provided via one full access signalized driveway located along Cantu-Galleano Ranch Road, located directly opposite the proposed full-access signalized driveway that will serve the Goodman Commerce Center project site. The proposed access driveway will also provide access to the existing Grainger building located to the west of the site. The current Grainger driveway located along Cantu-Galleano Ranch Road will be closed as part of the proposed Project.

Table 10-1 summarizes the intersection operations at the proposed project driveway under near-term (Year 2019) traffic conditions at completion and full occupancy of the proposed Project. The traffic volumes at the project driveway also include the relocated Grainger traffic volumes and the traffic associated with the Goodman Commerce Center. The operations analysis for the project driveway is based on the *Highway Capacity Manual* (HCM) methodology for signalized intersections. Review of *Table 10-1* shows that the Project Driveway/Goodman Commerce Center Driveway at Cantu-Galleano Ranch Road is forecast to operate at acceptable LOS C during the AM and PM peak hours for near-term (Year 2019) traffic conditions. As such, project access will be adequate. Motorists entering and exiting the Project site will be able to do so comfortably, safely, and without undue congestion.

Appendix E presents the Year 2019 level of service calculation worksheets for the proposed project driveway.

10.2 Internal Circulation Evaluation

The evaluation of the on-site circulation shown on the proposed site plan was performed using the *Turning Vehicle Templates* developed by Jack E. Leisch & Associates and *AutoTURN for AutoCAD* computer software that simulates turning maneuvers for various types of vehicles. The turning templates were utilized to ensure that large trucks could properly access and circulate through the Project site as well as to/from the Grainger site. A large truck (STAA-Long) turning template was utilized in this evaluation.

Figures 10-1, 10-2 and ***10-3*** illustrate the turning requirements of a large truck (STAA-Long) for clockwise on-site circulation, counterclockwise on-site circulation and Grainger access, respectively. Based on our evaluation and as shown in the aforementioned figures, curb return radii have been confirmed and are adequate for large trucks. As such, large truck (STAA-Long) access and circulation for the project site is adequate.

TABLE 10-1

PROJECT DRIVEWAY PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Project Driveway	Time Period	Intersection Control	Year 2019 Cumulative Plus Project Traffic Conditions	
			HCM	LOS
Project Dwy/Goodman Commerce Center Dwy at Cantu- Galleano Ranch Road	AM PM	6∅ Traffic Signal	22.7 sec/veh 31.0 sec/veh	C C

11.0 AREA-WIDE TRAFFIC IMPROVEMENTS

For the intersections where future traffic volumes are expected to result in poor operating conditions, this report recommends (identifies) improvements, which change the intersection geometry to increase capacity. These capacity improvements usually involve roadway widening and/or restriping to reconfigure or add lanes to various approaches of a key intersection. The proposed improvements are expected to offset the impact of future traffic, and improve Levels of Service to an acceptable range.

11.1 Planned Improvements

The following improvements listed below will be constructed by the proposed Project and the Goodman Commerce Center Project.

- Project Driveway/Goodman Commerce Center Driveway at Cantu-Galleano Ranch Road: For the Goodman Commerce Center Driveway, provide one northbound left-turn lane, one northbound shared left/through lane and one northbound right-turn lane. For the Project Driveway provide one southbound shared left/through/right lane. Along Cantu-Galleano Ranch Road provide one eastbound left-turn lane, two eastbound through lanes, one eastbound shared through/right lane, one westbound left-turn lane, one westbound through lane and one westbound shared through/right lane at the project driveway. Install a six phase traffic signal with split phase operation in the north-south direction and protected left-turn phasing in the east-west direction.

11.2 Recommended Improvements

11.2.1 *Existing Plus Project Traffic Conditions*

The results of the intersection capacity analysis presented previously in *Table 8-1* show that the proposed Project will not significantly impact any of the nine (9) key study intersections under the "Existing Plus Project" traffic scenario. Given that there are no significant project impacts, no improvements are required to address this traffic scenario.

11.2.2 *Existing Plus Ambient Plus Project Traffic Conditions*

The following improvements listed below have been identified to mitigate the existing plus ambient plus project impacts at the one (1) impacted key study intersection.

- Hamner Avenue at Riverside Drive: Widen and/or restripe Riverside Drive to provide an exclusive eastbound right-turn lane. Modify the existing traffic signal and install an eastbound right-turn overlap. The installation of these improvements are subject to the approval of the City of Eastvale.

Figure 11-1 graphically illustrates the recommended improvements for existing plus ambient plus project traffic conditions at the one (1) impacted key study intersection.

11.2.3 *Year 2019 Cumulative Plus Project Traffic Conditions*

The following improvements listed below have been identified to mitigate the Year 2019 cumulative plus project impacts at the four (4) impacted key study intersections. The proposed Project can be expected to contribute a fair-share to implement the following recommended improvements:

- Hamner Avenue at Riverside Drive: Widen and/or restripe Riverside Drive to provide an exclusive eastbound right-turn lane. Modify the existing traffic signal and install an eastbound right-turn overlap and a westbound right-turn overlap. The installation of these improvements are subject to the approval of the City of Eastvale.

- Hamner Avenue at Cantu-Galleano Ranch Road/Edison Avenue: Widen and/or restripe Hamner Avenue to provide a 2nd northbound through lane, a second southbound left-turn lane and a second southbound through lane. Widen and/or restripe Edison Avenue/Cantu-Galleano Ranch Road to provide a second eastbound through lane, an exclusive eastbound right-turn lane and a second westbound left-turn lane. Modify the existing traffic signal and install a northbound right-turn overlap and a westbound right-turn overlap. The installation of these improvements are subject to the approval of the City of Eastvale.

- Hamner Avenue at Bellegrave Avenue: Widen and/or restripe Hamner Avenue to provide a 2nd northbound through lane and a second southbound through lane. Modify the existing traffic signal. The installation of these improvements are subject to the approval of the City of Eastvale.

- I-15 SB Ramps at Cantu-Galleano Ranch Road: Restripe the off ramp to provide one southbound left-turn lane, one share southbound left/right-turn lane and one southbound right-turn lane. The installation of these improvements are subject to the approval of the Caltrans and the City of Eastvale.

Figure 11-2 graphically illustrates the recommended improvements for Year 2019 cumulative plus project traffic conditions at the four (4) impacted key study intersections. This figure also illustrates the improvements for the Project Driveway/Goodman Commerce Center Driveway at Cantu-Galleano Ranch Road.

12.0 PROJECT-RELATED FAIR SHARE CONTRIBUTION

The transportation impacts associated with development of the proposed Project were determined based on the level of service analyses presented previously in *Tables 8-1, 8-2* and *8-3*. As summarized previously in Section 8.0, the proposed Project is anticipated to create four (4) impacts in the Year 2019. As such, the proposed Project can be expected to pay a proportional "fair-share" of the improvement costs of the impacted intersections to mitigate the project's traffic impacts. It should be noted that the recommended improvements are identified above in Section 11.0.

12.1 Year 2019 (Cumulative Analysis) Project-Related Fair Share Contribution

Table 12-1 presents the AM peak hour and PM peak hour percentage of net traffic impact at the study intersections impacted by the proposed Project for Year 2019 traffic conditions (i.e. cumulative analysis). As presented in this table, the first column (1) presents a total of all intersection peak hour movements for existing traffic conditions. The second column (2) presents project only traffic conditions. The third column (3) presents future Year 2019 traffic conditions with project traffic. The fourth column (4) represents what percentage of total intersection peak hour traffic is project-related traffic.

Review of *Table 12-1* shows that the project's traffic percentage at the four (4) impacted key study intersections ranges between 0.3% and 2.9%.

TABLE 12-1
YEAR 2019 PROJECT FAIR SHARE CONTRIBUTION

Key Intersections		Impacted Time Period	(1) Existing Traffic	(2) Project Only Traffic	(3) Year 2019 Cumulative Plus Project Traffic	(4) Net Project Percent Increase
3.	Hamner Avenue at Riverside Drive	AM	2,050	14	3,137	**1.3%**
		PM	2,342	15	3,778	1.0%
6.	Hamner Avenue at Cantu-Galleano Ranch Road	AM	2,007	17	4,307	**0.7%**
		PM	1,978	20	5,031	0.6%
7.	Hamner Avenue at Bellegrave Avenue	AM	1,954	4	3,507	**0.3%**
		PM	2,158	5	4,284	0.2%
8.	I-15 SB Ramps at Cantu-Galleano Ranch Road	PM	1,754	71	4,173	**2.9%**

Notes:
Net Project Percent Increase (4) = [Column (2)] / [Column (3) – Column (1)]

13.0 SUMMARY OF FINDINGS AND CONCLUSIONS

- ***Project Description*** – The Project site is a vacant parcel of land generally located north of Cantu-Galleano Ranch Road and east of Hamner Avenue in the City of Eastvale, California. The project site is bound by Micro Drive on the north, Cantu-Galleano Ranch Road on the south, industrial buildings off Hamner Avenue on the west and the I-15 Freeway to the east. The proposed Project will consist of a 456,173 SF industrial/warehouse building (inclusive of the 10,000 SF mezzanine). The proposed project is expected to be constructed in one phase and will open by the Year 2019.

- Access to the proposed Project will be provided via one full access signalized driveway located along Cantu-Galleano Ranch Road, located directly opposite the proposed full-access signalized driveway that will serve the Goodman Commerce Center project site. The proposed access driveway will also provide access to the existing Grainger building located to the west of the site. The current Grainger driveway located along Cantu-Galleano Ranch Road will be closed as part of the proposed Project

- ***Study Scope*** – The following nine (9) key study intersections were selected for detailed peak hour level of service analyses under Existing Traffic Conditions, Existing plus Project Traffic Conditions, Existing plus Ambient Growth plus Project Traffic Conditions and Year 2019 Cumulative Plus Project Traffic Conditions:

    1. Milliken Avenue at SR-60 EB Ramps (Caltrans/City of Eastvale)
    2. Hamner Avenue at SR-60 WB Ramps (Caltrans/City of Eastvale)
    3. Hamner Avenue at Riverside Drive (City of Eastvale)
    4. Hamner Avenue at Harvest Drive (City of Eastvale)
    5. Hamner Avenue at Micro Drive (City of Eastvale)
    6. Hamner Avenue at Cantu-Galleano Ranch Road (City of Eastvale)
    7. Hamner Avenue at Bellegrave Avenue (City of Eastvale)
    8. I-15 SB Ramps at Cantu-Galleano Ranch Road (Caltrans/City of Eastvale)
    9. I-15 NB Ramps at Cantu-Galleano Ranch Road (Caltrans/City of Eastvale)

- ***Existing Traffic Conditions*** – Nine (9) key study intersections currently operate at an acceptable level of service during the AM and PM peak hours. The lone exception is the intersection of Hamner Avenue/Riverside Drive, which currently operates at unacceptable LOS F during the PM peak hour.

- ***Project Trip Generation*** – The proposed Project is forecast to generate 1,318 daily PCE trips, with 92 PCE trips (64 inbound, 28 outbound) forecast during the AM peak hour and 90 PCE trips (28 inbound, 62 outbound) forecast during the PM peak hour.

- ***Cumulative Projects Trip Generation*** – The forty-seven (47) cumulative projects are forecast to generate a total of 131,996 daily trips, with 7,820 trips (3,596 inbound and 4,224 outbound) forecast during the AM peak hour and 10,862 trips (5,619 inbound and 5,243 outbound) forecast during the PM peak hour.

- ***Existing Plus Project Traffic Conditions*** – The results of the "Existing Plus Project" analysis indicate that the proposed Project ***will not*** significantly impact any of the nine (9) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of Hamner Avenue/Riverside Drive is forecast to operate at unacceptable LOS F during the PM peak hour with the addition of project traffic, the proposed Project is expected to add less than 5.0 seconds to the HCM value. The remaining eight (8) key study intersections currently operate and are forecast to continue to operate at an acceptable service level during the AM and PM peak hours with the addition of Project generated traffic to existing traffic.

- ***Existing Plus Ambient Growth (Year 2019) Plus Project Traffic Conditions*** – The proposed Project will significantly impact one of the nine (9) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. The remaining eight key study intersections are forecast to continue to operate at an acceptable service level during the AM and PM peak hours with the addition of Project generated traffic to existing traffic and ambient growth traffic. The location projected to operate at an unacceptable LOS with the addition of project traffic to existing traffic and ambient growth traffic is as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	HCM	LOS	HCM	LOS
3. Hamner Avenue at Riverside Drive	64.6 s/v	E	104.5 s/v	F

The implementation of improvements at the impacted intersection completely offsets the impact of the proposed project. The impacted intersection of Hamner Avenue/Riverside Drive is forecast to operate at an acceptable LOS during the AM and PM peak hours with implementation of improvements.

- ***Year 2019 Cumulative Traffic Conditions*** – The proposed Project will significantly impact four of the nine (9) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. The remaining five key study intersections are forecast to continue to operate at an acceptable service level during the AM and PM peak hours with the addition of Project generated traffic to existing traffic, ambient growth traffic and cumulative projects traffic. The locations projected to operate at an unacceptable LOS with the addition of project traffic to existing traffic, ambient growth traffic and cumulative projects traffic is as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	HCM	LOS	HCM	LOS
3. Hamner Avenue at Riverside Drive	133.9 s/v	F	211.5 s/v	F
6. Hamner Ave at Cantu-Galleano Ranch Rd	278.0 s/v	F	307.7 s/v	F
7. Hamner Avenue at Bellegrave Avenue	94.7 s/v	F	132.6 s/v	F
8. I-15 SB Ramps at Cantu-Galleano Ranch Rd	---	---	74.8 s/v	E

The implementation of improvements at the impacted intersections completely offsets the impact of the proposed project. The four impacted intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours with implementation of improvements.

- ***Caltrans Facilities Analysis*** – *Tables 8-1, 8-2, 8-3* presented previously in Section 8.0 summarized the peak hour LOS results for the four (4) ramp intersections for Existing Plus Project Traffic Conditions, Existing Plus Ambient Growth (Year 2019) Plus Project Traffic Conditions and Year 2019 Cumulative Plus Project Traffic Conditions, respectively.

  Based on the results of the basic freeway segments analysis for Existing traffic conditions as presented in *Table 9-1,* it is determined that no additional analysis is needed for the Caltrans Facilities since the Project does not generate greater than 100 peak hour trips assigned to a state highway facility and all freeway segments are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours under Existing traffic conditions. In fact, the proposed Project is forecast to generate less than 50 peak hour trips on all key freeway segments, except the segment on I-15 between the SR-60 interchange and Cantu-Galliano Ranch Road, which is forecast the generate 53 AM peak hour trips and 50 PM peak hour trips, but currently operates at LOS C.

- ***Site Access and Internal Circulation Evaluation*** – The Project Driveway/Goodman Commerce Center Driveway at Cantu-Galleano Ranch Road is forecast to operate at acceptable LOS C during the AM and PM peak hours for near-term (Year 2019) traffic conditions. As such, project access will be adequate. Motorists entering and exiting the Project site will be able to do so comfortably, safely, and without undue congestion. Curb return radii have been confirmed and are adequate for large trucks. As such, large truck (STAA-Long) truck access and circulation for the project site is adequate.

- ***Planned Improvements*** **–** The following improvements listed below will be constructed by the proposed Project and the Goodman Commerce Center Project.

  - <u>Project Dwy/Goodman Commerce Center Dwy at Cantu-Galleano Ranch Road:</u> For the Goodman Commerce Center Driveway, provide one northbound left-turn lane, one northbound shared left/through lane and one northbound right-turn lane. For the Project Driveway provide one southbound shared left/through/right lane. Along Cantu-Galleano Ranch Road provide one eastbound left-turn lane, two eastbound through lanes, one eastbound shared through/right lane, one westbound left-turn lane, one westbound through lane and one westbound shared through/right lane at the project driveway. Install a six phase traffic signal with split phase operation in the north-south direction and protected left-turn phasing in the east-west direction.

- ***Recommended Existing Plus Project Improvements*** **–** The results of the intersection capacity analysis presented previously in *Table 8-1* show that the proposed Project will not significantly impact any of the nine (9) key study intersections under the "Existing Plus Project" traffic scenario. Given that there are no significant project impacts, no improvements are required to address this traffic scenario.

- ***Recommended Existing Plus Ambient Plus Project Improvements*** **–** The following improvements listed below have been identified to mitigate the existing plus ambient plus project impacts at the one (1) impacted key study intersection.

- Hamner Avenue at Riverside Drive: Widen and/or restripe Riverside Drive to provide an exclusive eastbound right-turn lane. Modify the existing traffic signal and install an eastbound right-turn overlap. The installation of these improvements are subject to the approval of the City of Eastvale.

- ***Year 2019 Cumulative Traffic Conditions*** **–** The following improvements listed below have been identified to mitigate the Year 2019 cumulative plus project impacts at the four (4) impacted key study intersections. The proposed Project can be expected to contribute a fair-share to implement the following recommended improvements:

  - Hamner Avenue at Riverside Drive: Widen and/or restripe Riverside Drive to provide an exclusive eastbound right-turn lane. Modify the existing traffic signal and install an eastbound right-turn overlap and a westbound right-turn overlap. The installation of these improvements are subject to the approval of the City of Eastvale.

  - Hamner Avenue at Cantu-Galleano Ranch Road/Edison Avenue: Widen and/or restripe Hamner Avenue to provide a 2nd northbound through lane, a second southbound left-turn lane and a second southbound through lane. Widen and/or restripe Edison Avenue/Cantu-Galleano Ranch Road to provide a second eastbound through lane, an exclusive eastbound right-turn lane and a second westbound left-turn lane. Modify the existing traffic signal and install a northbound right-turn overlap and a westbound right-turn overlap. The installation of these improvements are subject to the approval of the City of Eastvale.

  - Hamner Avenue at Bellegrave Avenue: Widen and/or restripe Hamner Avenue to provide a 2nd northbound through lane and a second southbound through lane. Modify the existing traffic signal. The installation of these improvements are subject to the approval of the City of Eastvale.

  - I-15 SB Ramps at Cantu-Galleano Ranch Road: Restripe the off ramp to provide one southbound left-turn lane, one share southbound left/right-turn lane and one southbound right-turn lane. The installation of these improvements are subject to the approval of the Caltrans and the City of Eastvale.

- ***Year 2019 (Cumulative Analysis) Project-Related Fair Share Contribution*** – The project's traffic percentage at the four (4) impacted key study intersections ranges between 0.3% and 2.9%.