

DRAFT
ENVIRONMENTAL IMPACT REPORT

RANCHO PALMA

SCH NO. 2016031080

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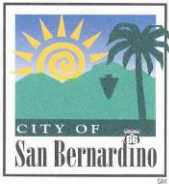
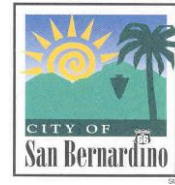
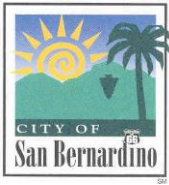


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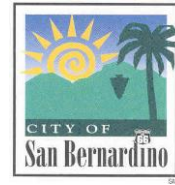
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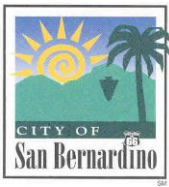
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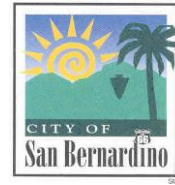


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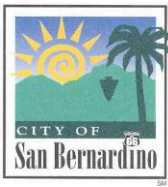


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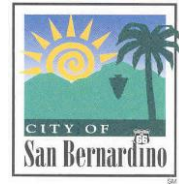


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EXECUTIVE SUMMARY

Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15123, this section briefly summarizes the proposed project, significant impacts, and proposed mitigation measures. The remainder of the document and technical appendices discuss and support the conclusions found herein.

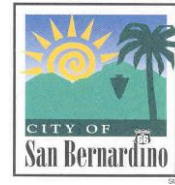
ES1 PURPOSE AND SCOPE OF THE DRAFT ENVIRONMENTAL IMPACT REPORT

This draft environmental impact report (Draft EIR) has been prepared for the City of San Bernardino (City), acting as the lead agency under CEQA Guidelines Sections 15050 and 15367, to analyze the potential environmental effects associated with implementation of the proposed Rancho Palma project (proposed project) located in San Bernardino, California; refer to [Figure 2-1, Regional/Local Vicinity Map](#).

An EIR is a public informational document used in the planning and decision-making process. This project-level EIR will analyze the environmental impacts of the proposed project. The City of San Bernardino Planning Commission and City Council will consider the information in the EIR, including public comments received and staff response to those comments, during the public hearing process. As a legislative action, the final decision to approve, conditionally approve, or deny the proposed project is made by the City Council. The purpose of an EIR is to identify:

- Significant potential impacts of the proposed project on the environment and indicate the manner in which those significant impacts can be avoided or mitigated.
- Any unavoidable adverse impacts that cannot be mitigated.
- Reasonable and feasible alternatives to the proposed project that would eliminate any significant adverse environmental impacts or reduce the impacts to a less than significant level.

An EIR also discloses growth-inducing impacts, impacts found not to be significant, and significant cumulative impacts of past, present, and reasonably anticipated future projects. CEQA requires that an EIR reflect the independent judgment of the lead agency regarding the impacts, discloses the level of significance of the impacts both without and with mitigation, and discusses the mitigation measures proposed to reduce the impacts. A Draft EIR is circulated to responsible agencies, trustee agencies with resources affected by the project, and interested agencies and individuals. The purposes of public and agency review of a Draft EIR include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting counterproposals. Reviewers of a Draft EIR are requested to focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant impacts of a project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate significant environmental effects.



This Draft EIR is being distributed directly to agencies, organizations, and interested groups and persons for comment during a 45-day formal review period in accordance with CEQA Guidelines Section 15087. The EIR process, including means by which members of the public can comment on the Draft EIR, is discussed further in [Section 1.0, Introduction](#).

ES2 PROJECT SUMMARY

The proposed project (Rancho Palma) includes preparation of a Specific Plan to allow the development of a mix of residential and commercial development on the subject site. The project as proposed would allow up to 120 single-family residential dwelling units in two residential planning areas, and up to 98,000 square feet of commercial uses in one planning area. [Figure 2-2, Land Use Plan](#), depicts the land uses proposed for Rancho Palma. The residential areas are designed to provide a gated single-family community with access to a variety of recreational opportunities, while the commercial planning area is designed to provide retail opportunities for local residents, as well as to take advantage of the adjacent regional traffic along Interstate 215 (I-215).

In addition to the residential and commercial components, two private parks and a paseo are proposed in the residential portion, along with a recreational vehicle (RV) storage lot, and approximately one-half acre of parkland would be dedicated for the expansion of the existing Ronald Reagan Park. [Table 2-1, Land Use Summary](#), depicts the land uses proposed for development of Rancho Palma. Ornamental landscaping would be installed to enhance the overall visual appearance of the development, provide visual screening (where appropriate), and reinforce the intended design theme and character; refer to [Figure 2-3, Conceptual Landscape Plan](#).

It is anticipated that the Rancho Palma Specific Plan would be constructed over two phases. Phase 1 would involve development of Planning Areas 1 and 2, the two private parks, and the dedication of approximately 0.5 acre to the City of San Bernardino for the expansion of Ronald Reagan Park. Phase 2 would include development of Planning Area 3. The proposed phasing does not preclude the project applicant's ability to construct all of the necessary project infrastructure in Phase 1, nor does it preclude the applicant's ability to construct both Phases 1 and 2 at one time.

ES3 SUMMARY OF PROJECT ALTERNATIVES

CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to a project that could feasibly attain the basic objectives of a project and avoid or lessen the environmental effects of a project. Further, CEQA Guidelines Section 15126.6(e) requires that a "No Project" Alternative be evaluated in an EIR. [Section 4.0, Alternatives](#), of this Draft EIR provides a detailed discussion and a qualitative analysis of the following scenarios considered to be feasible alternatives to the project as proposed.

No Project Alternative. CEQA Guidelines Section 15126.6(e) requires that a No Project Alternative be evaluated in an EIR. The No Project analysis must discuss the circumstance under which the proposed project does not proceed. The comparison is that of the proposed project versus what can reasonably be expected to occur on the property should the proposed project not be approved. The analysis allows decision-makers to compare the impacts of approving the project

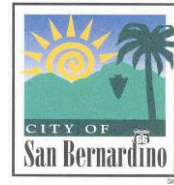


with the impacts of not approving the project (CEQA Guidelines Section 5126.6(e)(3)(B)). The No Project Alternative does not necessarily mean that the project site would remain in an undeveloped condition as the site is designated and zoned for commercial development. If no action is taken on the proposed project, development with similar or greater impacts may be proposed at some future date.

The No Project Alternative assumes that the lead agency would take no action. Under this alternative, the proposed project site would be developed as allowed by the existing General Plan land use designation (CG-1) and zoning (CG-1) that currently apply to the subject site.

Per San Bernardino Municipal Code Section 19.06.010, the CG-1 zone is “intended to provide for the continued use, enhancement, and new development of retail, personal service, entertainment, office and related commercial uses along major transportation corridors and intersections to service the needs of the residents; reinforcing existing commercial corridors and centers and establishing new locations as residential growth occurs. Additionally, this zone permits a maximum density of 47 units per net acre for senior citizen and senior congregate care housing.” Permitted uses (i.e., those uses not subject to an Administrative or Development Permit, Minor Use Permit, or Conditional Use Permit) in the CG-1 zone are identified in Table 06.01, Commercial Zones List of Permitted, Development Permitted and Conditionally Permitted Uses, in the Municipal Code.

The only permitted uses are previously existing single-family residential uses. All other land uses require City approval of either a Development Permit or a Conditional Use Permit (CUP). If such approval is sought, the site could be developed at a higher or lower density than the project as proposed (if residential uses are proposed), or at a higher or lower intensity (if commercial uses are proposed). However, it is assumed that even if a mix of commercial and residential uses are proposed with this alternative, development on the site would likely occur at an increased intensity above that which would result with the proposed project due to the nature and intent of the CG-1 zone, which is focused on commercial use types rather than residential development. Uses allowed with City approval of a Development Permit or CUP in the CG-1 zone include but are not limited to administrative and professional offices/services, automotive-related uses, hotels/motels, RV parks, night clubs/bars/lounges, restaurants, auditoriums, banks, medical offices, dry cleaners, day-care facilities, convenience stores, liquor stores, commercial bakeries, funeral parlors, libraries, mixed-use commercial, parking, religious facilities, public utility uses, and veterinary facilities. As indicated in Table LU-2, Land Use Designations, of the General Plan, the CG-1 land use designation allows a floor area ratio (FAR) of 0.7. Therefore, the 38 acres available on the site (does not include the 3.5-acre area comprising the Cable Creek Channel) would allow development of a maximum of 1,158,696 square feet of commercial uses (if only commercial uses are proposed), or 1,060,696 square feet more than proposed with the project. However, considering the existing land use setting which includes residential uses adjacent to the site, it is anticipated that a lower FAR would likely be applied (i.e. a more appropriate FAR would be 0.25 which would yield development of a maximum of 413,820 square feet of commercial uses



(if only commercial uses are proposed) on the 38 acres, or 315,820 square feet more than the proposed project.¹

This alternative would not result in development of the RV storage lot or any of the other proposed private or public parks or open space. Additionally, the proposed improvements along West Little League Drive and Magnolia Avenue would not occur, although other roadway improvements may be required in support of the land uses ultimately proposed

No Commercial Use Alternative. As shown in [Table 2-1, Land Use Summary](#), of this Draft EIR, the proposed project would develop approximately 9.3 acres of the property (Planning Area 3) with 98,000 square feet of commercial development. Under the No Commercial Use Alternative, this acreage would instead be developed with residential uses on 5,000-square-foot lots. Assuming roughly one-third of the 9.3-acre land area would be used to support on-site roadway and landscaping improvements, it is estimated that the remaining acreage (approximately 270,072 square feet) could be developed with up to 54 residential lots of 5,000 square feet each. Development at this density would be reflective of that proposed for the adjacent Planning Area 2 under the proposed project (and that would also occur under this alternative).

This alternative would still result in development of the RV storage lot (Planning Area 2), and the proposed public park (0.5 acre), neighborhood/linear park (1.4 acres), and Cable Creek Channel open space (3.5 acres) would also remain as part of this alternative. This alternative would still require approval of a CUP to allow residential uses on-site, and a Specific Plan would be prepared to guide the overall character and appearance of development. All other infrastructure improvements (utilities, roadway improvements, etc.) would remain the same as those which would occur with the project as proposed.

Increased Commercial Use Alternative. To allow an increase in on-site commercial uses, the proposed residential development in Planning Area 2 would instead be developed with commercial uses under this alternative. As such, this alternative would remove approximately 11.3 acres from residential use, reducing the overall number of planned residential units to 63 (to be developed in Planning Area 1 under the proposed project and with this alternative). As with the proposed project, the 63 residential units would be developed on 7,000-square-foot lots.

The overall commercial area would total approximately 20.6 acres (Planning Areas 2 and 3, 11.3 and 9.3 acres, respectively). As indicated in Table LU-2, Land Use Designations, of the General Plan, the CG-1 land use designation allows a floor area ratio (FAR) of 0.7. However, considering the existing land use setting which includes residential uses adjacent to the site, it is anticipated that a lower FAR would likely be applied (i.e. a more appropriate FAR would be 0.25 which would yield development of a maximum of 224,334 square feet of commercial uses (if only commercial

¹ The proposed project applies an FAR of approximately 0.24 (9.3 acres, or 405,108 s.f. divided by 98,000 s.f. of commercial use = floor area ratio of 0.24).



uses are proposed) on the 20.6 acres, or 126,334 square feet more than that proposed with the project.²

With 63 residential units, 1.1 acres of parkland are required per City code; this would include Public Park (0.5 acre) and neighborhood/linear park (0.6 acre). This alternative would not result in development of the RV storage lot; however, Cable Creek Channel open space (3.5 acres) would remain as part of this alternative. This alternative would require approval of a CUP to allow the residential uses on-site, and a Specific Plan would be prepared to guide the overall character and appearance of development. All other infrastructure improvements (utilities, roadway improvements, etc.) would remain the same as those which would occur with the project as proposed.

ES4 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

Per CEQA Guidelines Section 15050(c), the City of San Bernardino is the lead agency for the proposed project. Additionally, in accordance with CEQA Guidelines Section 15082, the City of San Bernardino prepared and distributed a Notice of Preparation (NOP) for the proposed project that was circulated for public review from March 28 to April 28, 2016. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. [Section 1.0, Introduction](#), summarizes issues and areas of concern related to the proposed project, as provided to the City by agencies and members of the public during the NOP review period. The complete text of the NOP and the NOP comments received are included in [Appendix 1-1](#) of this Draft EIR.

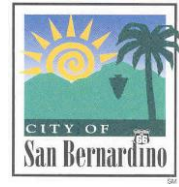
ES5 SUMMARY OF ENVIRONMENTAL IMPACTS

[Table ES-1](#) summarizes the project impacts and proposed mitigation measures that would avoid or minimize such impacts. In the table, the level of significance for each impact is indicated prior to and subsequent to implementation of the proposed mitigation measures. An in-depth discussion of all mitigation measures for each environmental impact addressed in this Draft EIR is included in the appropriate environmental topic section (see [Sections 3.1 through 3.13](#)).

Through analysis provided in this Draft EIR, it was determined that, in combination with long-term, region-wide growth and development, the proposed project has the potential to generate significant environmental impacts with regard to a number of issue areas including air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, and traffic and transportation. Mitigation measures are identified to reduce such impacts to less than significant or to the maximum extent feasible.

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. As discussed in [Section 3.0, Environmental Analysis](#), of this Draft EIR, of the potential environmental impacts discussed, no impacts were determined to be significant and unavoidable.

² The proposed project applies an FAR of approximately 0.24 (9.3 acres, or 405,108 s.f. divided by 98,000 s.f. of commercial use = floor area ratio of 0.24).



ES6 AREAS OF NO IMPACT

Through the EIR process, it was determined that the proposed project would not result in an impact in certain environmental areas. These issue areas include Agricultural and Forestry Resources and Mineral Resources. Refer to [Section 3.14, Effects Found Not to Be Significant](#), for additional discussion.

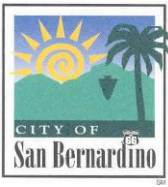
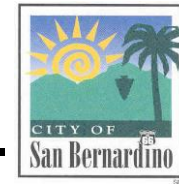


Table ES-1. Summary of Impacts and Mitigation Measures

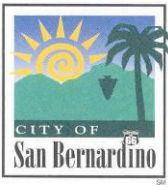
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Aesthetics and Visual Resources			
Impact 3.1-1 The proposed project will not have a substantial adverse effect on a scenic vista.	LS	None required.	LS
Impact 3.1-2 The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	LS	None required.	LS
Impact 3.1-3 The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings.	LS	None required.	LS
Impact 3.1-4 The proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	LS	None required.	LS
Impact 3.1-5 Implementation of the proposed project would result in a less than cumulatively considerable contribution to any scenic resources and/or the alteration of the visual character and light and glare in the region.	LCC	None required.	LCC
Air Quality			
Impact 3.2-1 The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.	LS	None required.	LS
Impact 3.2-2 The proposed project would not result in a violation any air quality standard or contribute substantially to an existing or projected air quality violation.	LS	None required.	LS

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Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.2-3 The proposed project would not result in exposure of sensitive receptors to substantial toxic air contaminant concentrations.	LS	None required.	LS
Impact 3.2-4 The proposed project would not result in exposure of sensitive receptors to substantial pollutant concentrations.	LS	None required.	LS
Impact 3.2-5 The proposed project would not result in exposure of sensitive receptors to substantial pollutant concentrations - Carbon Monoxide.	LS	None required.	LS
Impact 3.2-6 The proposed project would not result in creating objectionable odors affecting a substantial number of people.	LS	None required.	LS
Impact 3.2-7 The proposed project would not 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).	LCC	None required.	LCC
Biological Resources			
Impact 3.3-1 Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to special-status species.	PS	BIO-1 All construction and clearing activities shall be conducted outside of the avian nesting season (January 15 to August 31), when feasible. A migratory nesting bird survey of the project's impact footprint for nesting raptors, special-status resident birds, and other migratory birds protected by the Migratory Bird Treaty Act shall be conducted by a qualified biologist within seventeen (17) days prior to initiating vegetation clearing or ground disturbance. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, monitoring, and reporting. The NBP will include a copy of maps showing the location of all nests and an	LS

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Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>appropriate buffer zone around each nest sufficient to protect the nest from direct and indirect impacts. The size and location of all buffer zones, if required, shall be determined by the biologist in consultation with the CDFW and shall be based on the nesting species, its sensitivity to disturbance, and expected types of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved buffer zone shall be marked in the field with construction fencing, within which no vegetation clearing or ground disturbance shall commence until the qualified biologist has determined that the young birds have successfully fledged and a monitoring report has been submitted to the CDFW for review and approval.</p> <p><i>Timing/Implementation: Requirements shall be incorporated into all rough and/or precise grading plan documents. The project applicant's construction inspector shall monitor to ensure that measures are implemented during construction.</i></p> <p><i>Enforcement/Monitoring: City of San Bernardino Planning Department</i></p> <p>BIO-2 A preconstruction burrowing owl survey shall be conducted by a qualified biologist at least 30 days prior to construction activities to determine whether there are any active burrowing owl burrows within or adjacent to the impact area. If an active burrow is observed outside the nesting season (September 1 to January 31) and the burrow is within the impact area, a Burrowing Owl Exclusion Plan shall be prepared and submitted to the CDFW for approval, outlining standard burrowing owl burrow closing procedures used to exclude burrowing owls (e.g., using passive relocation with one-way doors). The loss of any active burrowing owl burrow/territory shall be mitigated through replacement of habitat and burrows at no less than a</p>	

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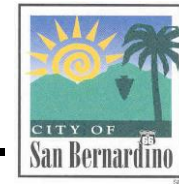
NI – No Impact

PS – Potentially Significant

CC – Cumulatively Considerable

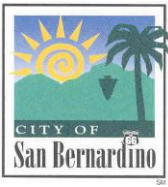
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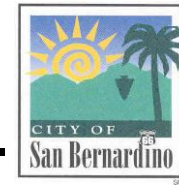
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>1:1 ratio. If an active burrow is observed outside the nesting season (i.e., between September 1 and January 31) and the burrow is not within the impact area, construction work shall be restricted within 160 to 1,605 feet of the burrow depending on the time of year and the level of disturbance near the site in accordance with guidelines specified by the CDFW.</p> <p><i>Timing/Implementation:</i> Prior to any vegetation removal or ground-disturbing activities</p> <p><i>Enforcement/Monitoring:</i> City of San Bernardino Planning and Public Works Department</p>	
<p>Impact 3.3-2 Implementation of the proposed project could result in 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.</p>	LS	None required.	LS
<p>Impact 3.3-3 Implementation of the proposed project could 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.</p>	LS	None required.	LS
<p>Impact 3.3-4 Implementation of the proposed project would not 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 impeded the use of native wildlife nursery sites</p>	LS	None required.	LS
<p>Impact 3.3-5 Implementation of the proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.</p>	LS	None required.	LS

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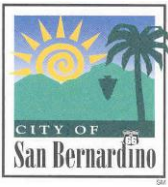
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.3-6 Implementation of the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	NI	None required.	NI
Impact 3.3-7 Implementation of the proposed project would not result in cumulatively considerable impacts related to biological resources.	LCC	None required.	LCC
Cultural Resources			
Impact 3.4-1 Implementation of the proposed project could result in a substantial adverse change in the significance of a known historical resource.	PS	<p>CUL-1 If previously undocumented resources are identified on the project site during earth-moving activities, a qualified archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology shall be contacted to assess the nature and significance of the find and to divert construction activities, if necessary. If evidence of archaeological resources (e.g., chipped or ground stone, historical debris, building foundations, or human bone) is identified during excavation, all work within 50 feet of the discovery site shall cease until the project archaeologist can evaluate the significance of the resource. In the event of a new find, salvage excavation and reporting shall be required, in conformance with established regulatory protocols.</p> <p><i>Timing/Implementation:</i> Prior to ground-disturbing construction activities</p> <p><i>Enforcement/Monitoring:</i> City of San Bernardino Engineering and Planning Departments</p>	LS
Impact 3.4-2 Implementation of the proposed project could result in a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	PS	<p>CUL-2 If during grading or construction activities, cultural resources are discovered on the project site, work shall be halted immediately within 50 feet of the discovery, and the resources shall be evaluated by a qualified archaeologist (retained by the applicant) and the relevant Native American tribes or bands</p>	LS

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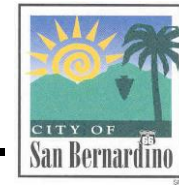
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>notified (i.e., Ramona, San Manuel, Soboba, San Fernando, Agua Caliente, Morongo, and Pechanga Bands, and the Serrano Nation), as appropriate. Any unanticipated cultural resources that are discovered shall be evaluated and a final report prepared by the qualified archaeologist. The report shall include a list of the resources discovered, documentation of each site/locality, and interpretation of the resources identified, and the method of preservation and/or recovery for identified resources. In the event the significant resources are recovered and if the qualified archaeologist, the tribe, and/or the band determines the resources to be historic or unique, avoidance and/or mitigation would be required pursuant to and consistent with CEQA Guidelines Sections 15064.5 and 15126.4, Public Resources Code Section 21083.2.</p> <p><i>Timing/Implementation:</i> Prior to ground-disturbing construction activities</p> <p><i>Enforcement/Monitoring:</i> City of San Bernardino Building and Planning Departments</p>	
<p>Impact 3.4-3 No human remains have been identified within The proposed project site; however, implementation of the proposed project could result in the inadvertent disturbance of currently undiscovered human remains. Any discovery of human remains would trigger state law governing the treatment of human remains.</p>	<p>PS</p>	<p>CUL-3a If human remains are encountered, California Health and Safety Code Section 7050.5 requires that no further disturbance occur until the county coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the San Bernardino County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within a reasonable time frame. Subsequently, the NAHC shall identify the most likely descendant within 24 hours of receiving notification from the coroner. The most like descendant shall then have 48 hours to make recommendation and engage in consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.</p>	<p>LS</p>

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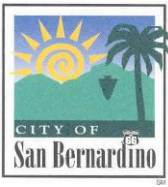
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p><i>Timing/Implementation:</i> During ground-disturbing construction activities</p> <p><i>Enforcement/Monitoring:</i> City of San Bernardino Engineering and Planning Departments</p> <p>CUL-3b All cultural materials, with the exception of sacred items, burial goods, and human remains, collected during the grading monitoring program and from any previous archaeological studies and excavations on the project site shall be curated according to the current professional repository standards. The collections and associated records shall be transferred, including title, to the appropriate tribe's curation facility, which meets the standards set forth in 36 Code of Federal Regulations (CFR) Part 79 regulating federal repositories.</p> <p><i>Timing/Implementation:</i> During ground-disturbing construction activities</p> <p><i>Enforcement/Monitoring:</i> City of San Bernardino Engineering and Planning Departments</p> <p>CUL-3c All sacred sites, should they be encountered on the project site, shall be avoided and preserved as the preferred mitigation, if feasible, as determined by a qualified professional in consultation with the tribe(s). To the extent that a sacred site cannot be feasibly preserved in place or left in an undisturbed state, mitigation shall be required pursuant to and consistent with Public Resources Code Section 21083.2 and CEQA Guidelines Sections 15064.5 and 15126.4.</p> <p><i>Timing/Implementation:</i> During ground-disturbing construction activities</p> <p><i>Enforcement/Monitoring:</i> City of San Bernardino Engineering and Planning Departments</p>	

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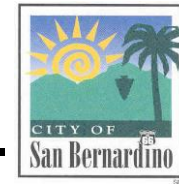
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.4-4 Implementation of the proposed project could cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in Public Resources Code Section 21074.	PS	Compliance with CUL-1, 3a, 3b, and 3c.	LS
Impact 3.4-5 Implementation of the proposed project, along with any foreseeable development in the project vicinity, would not result in cumulative impacts to cultural resources (i.e., prehistoric sites, historic sites, and isolated artifacts and features).	LCC	None required.	LCC
Geology and Soils			
Impact 3.5-1 The proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault or expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	LS	None required.	LS
Impact 3.5-2 The proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction	LS	None required.	LS
Impact 3.5-3 The proposed project would not result in substantial soil erosion or the loss of topsoil.	LS	None required.	LS
Impact 3.5-4 The proposed project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of The proposed project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	LS	None required.	LS

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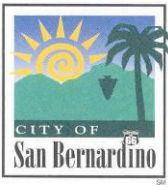
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
<p>Impact 3.5-5 The proposed project site would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.</p>	LS	None required.	LS
<p>Impact 3.5-6 The proposed project could potentially directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p>	PS	<p>GEO-1 Prior to ground-disturbing activities, the project applicant shall retain a qualified paleontologist to monitor all initial ground-disturbing activities in native soils or sediments. If the paleontologist, upon observing initial earthwork, determines there is low potential for discovery, no further action shall be required and the paleontologist shall submit a memo to the City confirming a finding of low potential.</p> <p>Should any paleontological resources (i.e., fossils) be uncovered during project construction activities, all work within a 100-foot radius of the discovery site shall be halted or diverted to other areas on the site and the City shall be immediately notified. The qualified paleontologist shall evaluate the finds and recommend appropriate next steps to ensure the resource is not substantially adversely impacted, including but not limited to avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Further ground disturbance shall not resume within a 100-foot radius of the discovery site until an agreement has been reached between the project applicant, the qualified paleontologist, and the City of San Bernardino as to the appropriate preservation or mitigation measures to ensure that the resource is not substantially adversely impacted.</p> <p><i>Timing/Implementation: Prior to ground-disturbing activities</i></p> <p><i>Enforcement/Monitoring: City of San Bernardino Planning Department</i></p>	LS

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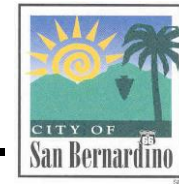
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.5-7 Implementation of the proposed project, in combination with existing, approved, proposed, and reasonably foreseeable development in the City and nearby areas of San Bernardino County, would not contribute to cumulative geologic and soils impacts.	LCC	None required.	LCC
Greenhouse Gas Emissions			
Impact 3.6-1 The proposed project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	LCC	None required.	LCC
Impact 3.6-2 The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	LS	None required.	LS
Hazards and Hazardous Materials			
Impact 3.7-1 The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, nor would it 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.	PS	HAZ-1 If unknown wastes or suspect materials are discovered during construction by the contractor that are believed to involve hazardous waste or materials, the contractor shall comply with the following: <ul style="list-style-type: none"> ▪ Immediately cease work in the vicinity of the suspected contaminant, and remove workers and the public from the area; ▪ Notify the City's Engineer; ▪ Secure the area as directed by the Project Engineer; and ▪ Notify the implementing agency's Hazardous Waste/Materials Coordinator. The Hazardous Waste/Materials Coordinator shall advise the responsible party of further actions that shall be taken, if required. 	LS

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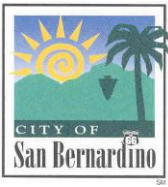
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		<i>Timing/Implementation:</i> During Construction <i>Enforcement/Monitoring:</i> City of San Bernardino Public Works and Planning Departments	
Impact 3.7-2 The proposed project would not emit hazardous emissions or require the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LS	None required.	LS
Impact 3.7-3 The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS	None required.	LS
Impact 3.7-4 The proposed project could expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	LS	None required.	LS
Impact 3.7-5 Implementation of the proposed project in addition to cumulative development in the surrounding region would not result in cumulative hazardous risk impacts.	LCC	None required.	LCC
Hydrology and Water Quality			
Impact 3.8-1 Construction and operation of the proposed project would not violate any water quality standards or waste discharge requirements, create or contribute runoff water or provide substantial additional sources of polluted runoff.	LS	None required.	LS
Impact 3.8-2 Development of the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.	LS	None required.	LS

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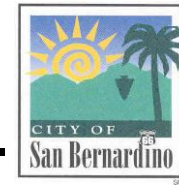
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.8-3 The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site; 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.	LS	None required.	LS
Impact 3.8-4 The proposed project would not 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.	LS	None required.	LS
Impact 3.8-5 The proposed project would not result in cumulative impacts related to hydrology and water quality.	LCC	None required.	LCC
Land Use and Planning			
Impact 3.9-1 The proposed project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over The proposed project adopted for the purpose of avoiding or mitigating an environmental effect.	NI	None required.	NI
Impact 3.9-2 The proposed project would not result in cumulative impacts related to land use and planning.	LCC	None required.	LCC
Noise			
Impact 3.10-1 Implementation of the proposed project could result in the 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.	PS	<i>Construction Noise</i> NOI-1 Prior to commencement of and/or during construction, as appropriate, the Project Applicant shall demonstrate, to the satisfaction of the City of San Bernardino Planning Department that the project complies with the following:	LS

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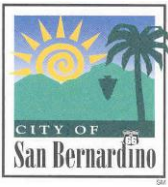
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		<ul style="list-style-type: none"> ▪ Construction contracts specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state required noise attenuation devices. ▪ Property owners and occupants located within 200 feet of the project boundary shall be sent a notice, at least 15 days prior to commencement of construction of each phase, regarding the construction schedule of the proposed project. A sign, legible at a distance of approximately 50 feet shall be posted at the project construction site. All notices and signs shall be reviewed and approved by the City of San Bernardino Planning Department, prior to mailing or posting, and shall indicate the dates and duration of construction activities, as well as provide a contact name and a telephone number where residents can inquire about the construction process and register complaints. ▪ The Contractor shall provide evidence that a construction staff member will be designated as a Noise Disturbance Coordinator and will be present on-site during all construction activities. The Noise Disturbance Coordinator shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the Contractor shall notify the City within 24 hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall implement reasonable measures to resolve the complaint, as deemed acceptable by the Planning Department. All notices that are sent to residential units immediately surrounding the construction site and all signs posted at the construction site shall include the contact name and the telephone number for the Noise Disturbance Coordinator. 	

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		<ul style="list-style-type: none"> ▪ Construction noise reduction methods shall be used where feasible. These reduction methods include shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and electric air compressors and similar power tools. ▪ Construction haul routes shall be designed to avoid noise sensitive uses (e.g., residences, convalescent homes, schools, churches, etc.), to the extent feasible. ▪ During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receptors. <p><i>Timing/Implementation: Prior to Commencement of and During Construction.</i></p> <p><i>Enforcement/Monitoring: City of San Bernardino Planning Department</i></p> <p><i>Operational Noise</i></p> <p>NOI-2A Prior to issuance of a building permit, and prior to final occupancy, the project applicant shall demonstrate that proper sound wall design has been incorporated into the proposed residential and commercial development areas, consistent with Exhibit ES A of the final approved traffic impact analysis, to reduce potential sound levels to below the City's established noise thresholds. The project design shall include construction of a minimum effective 9-foot-high noise barrier for the outdoor living areas (backyards) of lots 47 to 55 and lots 75 to 81 facing Interstate 215 and West Little League Drive. The planned noise barrier shall consist of a combination 1-foot-high berm with an 8-foot-high block wall. In addition, the construction of a minimum effective 7-foot-high noise barrier shall be constructed</p>	

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		<p>for lot 82 facing West Little League Drive. Additionally, 6-foot-high noise barriers shall be constructed for all other lots adjacent to Magnolia Avenue and the commercial retail land use on the project site. All walls shall be constructed on-site consistent with the final improvement plans as approved by the City of San Bernardino.</p> <p><i>Timing/Implementation: Prior to Issuance of Building Permit and Prior to Final Occupancy.</i></p> <p><i>Enforcement/Monitoring: City of San Bernardino Planning Department</i></p> <p>NOI-2B During construction, and prior to final occupancy, the recommended noise control barriers shall be constructed consistent with that shown on the approved Tentative Tract Map so that the top of each wall and/or berm combination extends to the recommended height (as indicated in NOI-2A) above the pad elevation of the lot it is shielding. When the road is elevated above the pad elevation, the barrier shall extend to the recommended height (as indicated in NOI-2A) above the highest point between the residence and the road. The barrier shall provide a weight of at least 4 pounds per square foot of face area with no decorative cutouts or line-of-sight openings between shielded areas and the roadways. The noise barrier shall be constructed using the following materials:</p> <ul style="list-style-type: none"> ▪ Masonry block ▪ Stucco veneer over wood framing (or foam core), or 1-inch-thick tongue and groove wood of sufficient weight per square foot ▪ Glass (0.25 inch thick) or other transparent material with sufficient weight per square foot ▪ Earthen berm 	

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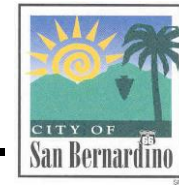
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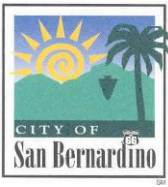
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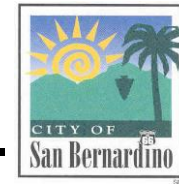
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		<ul style="list-style-type: none"> ▪ Any combination of these construction materials <p>The barrier shall consist of a solid face from top to bottom. Unnecessary openings or decorative cutouts shall not be made. All gaps (except for weep holes) should be filled with grout or caulking.</p> <p><i>Timing/Implementation: During Construction and Prior to Final Occupancy</i></p> <p><i>Enforcement/Monitoring: City of San Bernardino Planning Department</i></p> <p>NOI-3 During construction, and prior to final occupancy, to satisfy the City of San Bernardino's 45 dBA CNEL interior noise level criteria, lots facing Interstate 215, West Little League Drive, and Magnolia Avenue shall require a noise reduction of up to 29.3 dBA and a windows closed condition requiring a means of mechanical ventilation (e.g., air conditioning). To ensure that the City's 45 dBA CNEL interior noise level is met, the following measures shall be implemented:</p> <ul style="list-style-type: none"> ▪ Exterior walls: If wood construction is used, exterior walls shall be furnished on the outside with siding-on-sheathing, stucco, or brick veneer. The interior surface shall be at least 0.5-inch gypsum board. Insulation having a minimum of R-11 shall be placed between the studs. Masonry walls, if used, shall have at least one surface of the wall plastered, painted, or covered with gypsum wallboard or approved materials. At least R-11 insulation shall be placed between the studs. There shall be no direct openings such as mail slots or ventilation units. ▪ Windows: <ul style="list-style-type: none"> ▪ Lots 47 to 55 and lots 75 to 82 facing I-215 require upgraded second-floor windows with a 	

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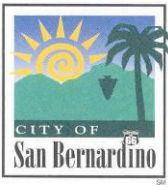
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>minimum sound transmission class (STC) rating of 34.</p> <ul style="list-style-type: none"> ▪ All other windows and sliding glass doors shall be well-fitted, well-weather-stripped assemblies and shall have a minimum STC rating of 27. ▪ Doors: All exterior hinged and sliding glass doors to habitable rooms that are directly exposed to transportation noise and are facing the source of the noise shall be a door and edge seal assembly with a minimum STC rating of 27. ▪ Roof: Roof sheathing of wood construction shall be well-fitted or caulked plywood of at least 0.5 inch thick. Ceilings shall be well-fitted, well-sealed gypsum board of at least 0.5 inch thick. Insulation with at least a rating of R 19 shall be used in the attic space. Skylights shall have a minimum STC of 34. ▪ Attic: Attic ventilation shall be oriented away from Interstate 215. If such an orientation cannot be avoided, an acoustical baffle shall be placed in the attic space behind the vents. ▪ Ventilation: A ventilation system shall be provided that will provide at least the minimum air circulation and fresh air supply requirements of the Building Code in each habitable room without opening any window, door, or other opening to the exterior. All concealed ductwork shall be insulated flexible glass fiber ducting that is at least 10 feet long between any two points of connection. Kitchen cooktop vent hoods shall be the non-ducted recirculating type with no ducted connection to the exterior. ▪ Wall and ceiling openings: Openings in the shell of the residence that degrade its ability to achieve an interior 	

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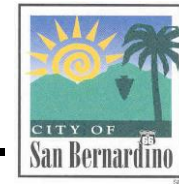
Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>CNEL rating of 45 dBA or less when all doors and windows are closed are prohibited unless access panels, pet doors, mail delivery drops, air conditioning, or other openings are designed to maintain the 45 dBA CNEL (or less) standard in the room to which they provide access.</p> <p><i>Timing/Implementation: During Construction and Prior to Final Occupancy</i></p> <p><i>Enforcement/Monitoring: City of San Bernardino Planning Department</i></p>	
<p>Impact 3.10-2 The proposed project would not cause the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.</p>	LS	None required.	LS
<p>Impact 3.10-3 The proposed project would not cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without The proposed project.</p>	LS	None required.	LS
<p>Impact 3.10-4 The proposed project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without The proposed project.</p>	LS	None required.	LS
<p>Impact 3.10-5 The proposed project is not located in 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, and would therefore not expose people residing or working in the project area to excessive noise levels.</p>	NI	None required.	NI
<p>Impact 3.10-6 The proposed project site is not within the vicinity of a private airstrip, and would therefore not expose people residing or working in the project area to excessive noise levels.</p>	NI	None required.	NI

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Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.10-7 The proposed project site would not result in cumulatively considerable impacts related to noise.	LCC	None required.	LCC
Population and Housing			
Impact 3.11-1 The proposed project would not 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).	LS	None required.	LS
Impact 3.11-2 The proposed project would not result in cumulative impacts related to population and housing.	LCC	None required.	LCC
Traffic and Transportation			
Impact 3.12-1 The proposed project could potentially conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit or 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.	PS	TRA-1 Prior to the issuance of building permits, the project applicant shall be required to construct or pay its fair share to create a second southbound turn lane at the intersection of University Parkway/Kendall Drive (#19). <i>Timing/Implementation:</i> Prior to Issuance of a Building Permit <i>Enforcement/Monitoring:</i> City of San Bernardino Planning and Public Works Departments	LS
Impact 3.12-2 The proposed project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	LS	None required.	LS

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<p>Impact 3.12-3 Construction of the proposed project could result in inadequate emergency access.</p>	PS	<p>TRA-2 The project applicant shall prepare and implement a traffic management plan (TMP) to minimize inconveniences during construction. Included among the provisions, the contractor shall coordinate with the City of San Bernardino, the County of San Bernardino, and local police, fire, and emergency medical service providers regarding construction scheduling and any other practical measures to maintain adequate access to properties and response times. The TMP shall also limit construction activity to the extent feasible and limit all soil export activities to occur outside of the typical weekday morning (7:00 AM to 9:00 AM) and weekday evening (4:00 PM to 6:00 PM) peak commute hours. The TMP shall include contact information for members of the general public who may have questions concerning the project and access to their property. Two-way traffic through the construction zone shall be maintained throughout the construction period.</p> <p><i>Timing/Implementation: Prior to and during construction</i></p> <p><i>Enforcement/Monitoring: City of San Bernardino Public Works and Planning Departments</i></p>	LS
<p>Impact 3.12-4 Implementation of the proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.</p>	LS	None required.	LS
<p>Impact 3.12-5 When considered with existing, proposed, planned, and approved development in the region, implementation of the proposed project would contribute to cumulative traffic volumes in the region that could result in significant impacts to level of service and operations.</p>	CC	<p>TRA-3 The project applicant shall be required to construct or pay its fair share of the following traffic improvements:</p> <p>Palm Avenue/Belmont Avenue (#10)</p> <ul style="list-style-type: none"> ▪ Restripe northbound with one left turn lane and one shared through-right turn lane ▪ One southbound left turn lane ▪ One eastbound left turn lane 	LCC

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		<ul style="list-style-type: none"> ▪ One westbound left turn lane <p>OR</p> <ul style="list-style-type: none"> ▪ Fair Share contribution: 12.1 percent <p>Palm Avenue/Irvington Avenue (#11)</p> <ul style="list-style-type: none"> ▪ Eastbound right turn lane with overlap phase <p>OR</p> <ul style="list-style-type: none"> ▪ Fair Share contribution: 10.9 percent <p>Palm Avenue/I-215 Southbound Ramps (#14) (Measure "I")</p> <ul style="list-style-type: none"> ▪ 2nd Southbound left turn lane <p>Palm Avenue/Hallmark Parkway (#15) (Measure "I")</p> <ul style="list-style-type: none"> ▪ 2nd Northbound through lane ▪ 2nd Southbound through lane <p>University Parkway/Kendall Drive (#19) (Measure "I")</p> <ul style="list-style-type: none"> ▪ 2nd Southbound left turn lane ▪ 1 Northbound right turn lane ▪ 2nd Southbound left turn lane ▪ 3rd Eastbound through lane ▪ 1 Eastbound right turn lane ▪ 3rd Westbound through lane ▪ Modify traffic signal with overlap phasing on the Northbound and Eastbound right turn lanes 	

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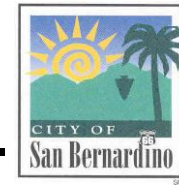
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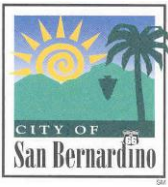
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Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Utilities, Public Services, and Recreation			
Impact 3.13-1 The proposed project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	LS	None required.	LS
Impact 3.13-2 The proposed project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	LS	None required.	LS
Impact 3.13-3 The proposed project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	LS	None required.	LS
Impact 3.13-4 The proposed project would have sufficient water supplies available to serve The proposed project from existing entitlements and resources.	LS	None required.	LS
Impact 3.13-5 The proposed project would not result in a determination by the wastewater treatment provider which serves or may serve The proposed project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	LS	None required.	LS
Impact 3.13-6 Construction of The proposed project will be served by a landfill with sufficient permitted capacity to accommodate The proposed project's solid waste disposal needs.	LS	None required.	LS
Impact 3.13-7 The proposed project would comply with federal, state, and local statutes and regulations related to solid waste.	LS	None required.	LS

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Impact 3.13-8 The proposed project would not result in cumulative impacts related to utilities.	LCC	None required.	LCC
Impact 3.13-9 The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities for fire protection.	LS	None required.	LS
Impact 3.13-10 The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities for police protection.	LS	None required.	LS
Impact 3.13-11 The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities for schools.	LS	None required.	LS
Impact 3.13-12 The proposed project would not result in cumulative impacts related to public services.	LCC	None required.	LCC
Impact 3.13-13 The proposed project would not result in increased use of existing and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	LS	None required.	LS
Impact 3.13-14 The proposed project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	LS	None required.	LS
Impact 3.13-15 The proposed project would not result in cumulative impacts related to recreation.	LCC	None required.	LCC

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1.0 Introduction

1.1 Purpose of the EIR

This Draft Environmental Impact Report (Draft EIR) was prepared in accordance with and in fulfillment of the California Environmental Quality Act (CEQA). An EIR is described in CEQA Guidelines Section 15121(a) as a “public informational document that analyzes the environmental effects of a project, identifies ways to minimize the significant impacts, and describes reasonable alternatives to the project.” CEQA requires the preparation of an EIR prior to approving any project that may have a significant effect on the environment.

A “project” refers to the whole of an action that has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]). With respect to the proposed project, the City of San Bernardino (City), as the lead agency, has determined that adoption and implementation of the proposed Rancho Palma project is a project within the CEQA definition.

1.2 Project Summary

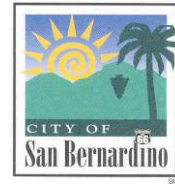
The proposed project (Rancho Palma) is located in the City of San Bernardino, in San Bernardino County, California (see [Figure 2-1, Regional/Local Vicinity Map](#)). The proposed project requires City approval of a Specific Plan, Tentative Tract Map, and Conditional Use Permit for proposed development of residential and commercial uses, along with associated infrastructure and landscaping improvements. Rancho Palma proposes a Specific Plan to allow future development of up to 120 single-family residential dwelling units and up to 98,000 square feet of commercial uses. In addition, two private parks and a paseo are proposed in the residential area, along with a private recreational vehicle (RV) storage lot. Approximately 0.5 acre of parkland would also be dedicated as part of the project for the expansion of the existing Ronald Reagan Park. The project is intended to provide a mixed-use neighborhood that would offer additional shopping and commercial services within walking distance for residents of Rancho Palma and the Verdemon Heights neighborhood, as well as to capture regional traffic along adjacent Interstate 215 (I-215). Access to the project site would be provided via West Little League Drive and (proposed) Magnolia Avenue.

1.3 Type of Document

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a project EIR pursuant to CEQA Guidelines Section 15161. The analysis associated with a project EIR focuses on the changes in the environment that would occur as a result of project implementation and examines all phases of the project (i.e., planning, construction, and operation).

1.4 Organization and Scope

Sections 15122 through 15132 of the CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, identification of significant irreversible



environmental impacts, and growth-inducing and cumulative impacts. The environmental issues addressed in this EIR were established through review of environmental documentation developed for the site, environmental documentation for nearby projects, and responses to the Notice of Preparation (NOP). Based on these comments, agency consultation, and review of the proposed project application, the City has determined the scope for this EIR.

This Draft EIR is organized in the following manner:

- ES – Executive Summary
This section provides a project narrative and identifies environmental impacts and mitigation measures in a summary table consistent with CEQA Guidelines Section 15123.
- Section 1.0 – Introduction
Section 1.0 provides an introduction and overview of the project EIR.
- Section 2.0 – Project Description
This section describes the proposed project in detail, including intended objectives, background information, and physical and technical characteristics.
- Section 3.0 – Environmental Analysis
This section contains an analysis of environmental topic areas as identified below. Each subsection contains a description of the project area’s existing setting and of the regulatory environment, identifies standards of significance, identifies project-related and cumulative impacts, and recommends mitigation measures.

The major environmental topics are addressed in the following sections:

- 3.1 Aesthetics and Visual Resources
- 3.2 Air Quality
- 3.3 Biological Resources
- 3.4 Cultural Resources
- 3.5 Geology and Soils
- 3.6 Greenhouse Gas Emissions
- 3.7 Hazards and Hazardous Materials
- 3.8 Hydrology and Water Quality
- 3.9 Land Use and Planning
- 3.10 Noise
- 3.11 Population and Housing
- 3.12 Traffic and Transportation



- 3.13 Utilities, Public Services, and Recreation
- 3.14 Effects Found not to be Significant
- Section 4.0 – Alternatives

CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project which could feasibly attain the basic objectives of the project and avoid and/or substantially lessen any of the significant effects of the project. This section discusses alternatives to the proposed project, including the CEQA-mandated “No Project Alternative,” that are intended to avoid or reduce the proposed project’s significant environmental impacts.
- Section 5.0 – Other CEQA Considerations

This section contains discussions and analysis of various topical issues mandated by CEQA. These topics include significant environmental effects that cannot be avoided if the project is implemented, as well as growth-inducing impacts.
- Section 6.0 – Preparers

This section lists all authors and agencies that assisted in the preparation of the EIR by name, title, and company or agency affiliation.
- Appendices

This section includes all notices and other procedural documents pertinent to the EIR, as well as all technical material prepared to support the analysis.

1.5 Environmental Review Process

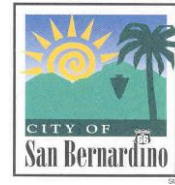
The review and certification process for the EIR involves the following procedural steps:

1.5.1 Notice of Preparation

In accordance with CEQA Guidelines Section 15082, the City prepared a Notice of Preparation of an EIR for the project and circulated the document from March 28, 2016 to April 28, 2016. The NOP was circulated to the public, local, state, and federal agencies, and other interested parties to solicit comments on the proposed project. A scoping meeting was held on April 28, 2016 to solicit input from interested agencies and the public. Written and verbal comments were received at the scoping meeting and are summarized in [Appendix 1-1](#) of this Draft EIR.

1.5.2 Draft EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the proposed project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives. Upon completion of the Draft EIR, the City will file the Notice of Completion (NOC) with the California Office of Planning and Research (OPR) to begin the public review period (Public Resources Code Section 21161).



1.5.3 Public Notice/Public Review

Concurrent with the NOC, the City will provide public notice of the availability of the Draft EIR for public review and will invite comment from the general public, agencies, organizations, and other interested parties. Public comment on the Draft EIR will be accepted in written form via common carrier or in electronic mail (e-mail) form. Public comment will also be accepted orally at a public hearing to be held at a publicly noticed date and time. All comments or questions regarding the Draft EIR should be addressed to:

City of San Bernardino
Rancho Palma Project EIR
Community Development Department
300 North "D" Street, 3rd Floor
San Bernardino, CA 92418
Attention: Oliver Mujica
mujica_ol@sbcity.org

1.5.4 Response to Comments/Final EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period and will contain any revisions to the Draft EIR.

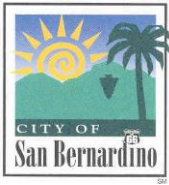
1.5.5 Certification of the EIR/Project Consideration

The City of San Bernardino Planning Commission will review and consider the Final EIR and may recommend that the City Council certify the Final EIR if the Council finds the document to be adequate and complete. The rule of adequacy generally holds that the Final EIR can be certified if it shows a good faith effort at full disclosure of environmental information and provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of its environmental consequences. Note that certification of the EIR does not automatically result in project approval.

Upon review and consideration of the Final EIR, the Planning Commission may take action to recommend that the City Council approve, revise, or reject the proposed project. Any decision to approve the proposed project will be accompanied by written findings in accordance with CEQA Guidelines Section 15091. If applicable, the City Council may approve the project even with significant and unavoidable environmental impacts by adopting a statement of overriding considerations as outlined in CEQA Guidelines Section 15093.

1.5.6 Mitigation Monitoring and Reporting Program

CEQA Section 21081.6(a) requires lead agencies to adopt a Mitigation Monitoring and Reporting Program (MMRP) to describe measures that have been adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The specific reporting or monitoring program required by CEQA is not required to be included in the EIR. However, it will be presented to the Planning Commission for adoption. Throughout the EIR, mitigation measures have been clearly identified and presented in language that will facilitate



establishment of an MMRP. Mitigation measures adopted by the City as conditions for approval of the project will be included in an MMRP to verify compliance.

1.6 Comments Received on the Notice of Preparation

The City received five (5) comment letters on the Notice of Preparation (NOP) for the proposed project. A copy of the NOP and each comment letter received is provided in [Appendix 1-1](#) of this Draft EIR. These comments have been taken into consideration in preparation of this Draft EIR and key issues identified are briefly summarized below.

Table 1.0-1 Comments on the Notice of Preparation

Commenter/Agency	Comment Summary
California Department of Fish and Wildlife	<ul style="list-style-type: none"> • The commenter recommends the following be included in the EIR: <ul style="list-style-type: none"> ○ A floristic (alliance and/or association) based mapping and assessment. ○ A general biological inventory of the fish, amphibian, reptile, bird, and mammal species that are present or have the potential to be present. ○ A complete, recent inventory of rare, threatened, endangered, and other sensitive species located within the project footprint and within offsite areas with the potential to be affected. ○ A thorough and recent floristic-based assessment of special-status plants and natural communities. ○ Information on the regional setting. ○ Cumulative impacts from lighting, noise, human activity, and human interactions created by the project. ○ Indirect project impacts on biological resources, adjacent public lands and natural habitats, open space, riparian ecosystems, wildlife corridors, and any designated and/or proposed reserve or mitigation lands. ○ An evaluation of construction and projects impacts to adjacent open lands. ○ Cumulative effects analysis developed as described under CEQA Guidelines Section 15130. • The commenter also recommends the following measures be included to avoid, minimize, or mitigate impacts: <ul style="list-style-type: none"> ○ Avoidance, minimization, and mitigation measures to fully protected species ○ Avoidance and protection of sensitive plant communities from project related direct and indirect impacts ○ Mitigation for any project-related impacts to sensitive species and habitats ○ Habitat Revegetation/Restoration Plans ○ Nesting Birds and Migratory Bird Treaty Act ○ Retainment of Department-approved biologist to be onsite prior to and during all ground- and habitat-disturbing activities ○ Species translocation is generally not supported by the Department • The commenter encourages a California Endangered Species Act (CESA) Incidental Take Permit (ITP) be obtained if the project has the potential to result in a "take." • The commenter will determine whether proposed project activities may substantially adversely affect existing fish and wildlife resources and whether a Lake and Streambed Alteration (LSA) Agreement is required. • The commenter recommends xeriscaping due to drought conditions.
Native American Heritage Commission	<ul style="list-style-type: none"> • The commenter lists requirements of AB-52. • The commenter lists requirements of SB-18. • The commenter lists recommendations for cultural resources assessments.
San Bernardino County Department of Public Works	<p>The commenter includes the following contact information for project specific items:</p> <ul style="list-style-type: none"> • Permits/Operations Support Division (Melissa Walker) – For Flood Control Permits. • Flood Control Planning Division (David Lovell) – For flood control works. • Environmental Management Division (Brandy Wood) – For projects within proximity to SBKR habitat.

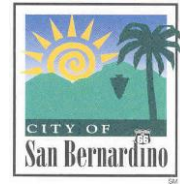


Table 1.0-1, continued

Commenter/Agency	Comment Summary
Southern California Association of Governments	<ul style="list-style-type: none">• The commenter requests consistency with RTP/SCS and the 2016 RTP/SCS goals listed in the comment letter and 2016 RTP/SCS Strategies.• The commenter includes a growth forecast table with adopted SCAG and City of San Bernardino forecasts.• The commenter recommends the Final PEIR be reviewed for potential relevant mitigation measures.
South Coast Air Quality Management District	<ul style="list-style-type: none">• The commenter recommends the use of CEQA Air Quality Handbook (1993) be used to assist with the preparation of air quality analyses.• The commenter lists possible sources to assist with identifying mitigation measures, if necessary, for the proposed project.



2.0 PROJECT DESCRIPTION

2.1 Environmental Location and Setting

The proposed Rancho Palma project (proposed project) is located in the City of San Bernardino in southwestern San Bernardino County, California. The site is located in the Verdemont Heights community at the base of the San Bernardino Mountains; refer to [Figure 2-1, Regional/Local Vicinity Map](#).

2.2 Project Setting

2.2.1 Regional Setting

The project site is located in southwestern San Bernardino County and is positioned along the southern side of the San Bernardino Mountains, in the Verdemont area of San Bernardino County. Regional access to the project area is provided via I-215, which generally trends northwest to southeast in the project vicinity and is approximately 0.02 mile to the southwest of the subject property. Interstate 15 (I-15) generally trends southwest/northeast in the project area and provides connection to I-215 approximately 3 miles to the northwest of the project site. Historic Route 66 (Cajon Boulevard) is approximately 0.25 mile to the southwest of the site and generally parallels the alignment of I-215 in the project vicinity. Direct access onto Palm Avenue (near the eastern boundary of the site) is currently available from I-215.

2.2.2 Local Setting

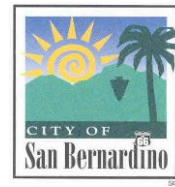
The approximately 42-acre project site is located north of West Little League Drive and west of Palm Avenue. Primary access to the site is presently provided from West Little League Drive, which forms the southwest border of the property. Cable Creek Channel forms the northeast border of the site, except for approximately 0.5 acre adjacent to Ronald Reagan Park. The County Assessor's Parcel Numbers (APNs) associated with the project are 0261-181-01, 0261-181-13, 0261-181-14, 0261-181-15, and 0261-182-10, totaling approximately 42 acres.

2.2.3 Environmental Setting

The subject property is presently undeveloped; refer to [Figure 2-7, On-site Photographs](#). The site lies to the east of Cajon Creek Wash. An approximately 475-foot stretch of Cable Creek traverses the northern portion of the project site. The majority of the project site's northern boundary is formed by the levee along Cable Creek. Main access to the site is currently provided from West Little League Drive, which forms the southwestern border of the project site.

On-site elevations range from approximately 1,730 feet above mean sea level (amsl) in the southern portion of the site to approximately 1,765 feet amsl in the northern portion. As such, the site is relatively flat, and no substantial landforms (i.e., steep slopes, mountains) are present.

Currently, regular disking for weed abatement appears to be occurring on the site, as it has apparently occurred for at least the past 12 years; refer to [Figure 2-7, On-site Photographs](#). The project site is completely disturbed, and there is evidence of household waste dumping. Only bare



ground and non-native and ruderal vegetation exists on the majority of the subject property (south of the levee). Numerous non-native olive trees line the northwestern boundary of the site, adjacent to the southeast side of the Magnolia Avenue alignment.

Hydrologically, the Verdemont area is located in the Cable Creek Sub-unit, which comprises a 22-square-mile drainage area in the larger Santa Ana River watershed. The closest tributary to the Santa Ana River is Lytle Creek Wash, located approximately 2 miles southwest of the project site and west of Cajon Wash. Cable Creek is tributary to Cajon Wash, which flows adjacent to the project site, approximately 0.63 mile to the west. Cajon Wash converges with Lytle Creek Wash approximately 8.3 miles northwest (upstream) of the Lytle Creek/Santa Ana River confluence. The Santa Ana River watershed is located in Southern California, south and east of the City of Los Angeles. The watershed includes much of Orange County, the northwestern corner of Riverside County, the southwestern corner of San Bernardino County, and a small portion of Los Angeles County. The watershed is bounded on the south by the Santa Margarita watershed, on the east by the Salton Sea and Southern Mojave watersheds, and on the northwest by the Mojave and San Gabriel watersheds. The watershed is approximately 2,800 square miles in area.

The existing Cable Creek Channel currently provides flood control protection for the project site. The channel is maintained and operated by the San Bernardino County Flood Control District. The project site currently drains to the intersection of Palm Avenue and Little League Drive. Stormwater from the site flows across the property and in a roadside swale to a catch basin and pipe connection to Cable Creek at the Palm Avenue Bridge. Such flows currently result in flooding and debris deposition in the roadway of Little League Drive.

The 0.5-acre portion of the project site that is adjacent to the north side of Cable Creek is highly disturbed. Vegetation on this portion of the site generally consists of non-native ruderal species. Native plant species observed in this area include mulefat, hairy yerba santa, buckwheat, sunflower, and scalebroom. The majority of plant species observed on this portion of the site are non-native invasive species including giant reed, star thistle, redstem stork's bill, shortpod mustard, tree tobacco, Russian thistle, tamarisk, and puncturevine.

Average annual maximum temperatures in the San Bernardino area typically peak at 96 degrees Fahrenheit (°F) in August and fall to an annual minimum temperatures of 41°F in December. Average annual precipitation is greatest from December through March and reaches a peak in February (3.83 inches). Annual precipitation averages 22.6 inches.

Public Services

Fire Protection

The City of San Bernardino Fire Department would provide fire protection services for the project. The nearest fire station to the site is Fire Station 232 located at 6065 Palm Avenue, immediately east of the subject property across Palm Avenue (City of San Bernardino Fire Department 2016).

Law Enforcement

The main headquarters for the City of San Bernardino Police Department are located at 710 N. D Street, approximately 6.9 miles to the southeast of the site. The project site is located in the



northwest district (one of four established districts) and in Baker Beat B1 (City of San Bernardino Police Department 2016).

Schools

School-aged children living in Rancho Palma would attend either North Verdemont Elementary School (public, grades kindergarten to 6) at 3555 West Myers Road, approximately 0.4 mile north of the project site, or Palm Avenue Elementary School (public school, grades kindergarten to 6) at 6565 Palm Avenue, approximately 0.6 mile northeast of the site. Children in grades 6 through 8 would attend Cesar E. Chavez Middle School (public) at 6650 Magnolia Avenue, approximately 0.2 mile north of the site. Children in grades 9 through 12 would attend Cajon High School (public) at 1200 West Hill Drive, approximately 3.2 miles to the southeast of the site (San Bernardino City Unified School District 2016).

Domestic Water & Wastewater

The City of San Bernardino Municipal Water Department would provide domestic water and wastewater service for the project.

2.2.4 Surrounding Land Uses

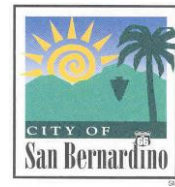
The Platinum Soccer Complex is immediately adjacent to the project site on the west. To the northwest is the Little League Baseball Western Region Headquarters, and to the north are Al Guhin Park, Cesar E. Chavez Middle School, and North Verdemont Elementary School. To the northeast are the Cable Creek Channel, Ronald Reagan Park, and the Verdemont Heights neighborhood. To the east is Palm Avenue, along which a number of small-scale commercial uses (i.e., convenience store/gas station, restaurants) are present. To the southeast are existing commercial businesses, Palm Avenue and the Palm Avenue/I-215 interchange, the Verdemont Heights neighborhood, and industrial uses. To the south is an existing commercial center at the intersection of Palm Avenue and West Little League Drive. To the southwest of the site is West Little League Drive, which is located adjacent to I-215.

2.3 Project Description

2.3.1 Project Overview

The proposed project includes preparation of a Specific Plan (Rancho Palma Specific Plan) to allow for future development of a mixture of residential and commercial uses on the subject site. The project allows up to 120 single-family residential dwelling units located in two residential planning areas, and up to 98,000 square feet of commercial uses in one planning area. [Figure 2-2, Land Use Plan](#), depicts the land uses proposed in the Rancho Palma Specific Plan. The residential areas are designed to provide a gated single-family community with access to a variety of recreational opportunities. The commercial planning area is designed to provide retail opportunities for local residents, as well as to take advantage of the adjacent regional traffic along Interstate 215 (I-215).

In addition to the residential and commercial components, two private parks and a paseo are provided in the residential area, along with a private recreational vehicle (RV) storage lot, and approximately one-half acre of parkland that will be dedicated for the expansion of the existing Ronald Reagan Park. [Table 2-1, Land Use Summary](#), depicts the land uses proposed in the Rancho

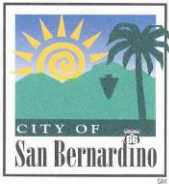


Palma Specific Plan. Ornamental landscaping will be installed to enhance the overall visual appearance of the development, provide visual screening (where appropriate), and reinforce the intended design theme and character; refer to [Figure 2-3, Conceptual Landscape Plan](#).

2.3.2 Project Objectives

The following basic objectives have been identified to guide future development of the proposed project. The objectives also provide a basis for evaluation of the project alternatives described in this EIR.

1. Establish a mixed-use community for the Verdemont Heights community with a balance of land uses including commercial, single-family housing, and recreation.
2. Deliver an appropriately sized neighborhood commercial center that provides a mix of retail uses with employment growth and increased sales tax for San Bernardino.
3. Provide new single-family housing in the Verdemont Heights community with two lot size categories and corresponding home sizes to serve a variety of future residents.
4. Increase the Verdemont Heights community's recreation opportunities by expanding the size and/or amenities of Ronald Reagan Park.
5. Adopt appropriate standards and design guidelines to implement the development to ensure compatibility with surrounding neighborhoods.
6. Promote a sense of community and character by providing neighborhood signage and monumentation.
7. Create a pedestrian environment with walkable parks and commercial uses.
8. Provide a fiscally sound project that provides for ongoing maintenance and operation of neighborhood parks and streets with the additional sales tax revenues from the commercial uses.
9. Improve circulation in the Verdemont Heights community with improvements of West Little League Drive and Magnolia Avenue adjacent to the project.
10. Facilitate additional public parking with the improvement of West Little League Drive and Magnolia Avenue.
11. Reduce the need for overnight parking of RV units on the street or driveways with the provision of a RV storage yard.
12. Reduce water consumption through the use of native, drought-tolerant landscaping and "smart" irrigation systems.
13. Promote a "green" project with water- and energy-saving measures as defined in Chapter 5, Sustainable Guidelines, of the Rancho Palma Specific Plan.



2.3.3 Proposed Development

RESIDENTIAL COMPONENT (PLANNING AREAS 1 AND 2)

The project proposes future development of a maximum of 120 single-family residential dwelling units (DU). Access to the residential development areas would be provided from West Little League Drive and Magnolia Avenue. Two residential lot sizes are proposed of 5,000 or 7,000 square feet in size. Planning Area 1 is proposed to accommodate 63 residential DUs, with a maximum of 70 DUs, with a minimum lot size of 7,000 square feet. Planning Area 2 is proposed to accommodate 57 DUs with a maximum of 62 DUs, with a minimum lot size of 5,000 square feet. Refer to [Table 2-1](#) for further explanation of planned and maximum units allowed by the Specific Plan. The proposed residential areas would be gated with access provided from private streets.

The Rancho Palma Specific Plan includes architectural guidelines for future development of the residential area, which states “The proposed architectural styles for the residential uses would include, but are not limited to, California Ranch, Craftsman, and Spanish. The residential architectural styles chosen are intended to reflect the heritage of the Verdemon Heights community. Such styles are considered appropriate to the climate zone, and their inherent attractiveness, informality, and charm have enabled these styles to remain popular over many decades in the local community.”

COMMERCIAL COMPONENT (PLANNING AREA 3)

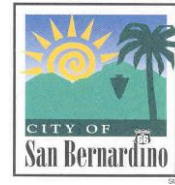
The proposed commercial area would allow for a maximum of 98,000 square feet of commercial uses. The commercial area is proposed in the eastern portion of the project site, in proximity to an existing commercial center and I-215. The proposed commercial area is intended to serve as a visual “gateway” into the project site. Land uses allowed in the commercial area would include those permitted in the CG-1 (Commercial General) zone, as identified in the City of San Bernardino Development Code, Chapter 19.06. Refer to Section 3.1.4, Permitted Uses, of the Rancho Palma Specific Plan for additional discussion of permitted uses.

A pedestrian-scale commercial plaza is also proposed as part of the commercial uses to attract customers to the commercial center and provide a public space for shoppers and workers to gather and relax. This space may also be used for outdoor dining and, on occasion, for special events. The concept plan for the plaza is depicted on [Figure 2-4, Commercial Plaza Concept](#).

The Rancho Palma Specific Plan includes architectural guidelines for future development of the commercial area, which is intended to provide an “...inviting environment that offers an enhanced pedestrian experience. Design features are proposed to promote and create visually interesting and balanced architectural elements that maintain a distinct quality and cohesive built pattern. Such elements are intended to be compatible with the proposed residential uses and visually united through installation of project landscaping.”

RECREATIONAL COMPONENT

A neighborhood park, a pocket park, and a paseo are planned for the residential use neighborhoods. Maintenance for the neighborhood/linear park, pocket park, and paseo would be



the responsibility of the Rancho Palma Homeowners Association (HOA). The final locations and configurations of the pocket park, paseo, recreational vehicle storage lot, and/or drainage basin would be determined during the site planning process. Refer to [Figure 2-3, Conceptual Landscape Plan](#), which shows the locations of these planned amenities, and [Figures 2-5A to 2-5D](#) for conceptual designs of the proposed recreational areas.

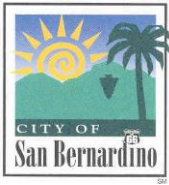
The neighborhood/linear park would be approximately 1.4 acres in size and would be located in the northern portion of Planning Area 1; refer to [Figure 2-5A, Neighborhood Park Concept](#). The park would be private and reserved for use by Rancho Palma residents. The park would offer open play turf areas, pathways, picnic nodes, and a playground area. A horseshoe court or other activity area may also be provided.

The pocket park would be approximately 0.2 acre in size and would be located in the southern portion of Planning Area 2; refer to [Figure 2-5B, Pocket Park Concept](#). The park would offer opportunities for passive and/or active recreation, which may include bocce ball or similar activities.

A paseo (approximately 0.1 acre) is planned in Planning Area 2 to include a meandering walkway, landscaping enhancements, and benches; refer to [Figure 2-5C, Water Quality Basin and Paseo](#). The paseo would provide connection (via gated access) from Planning Area 2 to the commercial uses in Planning Area 3. A vegetated area (approximately 0.34 acre) is proposed adjacent to the paseo that would serve as a water quality basin for the purposes of on-site stormwater treatment. The water quality basin would be fenced and would not be used for recreational purposes.

Additionally, an approximately 0.5-acre private RV storage lot is proposed adjacent to the residential uses; refer to [Figure 2-2, Land Use Plan](#). Access to the RV storage lot would be managed by the homeowners' association. Landscape screening would be provided to limit views into the lot from adjacent properties.

The project also proposes to dedicate approximately 0.5 acre of land to the City to allow for expansion of the existing Ronald Reagan Park; refer to [Figure 2-5D, Ronald Reagan Park Expansion Concept](#). This land area is located just north of (and adjacent to) the Cable Creek Channel. Dedication of the land for the park is aimed at assisting the City in providing additional recreational opportunities in the form of public parkland for residents and, in particular, for residents of the Verdemont Heights Community. It is anticipated that park amenities installed with the proposed project improvements may include an informational kiosk, gazebo, concrete walkway, landscaping enhancements, and a small vegetated area for active and/or passive recreation. As the park would be dedicated to the City for public use, the City would be responsible for long-term operation and maintenance requirements. Dedication and improvement of the park would be consistent with the proposed project objective to "increase the Verdemont Heights Community's recreation opportunities by expanding the size and/or amenities of Ronald Reagan Park." Additionally, the project would contribute to the City's General Plan goal of improving "the quality of life in San Bernardino by providing adequate parks and recreation facilities and services to meet the needs of our residents" (Goal 8.1 of Chapter 8, Parks, Recreation, and Trails).



OPEN SPACE COMPONENT

An approximately 475-foot stretch of Cable Creek traverses the northern portion of the project site and is contained in a concrete channel/levee system maintained and operated by the San Bernardino County Flood Control District. The majority of the northern boundary of the project site is formed by the Cable Creek levee. As shown in [Figure 2-2, Land Use Plan](#), the approximately 3.5-acre portion of levee within the property boundary is proposed to remain as designated open space, and no disturbance of the levee is required or proposed with project implementation. However, any project-related improvements affecting the right-of-way of the channel/levee would require issuance of a Flood Control Permit from the San Bernardino County Flood Control District.

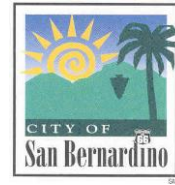
ACCESS, CIRCULATION, AND PARKING

Regional access to the site would be provided from I-215 via the Palm Avenue interchange. Local access to the proposed residential areas would be via two main access drives, one from West Little League Drive and one from (future) Magnolia Avenue, off of West Little League Drive. The access from West Little League Drive would be restricted to entry by residents only; guests would be permitted to access the site using the gated entrance off (future) Magnolia Drive. Both of these drives would be gated at the entrance into the proposed development. Access into the commercial center would be via two main access points and a delivery entrance from West Little League Drive; refer to [Figure 2-2, Land Use Plan](#), for the proposed access/circulation plan.

West Little League Drive presently has a 60-foot right-of-way; Magnolia Avenue has a 65-foot right-of-way, which includes a 5-foot-wide landscaped area. Five-foot-wide pedestrian sidewalks would be provided along both sides of West Little League Drive along the project frontage and along both sides of (future) Magnolia Avenue with project implementation. Magnolia Avenue would be improved along the northern property line of Rancho Palma from West Little League Drive to a proposed cul-de-sac located just west of the Cable Creek Channel; refer to [Figure 2-6, Streetscape Sections](#), which shows the intended roadway improvements.

The interior private roadway system for Rancho Palma would be designed to the City's local street design standards, with a 50-foot right-of-way, 36-foot paved street width (two 18-foot wide travel lanes), and a 4-foot-wide sidewalk constructed along each side of the roadway to provide a pedestrian linkage to on-site land uses, including the commercial center, as well as to adjacent off-site land uses.

On-street parking would be provided along the proposed interior roadways. Additionally, it should be noted that attendees of events held at the Platinum Soccer Complex adjacent to the east of the site frequently park along West Little League Drive. Consistent with the project objective to "facilitate additional public parking with the improvement of West Little League Drive and Magnolia Avenue," construction of offsite project roadway improvements, as described above, would not restrict or prohibit the continuation of public parking along West Little League Drive. On-street parking would be provided along both sides of West Little League Drive and (future) Magnolia Avenue with project implementation; refer to [Figure 2-6, Streetscape Sections](#), of this EIR. Additionally, parking for the proposed commercial uses would be provided onsite consistent with parking ratios established by the City, and as addressed in the Rancho Palma Specific Plan.



LANDSCAPING

The Rancho Palma Specific Plan includes a landscape design theme for Rancho Palma intended "...to reflect a "California vineyard theme" with respect for the region's agricultural heritage. The intent is to provide a sensitive landscape design that also conserves valuable natural resources and creates a noteworthy community in the City. Landscaping materials are intended to provide a sustainable setting that would offer linkage between the natural and built environments and that would enhance the setting experienced by users." *Figure 2-3, Conceptual Landscape Plan*, illustrates the proposed landscape design for Rancho Palma. A number of sustainable design features and practices to be used and/or considered for project landscaping are identified in Section 4.4, Landscape Guidelines, of the Rancho Palma Specific Plan.

LAND USE AND ZONING

The existing General Plan land use designation for the site is Commercial General (CG-1). This land use category is intended for local- and regional-serving retail, personal service, entertainment, office, and other related commercial uses. Limited residential uses are also allowed with City approval of a Conditional Use Permit (CUP).

Existing zoning for the site is Commercial General (CG-1). Varying uses are allowed with approval of a Development Permit and include convenience or administrative and professional offices and services, drugstores, medical offices, banks, restaurants, general merchandising, liquor stores, car sales, nurseries, dry cleaners, health/athletic clubs, and mixed-use commercial and residential uses, among others. Residential housing is allowed with City approval of a CUP.

City approval of the proposed CUP would ensure the project remains consistent with the General Plan and the Municipal Code. Because the proposed uses are consistent with existing conditions with approval of a CUP, a General Plan Amendment (GPA) or zone reclassification to change the underlying land use or zoning from CG-1 is not required or proposed.

The Rancho Palma Specific Plan would serve to implement the City of San Bernardino General Plan on the subject property. The Specific Plan would constitute the zoning for the Rancho Palma site. The development standards in the Specific Plan would take precedence over any other provisions of the City's Municipal Code. However, where the Specific Plan remains silent, the regulations of the City of San Bernardino Development Code (Title 19 of the Municipal Code) would apply.

UTILITIES AND PUBLIC SERVICES

Utilities

Domestic Water

The project will construct a water line within Little League Drive to connect to an existing 24-inch water line located just south of the Magnolia Avenue/Little League Drive intersection. This water line will connect to an existing 16-inch water line located adjacent to the proposed commercial area, just north of Palm Avenue. Domestic water service for the residential uses would be via a



proposed 8-inch looped water system located within the local streets. A looped water system would also be installed to provide water distribution in the commercial use area.

Wastewater/Sewer

The project will construct an 8-inch sewer line within the local streets connect to the existing 15-inch sewer line in Little League Drive.

Drainage/Stormwater

Project improvements include resizing of the connection to Cable Creek and extension of a storm drain located upstream in Little League Drive to collect stormwater flows from the project site. Flows from the project site would be delivered to the City's existing storm drain system through a series of catch basins and reinforced concrete pipes. A new storm drain is proposed to be constructed in the Little League Drive right-of-way to connect to existing facilities located at Palm Drive and Cable Creek Channel.

GRADING

A site-specific grading plan has not yet been prepared for the project as proposed. However, based on existing on-site grades, it is anticipated that maximum cut and fill slopes would be on the order of five feet or less in height. A grading plan will be prepared at a future date, consistent with City of San Bernardino engineering design requirements, when project-specific development is proposed.

PHASING

It is anticipated that the Rancho Palma Specific Plan would be constructed over two phases. Phase 1 would involve development of Planning Areas 1 and 2 which includes the residential component of the project, the two private parks, and the dedication of approximately 0.5 acre to the City of San Bernardino for expansion of Ronald Reagan Park. Phase 2 would include development of Planning Area 3 which includes the commercial component of the project. However, the project applicant may elect to construct both Phases 1 and 2 at the same time.

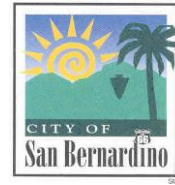
MAINTENANCE

A homeowners' association would be established and would be responsible for long-term maintenance of the project improvements in Planning Areas 1 and 2. The HOA will be responsible for maintenance of the private streets, private parks, gate access, walls/fences, and drainage basin. Maintenance of the commercial center would be the responsibility of the commercial property owner and/or operator.

2.4 Agreements, Permits, And Approvals

2.4.1 Project Approvals/Permits

In conformance with CEQA Guidelines Sections 15050 and 15367, the City of San Bernardino is designated the lead agency, which is defined as the public agency that has the principal responsibility for carrying out or approving a project. Responsible agencies are those agencies



with discretionary approval over one or more actions involved with development of a project. Trustee agencies are state agencies having discretionary approval or jurisdiction by law over natural resources affecting a project.

Site development would be facilitated through the City's adoption and implementation of the Rancho Palma Specific Plan, which would serve as the comprehensive development control document for the project. The Specific Plan is required to identify the intended type, location, intensity, and character of future land uses on the site, as well as to identify the infrastructure necessary to support such development. The Rancho Palma Specific Plan acts as a regulatory plan and would serve to govern zoning for the site. All future development needed to implement the project approvals (i.e., Tentative Tract Map) must be consistent with the Specific Plan. If a conflict occurs between the Specific Plan and other provisions the City's Zoning Ordinance, the Specific Plan would prevail.

It should also be noted that there are potentially jurisdictional waters associated with the subject site. Much of the northern boundary of the project site abuts the levee on the south side of Cable Creek, and an approximately 475-foot stretch of Cable Creek traverses the northern portion of the property. Cable Creek is an ephemeral stream tributary to Cajon Wash. The stretch of Cable Creek adjacent to and within the project site consists of an improved and maintained channel. Cable Creek is a jurisdictional water subject to the Clean Water Act (CWA) and the California Fish and Game Code under the jurisdiction of the US Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW), respectively. The project proposes minor modifications to ensure flows remain entrenched in Cable Creek. Any project-related impacts to Cable Creek would likely require a Streambed Alteration Agreement from the CDFW and Clean Water Act Sections 401/404 permits from the RWQCB and USACE, respectively. Refer also to [Section 3.4, Biological Resources](#), of this EIR and the Biological Resources Report prepared by Jericho Systems, Inc., included as [Appendix 3.3-2](#).

Refer to [Table 2-2, Required Approvals and Permits](#), which identifies the agencies from which approvals and/or permits are required for project implementation.

2.5 Intended Uses of the EIR

This document is identified as a project-level EIR. It is an informational document intended to inform public agency decision-makers and the public of significant environmental effects of the project, identify ways to minimize the significant effects, and describe reasonable alternatives to the project. Under the provisions of CEQA, "the purpose of an environmental impact report is to identify the significant effect on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided" (Public Resources Code Section 21002.1[a]).

2.6 List of Past, Present, and Reasonably Anticipated Future Projects in the Project Area

Sections 15130 and 15065(c) of the CEQA Guidelines require the discussion of cumulative impacts when they are significant. An EIR is required to identify and discuss cumulative impacts that may



result from a project when considered with other closely related projects and reasonably foreseeable projects.

The CEQA Guidelines define cumulative effects as “two or more individual effects that, when considered together are considerable, or which compound or increase other environmental impacts.” The Guidelines further state that the individual effects can be the various changes related to a single project, or the change involved in a number of other closely related past, present, and reasonably foreseeable future projects (CEQA Guidelines Section 15355). The Guidelines allow the use of two alternative methods to determine the scope of a project for the cumulative impact analysis:

- **List Method** – A list of past, present, and foreseeable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the lead agency.
- **General Plan Projection Method** – A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document that has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact (CEQA Guidelines Section 15130).

For purposes of this EIR, the List Method has been used; refer to [Table 2-3, Cumulative Projects](#). A specific study area has been defined for individual issue areas (e.g., traffic and circulation, noise, and air quality) to provide issue-specific analysis of potential project-related cumulative impacts. Existing and reasonably anticipated projects within each study area have been identified and are discussed in greater detail in terms of their potential to contribute to significant cumulative impacts, as part of the subject-based analysis in [Section 3.0](#).

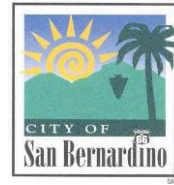


Table 2-1. Land Use Summary

Land Use	Acres	Planned Number of Units	Maximum Number of Units ¹
Planning Area 1 (Residential – 7,000 sf)	15.6	63	70
Planning Area 2 (Residential – 5,000 sf)	11.3	57	62
Planning Area 3 (Commercial)	9.3	—	—
Public Park (Ronald Reagan Park Expansion)	0.5	—	—
Private Park (Neighborhood/Linear Park)	1.4	—	—
Open Space (Cable Creek Channel)	3.5	—	—
Total	41.6	120	120

1. Total permitted dwelling units within a residential Planning Area may be less or greater than the planned number of units if (a) the maximum number of units is not exceeded for any Planning Area, and (b) the overall number of units for the project does not exceed 120.

Table 2-2. Required Approvals and Permits

Permit/Action Required	Approving Agency	Lead/Trustee/Responsible Agency Designation
Specific Plan	City of San Bernardino (City)	Lead Agency
Tentative Tract Map (TTM 20006)	City	Lead Agency
Conditional Use Permit	City	Lead Agency
Permit to Operate	San Bernardino Air Pollution Control District (SBAPCD)/San Bernardino Air Quality Board	Responsible Agency
Water Service	City (Municipal Water Department)	Lead Agency
Sewer Service	City (Public Works Department)	Lead Agency
Streambed Alteration Agreement (Section 1602)	California Department of Fish and Wildlife (CDFW)	Trustee Agency
Clean Water Act Permit (Section 404)	US Army Corps of Engineers (USACE)	Responsible Agency
Clean Water Act Permit (Section 401)	RWQCB	Responsible Agency
Landscape Plans	City	Lead Agency
Stormwater Management Plan	City	Lead Agency
Grading Permit	City	Lead Agency
Execution of Irrevocable Offer of Dedication	City	Lead Agency
Improvement Plans	City	Lead Agency
General Construction Stormwater Permit	RWQCB	Responsible Agency
Tree Removal Permit	City	Lead Agency
Flood Control Permit (to be determined)	San Bernardino County Flood Control District	Responsible Agency

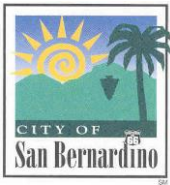


Table 2-3. Cumulative Projects

File Name	Address (Project Name)	Project Summary
DP206-28	Southeast corner of Palm Avenue and Industrial Parkway	Construct a 678,275-square-foot distribution center
ADP15-02	625 E. Hospitality Lane (ALDI Market)	Establish a 29,000-square-foot neighborhood market
ADP15-05	4020 E. Highland Avenue (ALDI Market)	Establish a 18,000-square-foot neighborhood market
ADP15-13	575 W. Baseline Street	Establish a 20,000-square-foot neighborhood market
CUP05-42	Colony 22 (Frontier Communities)	Construct 22 single-family homes
CUP06-04	Student Housing – The Promenade (Watson & Associates)	Construct 104 student housing units at Northpark Boulevard and University Parkway
CUP11-13 and DA12-02	Waterman Gardens (Housing Authority, County of San Bernardino)	Construct an affordable housing project with a mixed-use/income community with 74-unit senior housing project, 337 multi-family units, 38 condo units, 45,000-square-foot recreational facility, 58,200-square-foot community center, and 7,400-square-foot administration/multipurpose building
CUP12-06	1064 W. Highland Avenue (Popeye's Restaurant)	Construct a 2,300-square-foot restaurant with a drive-through
CUP13-22	1107 W. 5 th Street	Construct a 1,575-square-foot commercial building for auto repair with ancillary tire shop
CUP13-26	Southwest corner of Tippecanoe and Central Avenues	Construct a gas station with a 3,050-square-foot convenience store with a Type 20 ABC license (Off-sale, Beer & Wine), and a 2,000-square-foot restaurant
CUP14-04	2586 Shenandoah Way (Co-West)	Wastewater treatment plant, bio-digester system, and hazardous waste bulking and transfer facility in an existing 63,000-square-foot industrial building
CUP14-08	5985 N. Palm Avenue	Reestablish a gas station and construct a 5,000-square-foot multi-tenant building
TPM 19534, DPD-14-16	Southwest corner of G Street and Valley Street (Loma Linda University)	Tentative parcel map and Development Permit to construct a 3-story, 150,000-square-foot medical and educational facility
CUP14-10	Northwest corner of 9 th Street and Valencia Ave (National Core)	Construct an affordable 76-unit multi-family housing project in two buildings with on-site amenities including a 2,200-square-foot clubhouse community building and a 1,000-square-foot laundry/maintenance facility
CUP14-13	1241 W. 5 th Street	Construct new 6,365-square-foot restaurant and nightclub with an ABC Type 48 License

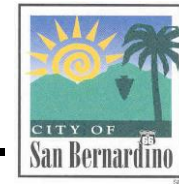


Table 2-3, continued

File Name	Address (Project Name)	Project Summary
CUP14-14	524 S. Inland Center Drive	Construct new 2,999-square-foot restaurant
CUP14-19	3909 N. Hallmark Parkway	650-square-foot expansion of an existing convenience store and construction of a 3,000-square-foot self-service car wash facility
CUP14-21	4680 N. Hallmark Parkway	Establish a church in an existing 121,000-square-foot building
CUP15-02	Northwest corner of Waterman and 5 th Street (Jian Torken)	Proposed gas station with a convenience store with an off-sale alcoholic beverage license (ABC Type 20 License)
CUP15-03	Northeast corner of Kendall Drive and Palm Avenue	Proposed two restaurants with drive-throughs with an on-sale alcoholic beverage license (ABC Type 40 License)
CUP15-06	Big Country at 295 E. Caroline Street	Proposed family dining restaurant with live entertainment saloon venue with an on-sale alcoholic beverage license (ABC Type 47 License)
CUP15-07	655 W. 2 nd Street	Proposed Hardy Brown School to house students in primary learning grades K–8
DCA14-12	Southwest corner of University Parkway and Northpark Boulevard	Text amendment to allow development of additional student housing in proximity to Cal State San Bernardino
DP-D13-02	1890 West Highland Avenue	Construct a 12,400-square-foot commercial retail building for Dollar General
DP-D13-10	Transit Center at Rialto and E Street (SANBAG)	Construct a 7,500-square-foot transit center at 599 W. Rialto Avenue
DP-D14-17	Southeast corner of Waterman Avenue and Hospitality Lane (Golden Corral)	Construct an 11,300-square-foot Golden Corral restaurant
DP-D14-18	1700 E. Highland Avenue (Harbor Freight Tools)	Establish a 17,541-square-foot retail Harbor Freight Tools
DP-D14-20, TPM 19573, GPA-14-08, ZMA-14-16	291 S. Waterman Avenue (Hillwood Investments)	General Plan Amendment and Zone Map Amendment to construct a 427,000-square-foot warehouse building
DP-D14-22	Northeast corner of E Street and MacKay Drive (Volleyball Facility)	Construct a 33,600-square-foot indoor volleyball/recreational facility
DP-D15-03	Northeast corner of E Street and MacKay Drive (Volleyball Expansion)	Expand a previously approved indoor sports complex, consisting of six outdoor sand volleyball courts

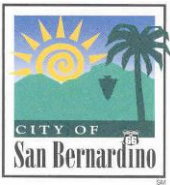


Table 2-3, continued

File Name	Address (Project Name)	Project Summary	
DP-D15-02	2705 W. Lexington Way	Construct a 155,000-square-foot warehouse facility	
DP-P13-03	Northwest corner of Randall and Eucalyptus (Pacific Horizon Builders)	Construct 20 single-family homes in one phase	
DP-P13-07	Northeast corner of Belmont and Pine Ave. Pine Trails (Frontier Communities)	Construct 39 single-family homes in three phases	
DP-P13-08, ZMA13-07	673 E. Waterman Avenue	Establish a heavy equipment transport facility	
DP-P14-06	216 E. Baseline Street	Construct a 5,200-square-foot multi-tenant commercial building	
DP-P14-07	Hillcrest and Colton Avenue	Parcel map to construct 86-unit senior housing project	
DP-P14-08	2226 W. Foothill Boulevard	Construct 53 condominium townhomes	
DP-P15-01	939 South Inland Center Drive	Construct an industrial campus with 8 industrial buildings in two phases	
Extension of Time 15-01 (CUP11-08)	Highland and Arden Avenues (Home Depot)	One-year extension of CUP11-08 to construct a multi-tenant shopping center with a 136,090-square-foot home improvement store and 68,630 square feet of retail/restaurant uses	
Air Quality, Noise, and Traffic and Transportation			
DP206-28	City of San Bernardino	Distribution center	CSB1
ADP15-05	City of San Bernardino	Market	CSB2
The Colonies at University Park	City of San Bernardino	Single-family detached residential	CSB3
The Promenade at University Park	City of San Bernardino	Student housing	CSB4
CUP12-06	City of San Bernardino	Fast-food restaurant with drive-through	CSB5
CUP14-04	City of San Bernardino	Water treatment plant	CSB6
CUP14-08	City of San Bernardino	Gas station/commercial	CSB7
CUP14-19	City of San Bernardino	Car wash	CSB8
CUP14-21	City of San Bernardino	Church	CSB9

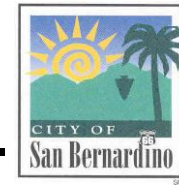


Table 2-3, continued

File Name	Address (Project Name)	Project Summary	
Harbor Flight Tools (DP-D14-18)	City of San Bernardino	Retail	CSB10
CUP15-03	City of San Bernardino	Restaurants with drive-through	CSB11
DP-D15-02	City of San Bernardino	Warehouse	CSB12
DP-P13-07	City of San Bernardino	Single-family detached residential	CSB13
CUP11-08	City of San Bernardino	Home improvement, retail/restaurant	CSB13
P201400536	County of San Bernardino	Recreational facility expansion	SBC1
P201200390	County of San Bernardino	Truck terminal	SBC2
Silverleaf at Rosena Ranch (P201400397)	County of San Bernardino	Single-family detached residential	SBC3
P201400346	County of San Bernardino	Vehicle service shop expansion	SBC4
Source: City of San Bernardino, 2016; <i>Rancho Palma Traffic Impact Analysis</i> , prepared by Urban Crossroads, September 1, 2015.			



2.7 Sources Cited

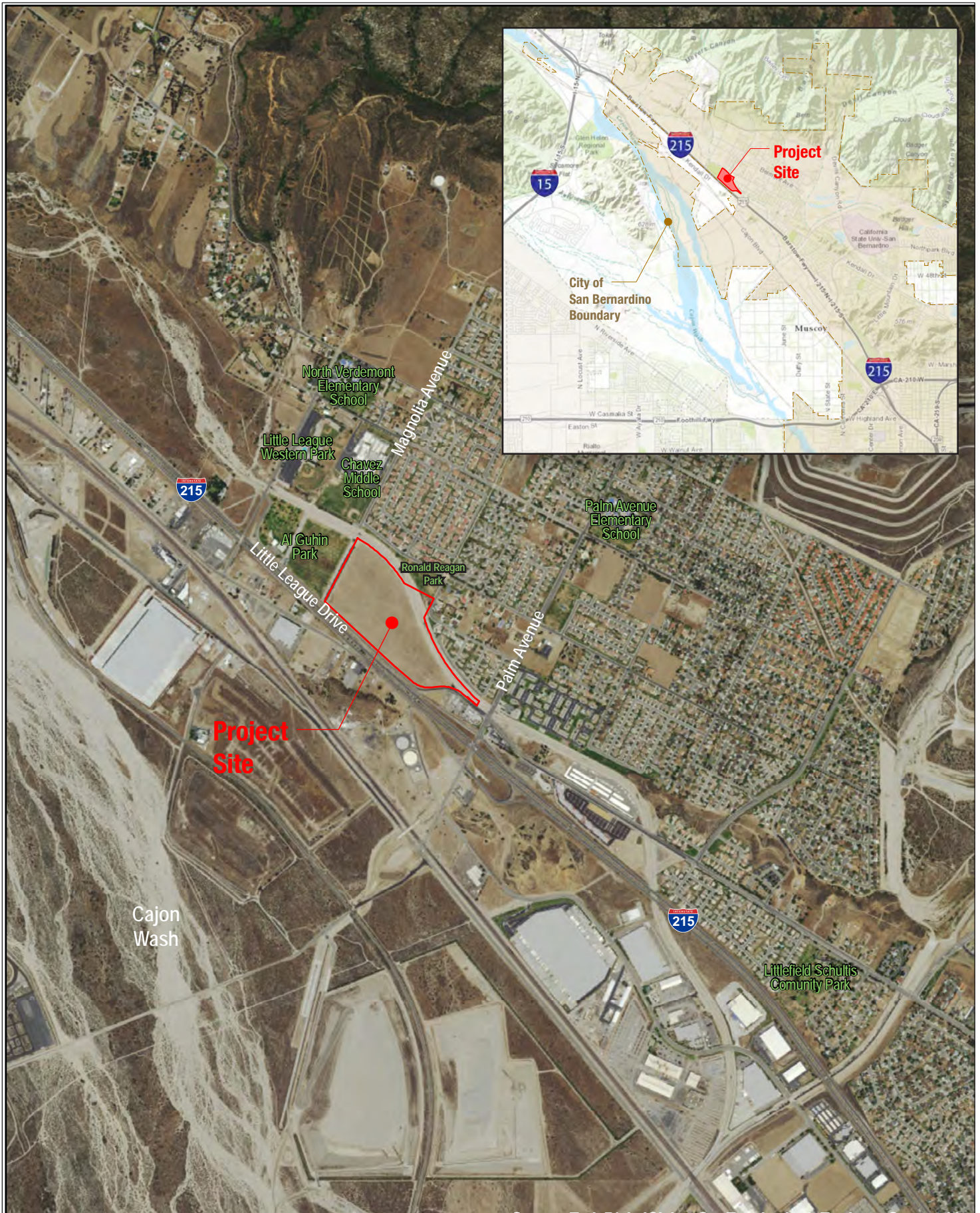
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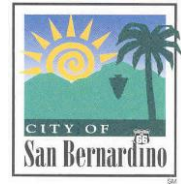


Source: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, OpenStreetMap contributors, and the GIS User Community

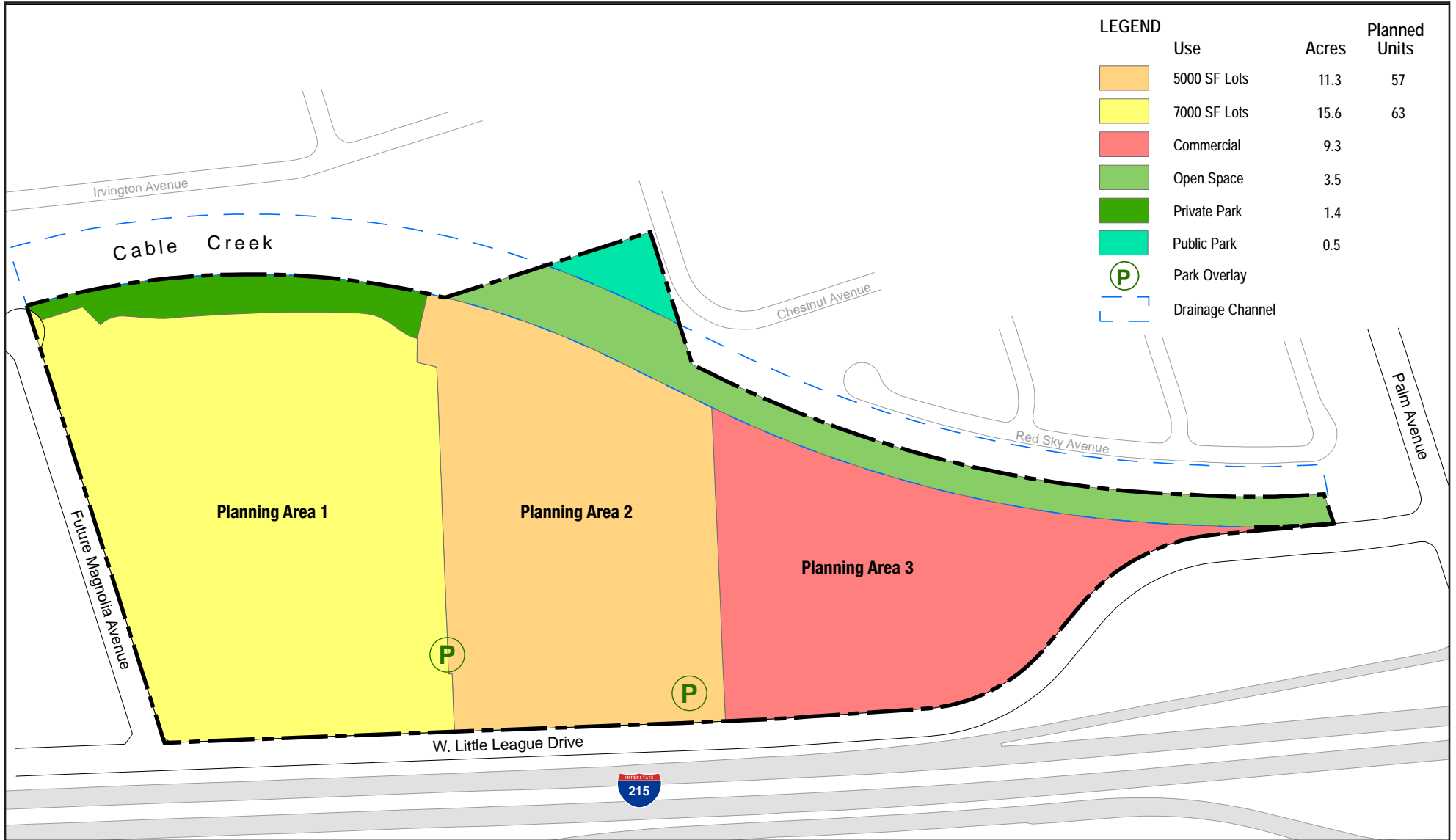
FIGURE 2-1

Regional/Local Vicinity Map

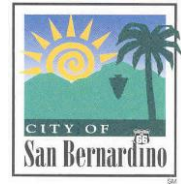
RANCHO PALMA



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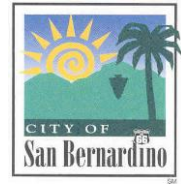
Source: Rancho Palma Specific Plan, Forma Design Inc., November 2015.



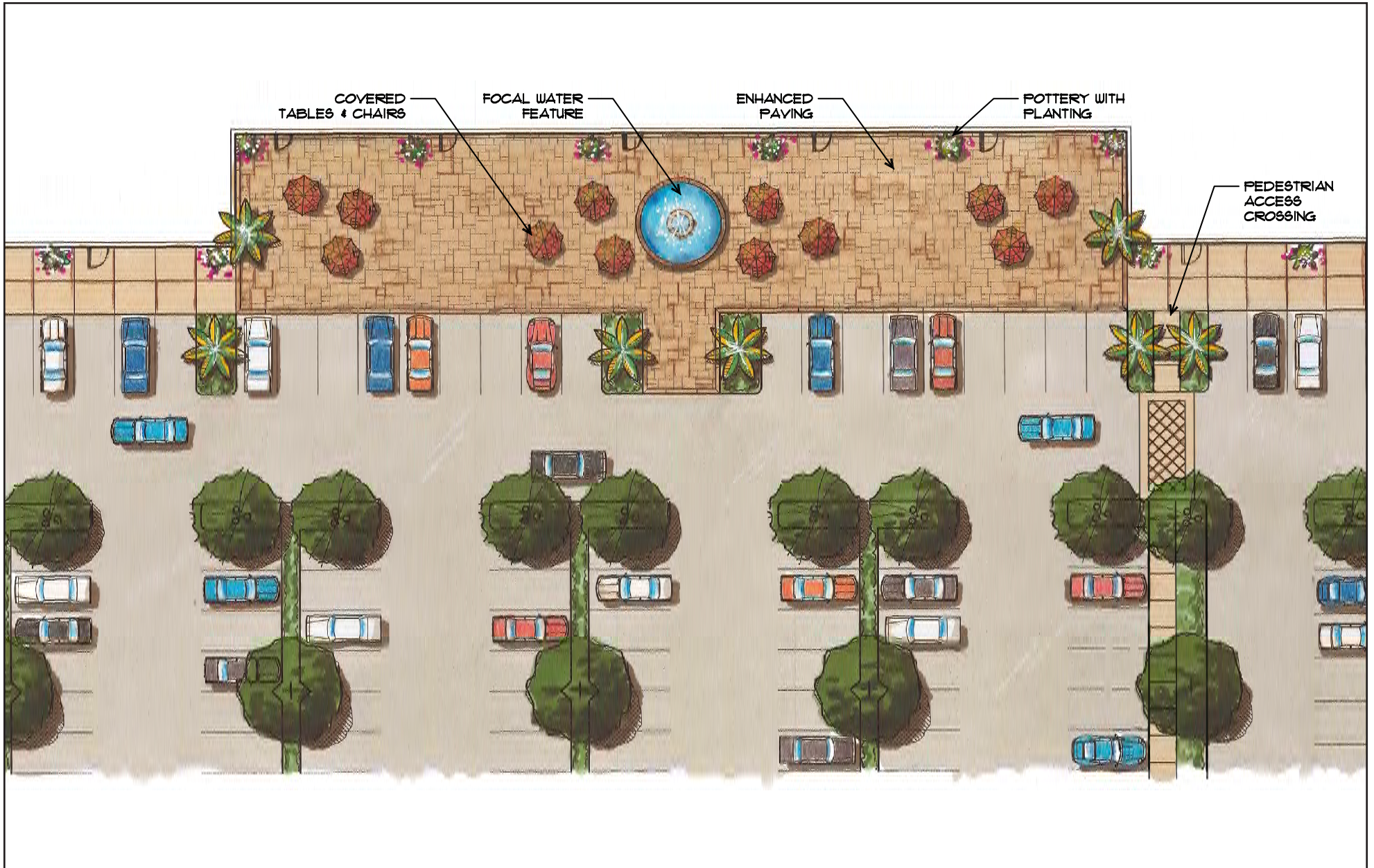
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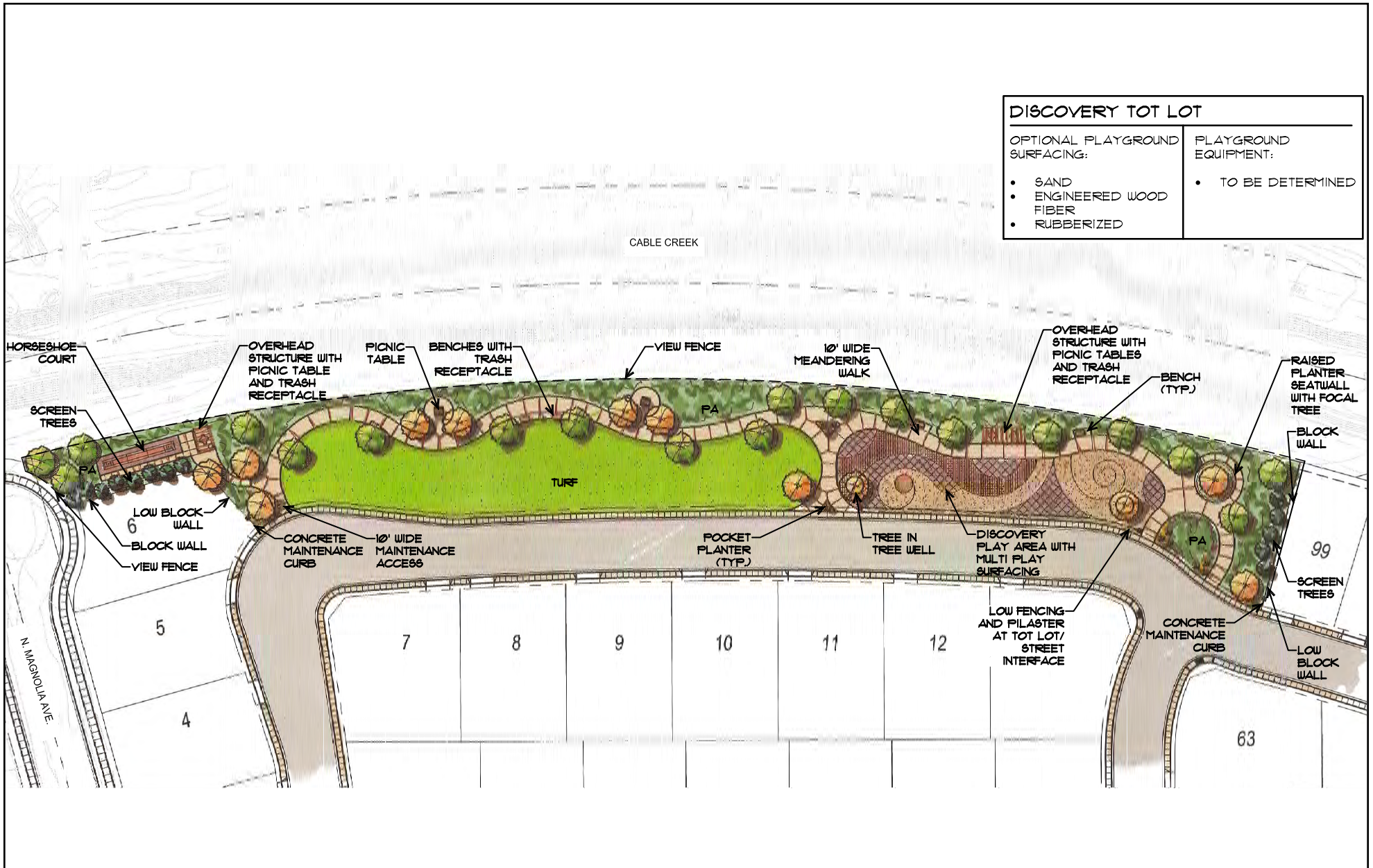
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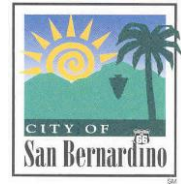
Source: Rancho Palma Specific Plan, Forma Design Inc., November 2015



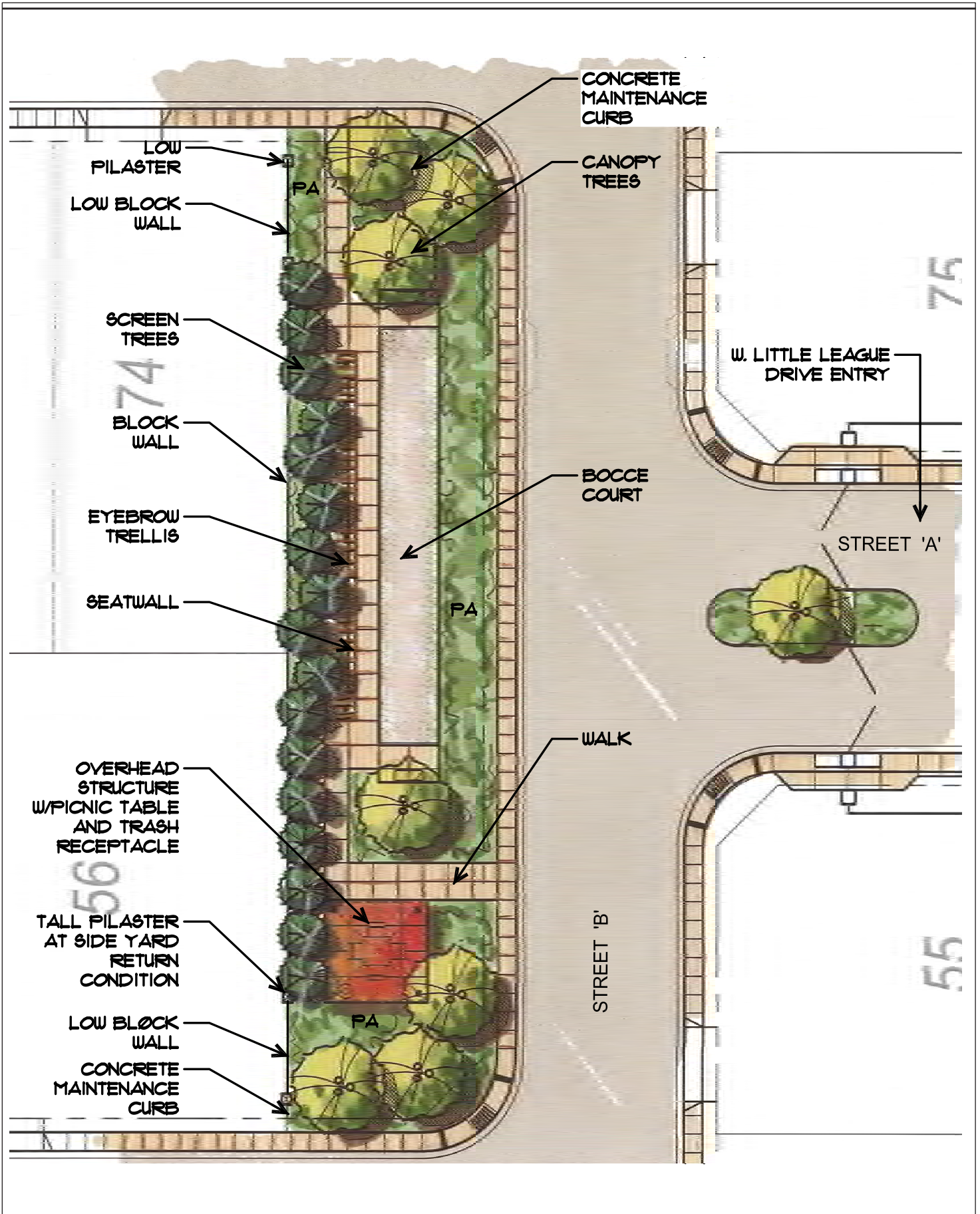
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Source: Rancho Palmsa Specific Plan, Forma Design Inc., November 2015.



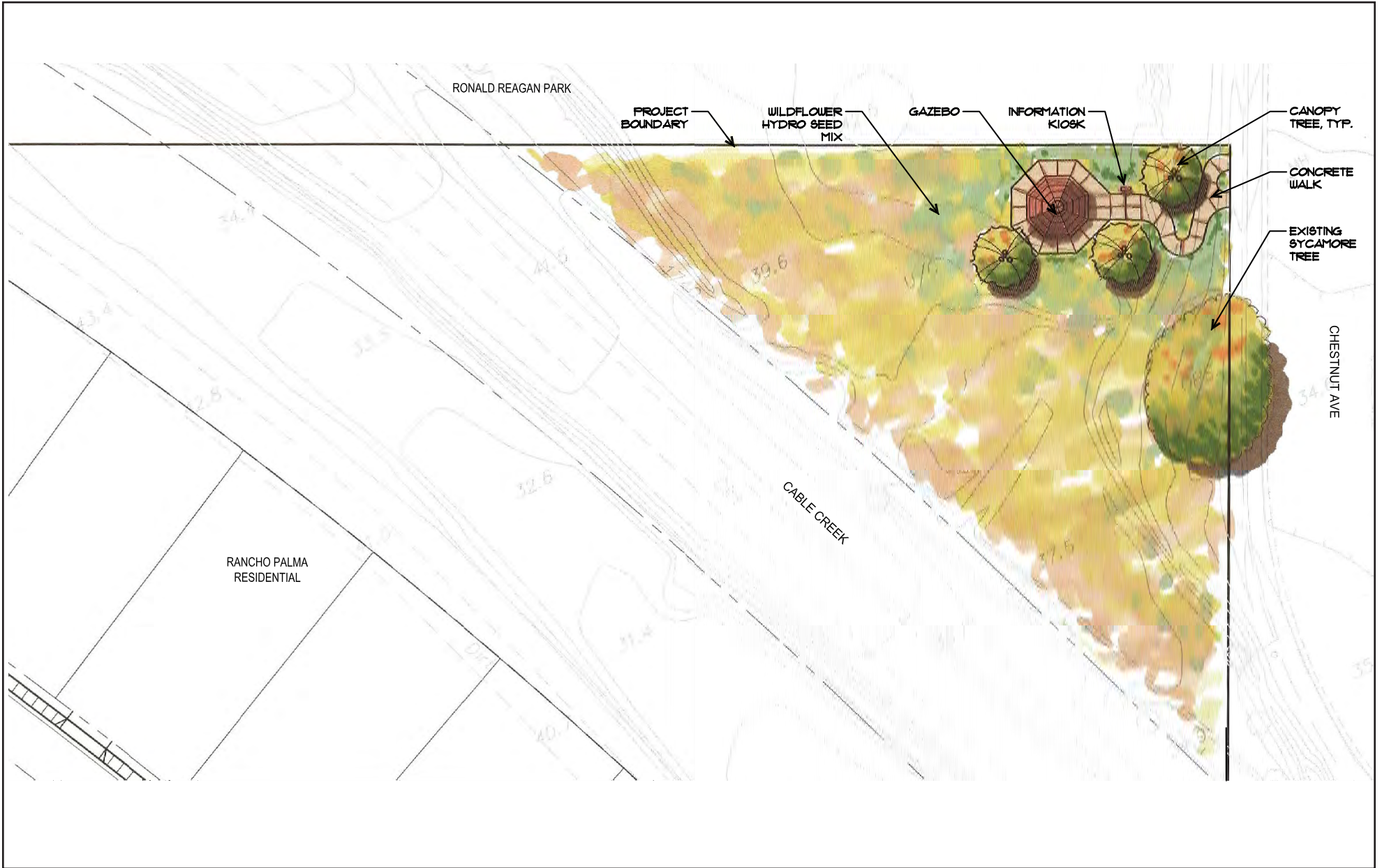
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Source: Rancho Palma Specific Plan, Forma Design Inc., November 2015.



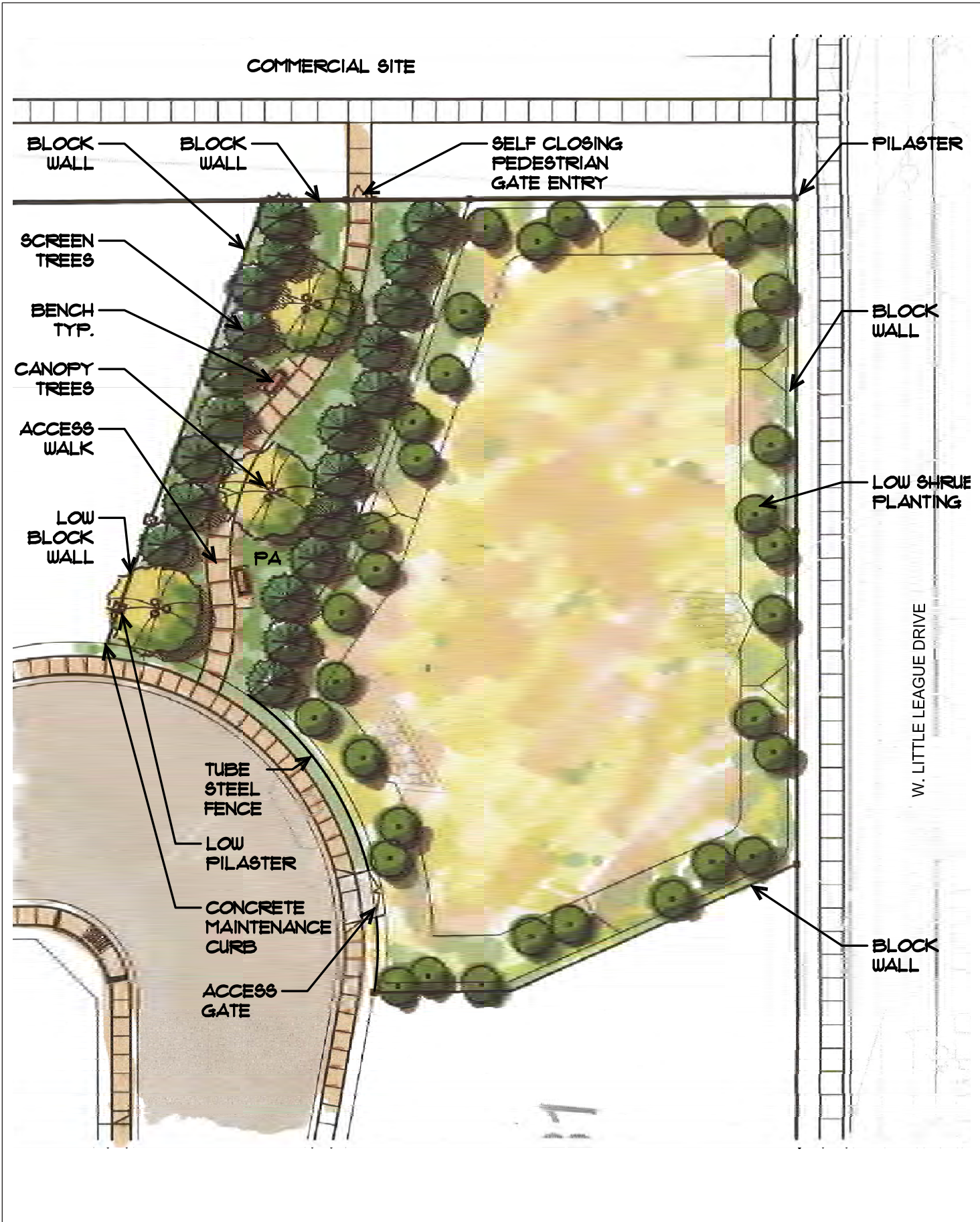
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Source: Rancho Palma Specific Plan, Forma Design Inc., November 2015.

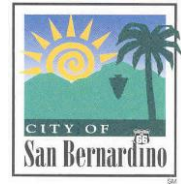


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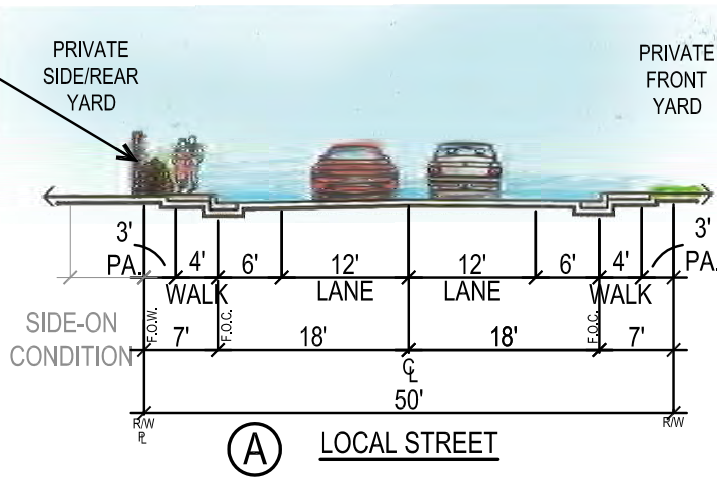
Source: Rancho Palma Specific Plan, Forma Design Inc., November 2015.

FIGURE 2-5D
Water Quality Basin and Paseo
RANCHO PALMA



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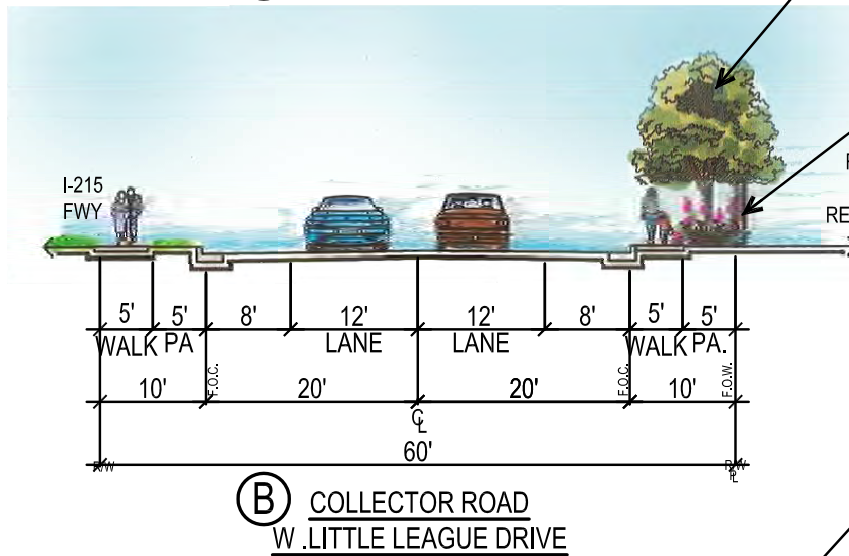
VINE ATTACHED TO WALL AND SHRUB PLANTING



- LANDSCAPE LOT INCLUDES-
- VERTICAL BUFFER/SCREEN TREE
 - VINE ATTACHED TO WALL
 - SHRUBS

PERIMETER WALL

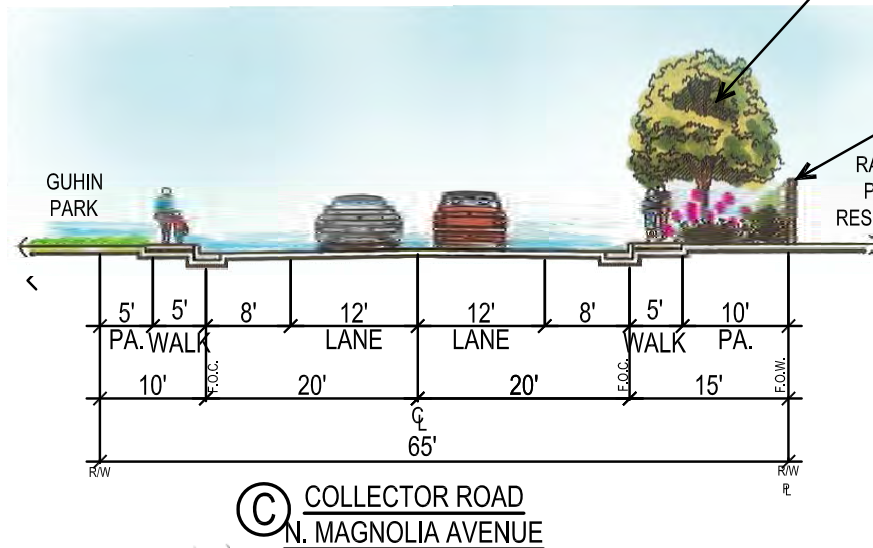
RANCHO PALMA RESIDENTIAL



- LANDSCAPE LOT INCLUDES -
- VERTICAL BUFFER/SCREEN TREE
 - VINE ATTACHED TO WALL
 - SHRUBS

PERIMETER WALL

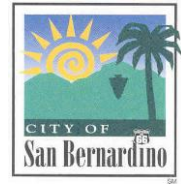
RANCHO PALMA RESIDENTIAL



KEYMAP



Source: Rancho Palma Specific Plan, Forma Design Inc., November 2015



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Photo 1: View looking southeast/east from West Little League Drive.



Photo 2: View looking north/northwest from West Little League Drive.





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3.0 ENVIRONMENTAL ANALYSIS

The next subsections of the EIR contain a detailed environmental analysis of the existing conditions, project impacts (including direct and indirect, short-term and long-term, and cumulative), recommended mitigation measures, and unavoidable adverse impacts.

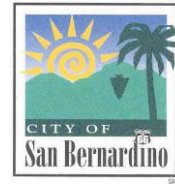
The EIR will examine the following environmental factors outlined in the *CEQA Guidelines* Appendix G, Environmental Checklist:

- 3.1 Aesthetics
- 3.2 Air Quality
- 3.3 Biological Resources
- 3.4 Cultural Resources
- 3.5 Geology and Soils
- 3.6 Greenhouse Gas Emissions
- 3.7 Hazards and Hazardous Materials
- 3.8 Hydrology and Water Quality
- 3.9 Land Use and Planning
- 3.10 Noise
- 3.11 Population and Housing
- 3.12 Traffic and Transportation
- 3.13 Utilities, Public Services, and Recreation
- 3.14 Effects Found Not to Be Significant

Each environmental issue is addressed in a separate section of the EIR, and is organized into seven sections, as follows:

- **“Regulatory Setting”** describes the federal, state, regional, or local regulations and plans that are applicable.
- **“Environmental Setting”** describes the physical conditions that exist at this time and that may influence or affect the issue under investigation.
- **“Significance Threshold Criteria”** provides the thresholds that are the basis of conclusions of significance, which are primarily the criteria in the *CEQA Guidelines* Appendix G, Environmental Checklist.

Major sources used in crafting criteria include the *CEQA Guidelines*; local, state, federal, or other standards applicable to an impact category; and officially established significance



thresholds. “...An ironclad definition of significant effect is not possible because the significance of any activity may vary with the setting.” (CEQA Guidelines Section 15064[b]). Principally, “...a substantial, or potentially substantial adverse change in any of the physical conditions within an area affected by the project, including land, air, water, flora, fauna, ambient noise, and objects of historic and aesthetic significance” constitutes a significant impact (CEQA Guidelines Section 15382).

- **“Project Impacts and Mitigation Measures”** evaluates the project’s environmental impacts in consideration of all phases, including planning, acquisition, development, and operation. This subsection also discusses the potential changes to the existing physical environmental conditions, which may occur if the proposed project is implemented. Evidence, based on factual and scientific data, is presented to show the cause and affect relationship between the proposed project and the potential changes in the environment. All of the potential direct and reasonably foreseeable indirect effects are considered. The exact magnitude, duration, extent, frequency, range, or other parameters are ascertained, to the extent possible, to determine their significance. Direct and indirect significant effects of the project on the environment are identified and described, giving due consideration to short-term and long-term effects.

“Mitigation Measures” are project-specific measures that would be required of the project to avoid a significant adverse impact; to minimize a significant adverse impact; to rectify a significant adverse impact by restoration; to reduce or eliminate a significant adverse impact over time by preservation and maintenance operations; or, to compensate for the impact by replacing or providing substitute resources or environment.

- **“Cumulative Impacts and Mitigation Measures”** describes potential environmental changes to the existing physical conditions that may occur as a result of the proposed project together with all other reasonably foreseeable, planned and approved future projects producing related or cumulative impacts. The cumulative impact analysis is provided for those thresholds that result in a less than significant, potentially significant, or significant unavoidable impact.
- **“Significant Unavoidable Impacts”** describes impacts that would be significant and cannot be feasibly mitigated to less than significant, so would therefore be unavoidable. To approve a project with significant unavoidable impacts, the lead agency must adopt a Statement of Overriding Considerations. In adopting such a statement, the lead agency is required to balance the benefits of a project against its unavoidable environmental impacts in determining whether to approve the project. If the benefits of a project are found to outweigh the unavoidable adverse environmental effects, the adverse effects may be considered “acceptable” (CEQA Guidelines Section 15093[a]).
- **“Sources Cited”** lists all documents, reference materials, or other information utilized, such as websites, in the section.



3.1 Aesthetics and Visual Resources

This section assesses the visual quality of the City of San Bernardino, particularly with regard to the project area, and evaluates the potential for visual impacts associated with implementation of the proposed project.

3.1.1 Regulatory Setting

Visual resources may be subject to plans and policies developed to ensure adequate consideration is given to preserving and/or enhancing the visual qualities of an area. The project is subject to the following regulations, guidelines, and policies.

FEDERAL

There are no federal regulations regarding aesthetics that affect the proposed project.

STATE

No state designated scenic highways are affected by the proposed project.

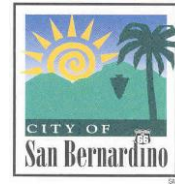
LOCAL

City of San Bernardino General Plan

Chapter 2, Land Use; Chapter 5, Community Design; and Chapter 12, Natural Resources and Conservation, of the City's General Plan include goals and policies for the design of development projects and are intended to reduce potential adverse effects on the City's existing character, land use compatibility, and valued natural and aesthetic resources. All related goals, policies, and implementation measures in the General Plan are incorporated herein by reference.

Additionally, General Plan Chapter 6, Circulation, identifies those roadways considered to be of scenic value in the region. [Figure 3.1-1, Scenic Highways/Routes](#), illustrates the locations of these roadways. However, since the General Plan was adopted, a number of additional roadways in the area have also been determined to have potential scenic value. These resources are discussed further under [Subsection 3.1.2, Environmental Setting](#), below.

General Plan Chapter 8, Parks, Recreation, and Trails, includes a conceptual plan for the City's existing and planned trail system; refer also to [Figure 3.1-2, Conceptual Trail System](#). Trails in the region offer users a range of visual settings, from those in the urban city landscape to those in more remote natural locations. Primary regional multipurpose trails serve an entire region and accommodate hiking, equestrian, and bicycle users. Two such trails traverse portions of the City—the Santa Ana River Trail in the southern portion and the Greenbelt Foothills Trail in the foothills adjacent to the City's northern boundary. A portion of this trail is planned to extend southward along North Magnolia Avenue to its intersection with West Little League Drive. Regional multipurpose trails serve bicycle, pedestrian, and in some cases, equestrian users and provide regional connections. These trails include the Cajon/Lytle, the Mid-City, Sand Canyon, City Creek, and Loma Linda Connector trails in San Bernardino. A portion of an unnamed regional multi-use trail is planned along the channel that forms the northern property boundary. Other local multipurpose



trails serve pedestrian, bicycle, and in some cases, equestrian users and provide connections within the City itself. Other public trails also exist in the San Bernardino Mountains and National Forest to the north of the City.

The proposed project includes a specific plan that will become the regulatory framework regulating design and development of the project site.

City of San Bernardino Development Code

Development Code Chapter 19.20 outlines design standards to ensure that future development will consider the existing urban environment while achieving the City's intended character, consistent with the General Plan. Specific measures are provided in Section 19.020.030.4, Design Considerations; Section 19.02.020.11, Glare; and Section 19.02.030.14, Lighting. Additionally, Section 19.04, Residential Districts, and Section 19.06, Commercial Zones, detail general exterior lighting requirements for residential and commercial development.

3.1.2 Environmental Setting

SCENIC RESOURCES

Project Site

Specific to the project site, the property is currently undeveloped and is highly-disturbed; refer also to [Figure 2-7, On-site Photographs](#), which illustrates existing conditions. It appears that regular disking occurs on-site, and evidence of illegal household waste dumping activities is also present. Numerous non-native olive trees line the western boundary of the site, adjacent to the southeast side of the Magnolia Avenue alignment. As shown in [Figure 2-7](#), no rock outcroppings are present on-site, and no historic buildings or other scenic resources are located on the subject property or on adjoining lands. Additionally, developed lands generally surround the project site, and thus, designated open space or preserve lands having scenic value are not present within the immediate project area. Due to such conditions, the overall scenic value of the project site is considered to be relatively low.

Regional

The San Bernardino Mountains and the San Bernardino National Forest are located to the north of the City, and approximately one mile to the north and east of the project site at its closest point. The mountain range reaches an elevation of 4,237 feet above mean sea level (amsl) at Arrowhead Peak. Just to the west of Arrowhead Peak is Marshall Peak, which climbs to an elevation of 4,003 feet amsl. Visually, these scenic resources provide much of the City's backdrop, as illustrated in [Figure 2-7](#).

The Shandin Hills, an expanse of relatively smaller hills located just south of California State University San Bernardino (CSUSB), rise to an elevation of 1,717 feet amsl on Little Mountain. The project site is approximately 2.6 miles to the northwest of these hills.

Additionally, the Arrowhead Springs Specific Plan area is identified as an important visual resource in the City and offers diverse topography and undeveloped open space. The Arrowhead Springs Specific Plan area encompasses a larger area surrounded on the west, north, and east by the San



Bernardino National Forest, while urban areas of the City are located to the south. This Specific Plan area is located approximately four miles to the east of the project site.

As shown on [Figure 3.1-1, Scenic Highways/Routes](#), and as indicated in the General Plan, portions of two roadways in the City have been nominated for designation as official state scenic highways. The General Plan indicates that portions of State Route (SR) 330 and the former SR 30 south of SR 330, which pass through the City, are designated as eligible state scenic highways (SR 30 was decommissioned and redesignated as SR 210 in 2007).¹ The affected portions of SR 30 (SR 210) and SR 330 are approximately 10 miles to the southeast of the project site at their closest points. With designation of these roadways as eligible state scenic highways, the provisions of the California Scenic Highways program would apply to these roadway sections in the City. However, SR 30 (SR 210) and SR 330 are not yet officially designated as state scenic highways.

Several other roadways outside of the City's boundaries or sphere of influence (SOI) are also listed as eligible state scenic highways. At their closest points to the project site, SR 173 is approximately 9.9 miles to the north/northeast, SR 138 and SR 18 are approximately 4.8 miles to the northeast, and SR 189 is approximately 6.8 miles to the northeast. Although designated as eligible scenic highways, views of the project site from these roadways would generally be obscured by topography and further reduced due to distance and mature vegetation along the roadways and mountainsides.

LIGHT AND GLARE

The majority of light and glare sources present in the City (and in the project vicinity) are associated with residential, industrial, commercial, school, and recreational land uses. Other sources of light may include lights from vehicles traveling on area roadways, street lighting, traffic signals, street lamps, security lighting, and vehicle lights on roadways.

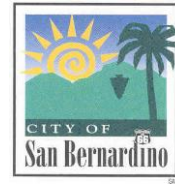
The project site is currently undeveloped. No structural elements that offer materials (i.e. glazing, reflective surfaces) representing a potential source of glare are present, and no lighting has been installed on the property; refer to [Figure 2-7](#). Street lighting is present along North Little League Drive, North Magnolia Avenue, Palm Avenue, I-215, and other residential streets in neighborhoods to the north/northeast in the project vicinity.

3.1.3 Significance Threshold Criteria

According to Appendix G of the CEQA Guidelines, the project may create a significant environmental impact if it would cause one or more of the following to occur:

- a) Have a substantial adverse effect on a scenic vista.

¹ State Route 30 originally ran from Interstate 210 in San Dimas to Interstate 10 in Redlands through San Bernardino. The road was constructed to freeway standards between Interstate 215 in San Bernardino and Interstate 10 and between the current terminus of SR 57 in San Dimas to Foothill Boulevard in La Verne. When the freeway section between Foothill Boulevard and Interstate 215 was completed in 2007, the roadway was subsequently decommissioned and renumbered as SR 210.



- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- c) Substantially degrade the existing visual character or quality of the site and its surroundings.
- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.1.4 Project Impacts and Mitigation Measures

The visual resource analysis is based on field review of the project site and a review of topographic conditions, as well as anticipated changes from implementation of the proposed project and other anticipated development in the area.

Impact 3.1-1

Would the project:

Have a substantial adverse effect on a scenic vista?

Impact Analysis

No designated scenic vistas are identified in the City's General Plan or General Plan EIR. Several highways occur in the City's vicinity that are eligible for designation as state scenic highways, thereby indicating that they are of scenic value and offer the potential for travelers along these routes to experience scenic views. Although these roadways may offer occasional views of the project site, due to distance from the site and intervening topography and vegetation, development of the site as proposed would not block or adversely change any such views. Further, these roadways are not officially designated as state scenic highways.

Views are dominated by the San Bernardino Mountains that are to the north and tower over the City. Additionally, the San Bernardino National Forest provides scenic value as undeveloped land in a natural state. These resources provide much of the City's backdrop. As indicated in Section 5.1.1, Aesthetics, of the General Plan EIR, future development in the low-lying areas of the valley and foothills adjacent to the San Bernardino Mountains would not impact scenic views of the City provided by this backdrop, as the peaks of these mountains rise to over 4,000 feet amsl. Additionally, the project as designed (i.e., one- to two-story structures) would result in relatively small-scale structural elements that would not adversely affect or substantially block existing views of these resources as the result of development.

Because of the community's location at the foothills of the San Bernardino Mountains, portions of Verdemon Heights, where the project site is located, are subject to the City's Hillside Management Overlay District. The overlay's purpose is to regulate development along the hillsides to protect the hills' topographic character and environmental sensitivities, reduce cutting and scarring, and ensure high quality design that "fits" with the surroundings. The project site is at a distance from the hillsides, is generally flat, and is not subject to the restrictions of the Overlay District. Therefore, the project would not adversely affect scenic views of the mountains in this regard.



No other federal, state, or local designations recognize the project site or any land adjacent to the project site as a scenic resource or vista. The proposed project would not have a substantial adverse effect on a scenic vista.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.1-2

Would the project:

Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Impact Analysis

As identified in the General Plan, several eligible state scenic highways occur in the vicinity of San Bernardino. However, no such roadways are officially designated; therefore, the project would not adversely affect any existing views from a designated state scenic highway. Route 66 is not designated as a National Scenic Byway in California. Therefore, although the project site may be visible from portions of this roadway, no adverse effects on a designated scenic resource would occur.

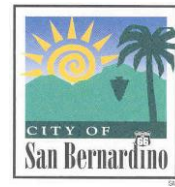
Although views of the site may occasionally be afforded to travelers along portions of these roadways, such views would be distant from the site and further obscured by existing mature vegetation along the roadways, as well as by intervening topography (i.e., ridgelines). Further, if experienced, views from these roadways would occur across the valley floor. As such, the proposed development would visually blend in with existing development on surrounding lands, thereby minimizing its visibility in the landscape therefore impacts are considered less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.



Impact 3.1-3

Would the project:

Substantially degrade the existing visual character or quality of the site and its surroundings?

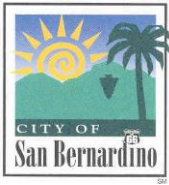
Impact Analysis

The project site is undeveloped and is in a highly disturbed state. It appears that regular disking for weed abatement occurs on-site, as it has historically over the last decade or longer; refer to [Figure 2-7, On-site Photographs](#). Evidence of illegal household waste dumping activities is also present. As such, bare ground and non-native and ruderal vegetation exist on the majority of the subject property (south of the levee). Numerous non-native olive trees line the western boundary of the site, adjacent to the southeast side of the Magnolia Avenue alignment. As shown in [Figure 2-7](#), no rock outcroppings are present on-site, and no historic buildings are located on the subject property or on adjoining lands.

It is anticipated that most, if not all, of the existing non-native olive trees that are present along the western property boundary would be removed with project implementation; refer to [Figure 2-3, Conceptual Landscape Plan](#). These trees are not considered scenic resources. However, tree removal resulting from implementation of the proposed project would occur consistent with the City's Development Code (Section 19.28.100, Removal or Destruction of Trees). This code section requires that, in the event more than five trees are to be cut down, uprooted, destroyed, or removed within a 36-month period, a permit must first be issued by the City's Community Development Department. If determined appropriate by the Director of Community Development, the project applicant may be required to have an arborist survey the site and prepare a report of findings in order to evaluate existing on-site trees, prior to the issuance of a tree removal permit. Unless the site is subject to a pre-approved tree replacement plan, all trees to be removed with new development that are determined to be of significant value by the Community Development Director require on-site replacement with a 36-inch box specimen tree, in addition to any other required landscaping. Such a plan does not necessarily require a 1:1 tree replacement ratio. With conformance to City requirements, the proposed project would not substantially damage a scenic resource relative to trees, and impacts would be less than significant.

The project site is located in an urbanized setting and is highly disturbed. Surrounding land uses to the northeast of Rancho Palma include the Cable Creek Channel, Ronald Reagan Park, and the Verdemont Heights community; to the north, Al Guhin Park, Chavez Middle School, North Verdemont Elementary School, and the Little League Baseball Western Region Headquarters; and to the southwest, West Little League Drive, which is adjacent to the Barstow Freeway (Interstate 215). To the southwest of I-215 are existing residences, industrial areas, and Route 66; and to the southeast are existing commercial businesses, Palm Avenue, and the Palm Avenue/I-215 interchange, the Verdemont Heights community, and industrial uses. Refer also to [Figure 2-1, Regional/Local Vicinity Map](#).

The proposed project is intended to allow the development of a mixed-use neighborhood that includes both housing and commercial services within walking distance to the future residents of Rancho Palma, as well as to the larger Verdemont Heights community. The Rancho Palma Specific



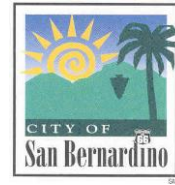
Plan provides guidance for future development of the proposed project site, with respect for the City's intended vision for the area and as provided in the City's General Plan. Refer to [Appendix 2-1, Rancho Palma Specific Plan](#), of this EIR for an in-depth discussion of specific site design, architectural design, and landscape design measures identified to guide future development of the proposed residential and commercial uses, infrastructure improvements, and landscape design. The intended architectural design themes for the proposed residential and commercial development at Rancho Palma are illustrated in [Figure 3.1-3A](#) and [Figure 3.1-3B](#), respectively.

Additionally, as shown in [Figure 2-3, Conceptual Landscape Plan](#), the project proposes incorporation of landscaping elements to enhance the visual appearance of the Rancho Palma development, as well as to partially screen views into the site from adjacent public roadways. Landscaping is also proposed in on-site parking areas for the commercial uses ([Figure 2-4, Commercial Plaza Concept](#)), as well as in the neighborhood park and pocket park and with expansion of Ronald Reagan Park ([Figures 2-5A to 2-5C](#)).

Expansion of Ronald Reagan Park would involve dedication of approximately 0.5 acre of land to the City. Dedication of land for the park is aimed at assisting the City in providing additional recreational opportunities in the form of public parkland for residents and, in particular, for residents of the Verdmont Heights Community. As shown in [Figure 2-5C, Ronald Reagan Park Expansion Concept](#), it is anticipated that park amenities installed with the proposed project improvements may include an informational kiosk, gazebo, concrete walkway, landscaping enhancements, and a vegetated area for active and/or passive recreation. As such, the project would result in visual improvement of the presently undeveloped, disturbed 0.5-acre of land for long-term recreational use by the public.

A variety of wall and fencing designs are proposed for the perimeter and interior of the site; refer to [Figure 3.1-4, Wall and Fence Master Plan](#). Such elements have been designed to ensure visual compatibility with surrounding land uses, as well as to provide security, visual screening and noise attenuation, as appropriate. A 6-foot-tall perimeter split-face block wall is proposed along all sides of the property boundary, with the exception of the northern boundary, where a 6-foot-tall tubular steel view fence on a low split-face block wall will be constructed. An 8-foot-tall perimeter wall along Little League Drive will be constructed as required for noise attenuation by the project's noise study. This wall will be set behind a landscaped parkway containing street trees.

Additionally, landscaping enhancements and monument signage are proposed for the entryways into the project site, both for the commercial area and the residential use area; refer to [Figures 3.1-5A and 3.1-5B](#). Such signage would be constructed of natural materials (i.e., stone, wood) and of generally muted colors to blend such elements into the surrounding visual setting. Typical signage for the residential area is shown in [Figure 3.1-6A, Residential Entry Monumentation](#). All commercial signage would be consistent with Chapter 19.22 of the City of San Bernardino Development Code, as well as Section 4.5, Commercial Signage Guidelines, of the Rancho Palma Specific Plan. However, several exceptions to such regulations are proposed, including: 1) allowing for one freeway multi-tenant center identification sign in Planning Area 3; and, 2) the maximum sign area for the multi-tenant center identification sign shall be 150 s.f. per face; refer to [Figure 3.1-6B, Primary Commercial Monumentation](#).



All future development on the site would be required to demonstrate conformance with the Rancho Palma Specific Plan. With compliance with such design measures and demonstrated consistency with the Specific Plan, Tentative Tract Map, and City General Plan and Municipal Code, project impacts would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.1-4

Would the project:

Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

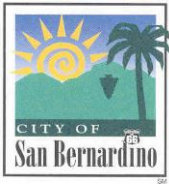
Impact Analysis

All construction activities would be conducted in compliance with the City's Noise Control Ordinance (Municipal Code Section 8.54.070), which restricts construction activity to the hours of 7:00 AM to 8:00 PM, thereby limiting the potential need for nighttime lighting in support of construction activities. If required, any nighttime lighting on temporary on-site structures for security purposes (i.e., mobile trailers serving as offices for construction personnel) or for purposes of emergency access would be limited, and would be installed and operated concurrent with applicable City regulations. The proposed development activity would comply with the City ordinance with regard to nighttime lighting restrictions. As there would be no nighttime construction, no adverse impacts from construction lighting or glare would occur.

Long-term operation of the project would have the potential to introduce new light sources in the vicinity during the day and night. The windows of the residential and commercial structures may also have the potential to create glare during the day. Additionally, exterior lighting for monument signs, buildings, streets, and parking lots would represent a source of light and/or glare that may affect residences and commercial uses in the surrounding area at nighttime.

Light pollution in San Bernardino is regulated by Development Code Section 19.20.030, which specifies regulations for outdoor lighting with which all new development must comply. Conformance with the City's Development Code is enforced when building permit(s) are applied for. Adherence to the City's regulations would require that all exterior lighting is shielded or recessed so that direct glare and reflections are contained within the boundaries of a parcel and that such lighting is directed downward and away from adjoining properties and public rights-of-way. Conformance with the Development Code would ensure that project impacts relative to light and glare would be minimized and/or avoided.

Additionally, Sections 4.3.3, Lighting Design, and 5.6, Lighting, of the Rancho Palma Specific Plan specify lighting design methods for the proposed residential and commercial uses. Further, the Specific Plan encourages the use of low-contrast lighting and the use of low-voltage fixtures and



energy-efficient bulbs to reduce the potential for adverse lighting effects. Proposed light fixtures located along the perimeter of the property would be shielded and directed downward to eliminate light pollution or spillover onto adjacent streets or neighboring properties. The Specific Plan also states that light pollution and lighting fixtures that create direct glare will be minimized through the use of low lighting profiles, recessed luminaires, and minimal luminance levels, where street light is cast downward. Lighting for on-premises advertising displays would also be shielded and focused to minimize light spillover into the night sky or onto adjacent properties. Project conformance with the City's Municipal Code and the Rancho Palma Specific Plan would reduce potential project effects with regard to lighting and glare.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

3.1.5 Cumulative Impacts and Mitigation Measures

Impact 3.1-5

Would the project:

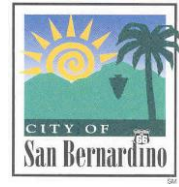
Result in cumulatively considerable impacts related to aesthetics or light and glare?

Impact Analysis

The cumulative impact analysis focuses on whether the proposed project's contribution to regional visual resource impacts would result in a cumulatively considerable environmental impact. The project's impact would be cumulatively considerable if, when considered with other existing, approved, proposed, and reasonably foreseeable development in the region, it would result in substantial alteration of the visual character of the region, significant impacts to scenic vistas, or substantial increases in daytime glare and nighttime lighting.

Other regionally existing, approved, proposed, or reasonably foreseeable projects that could be a factor in the proposed project's contribution to any increase in daytime glare or nighttime lighting would include I-215, existing residences in close proximity to the project site, and proposed residential uses and commercial development in the surrounding area.

As determined in the discussion of direct project impacts, potential aesthetic impacts would be less than significant. The project site is not located in proximity to a city-, county-, or state-designated scenic highway or designated scenic vista. With conformance to lighting requirements, including the City of San Bernardino Development Code, the project would not adversely affect nighttime views in the area. Other future projects would be required to comply with applicable lighting regulations and to implement mitigation for aesthetic and lighting/glare impacts, as appropriate.



Impact Conclusion

Less than cumulatively considerable.

Mitigation Measures

No mitigation measures are required.

3.1.6 Sources Cited

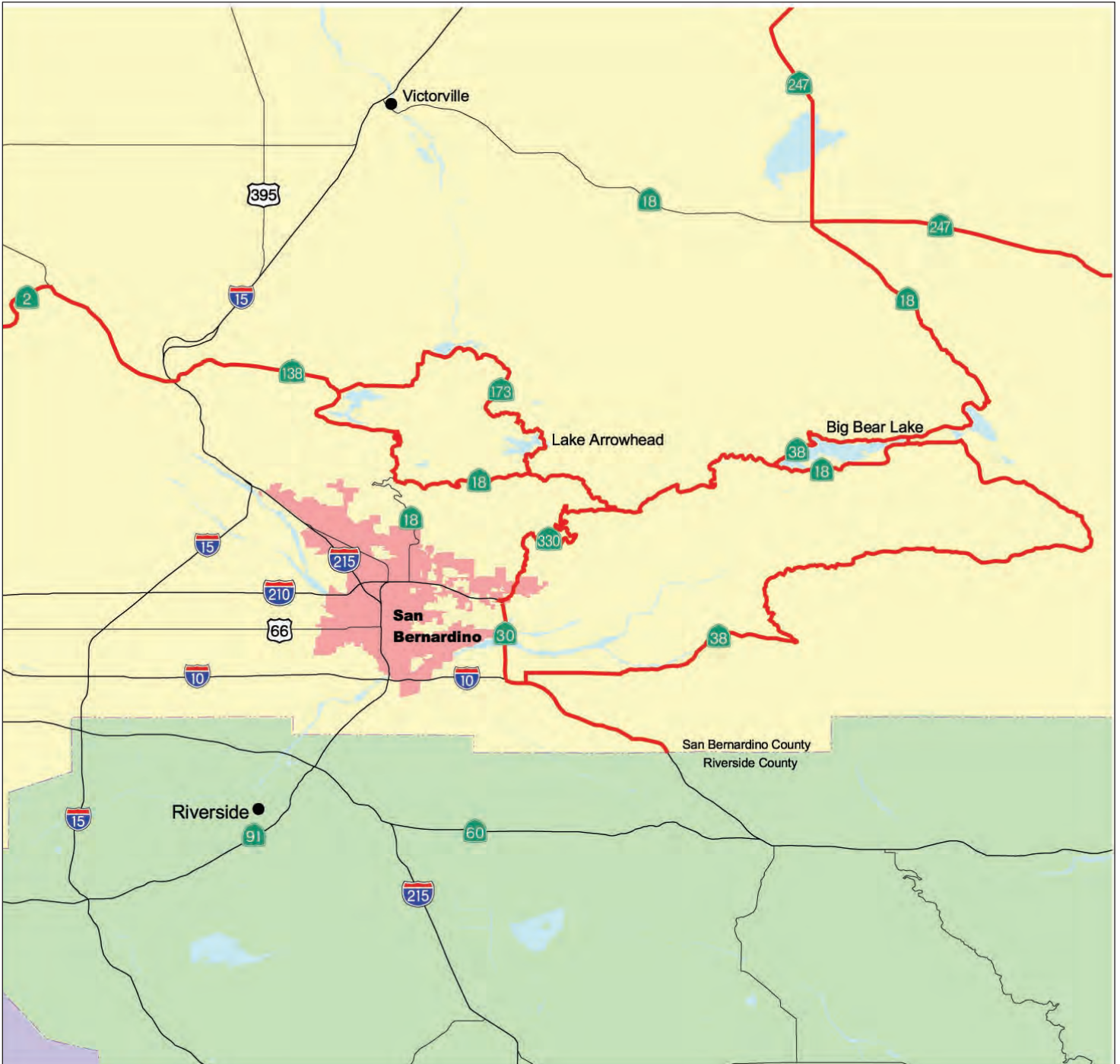
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<http://www.cahighways.org/025-032.html#030>.

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———. 2005b. *San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report* (SCH #2004111132).



 Scenic Highways/Routes

Source: City of San Bernardino General Plan, 2005.

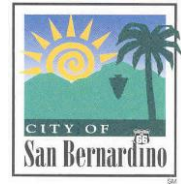
Michael Baker
INTERNATIONAL



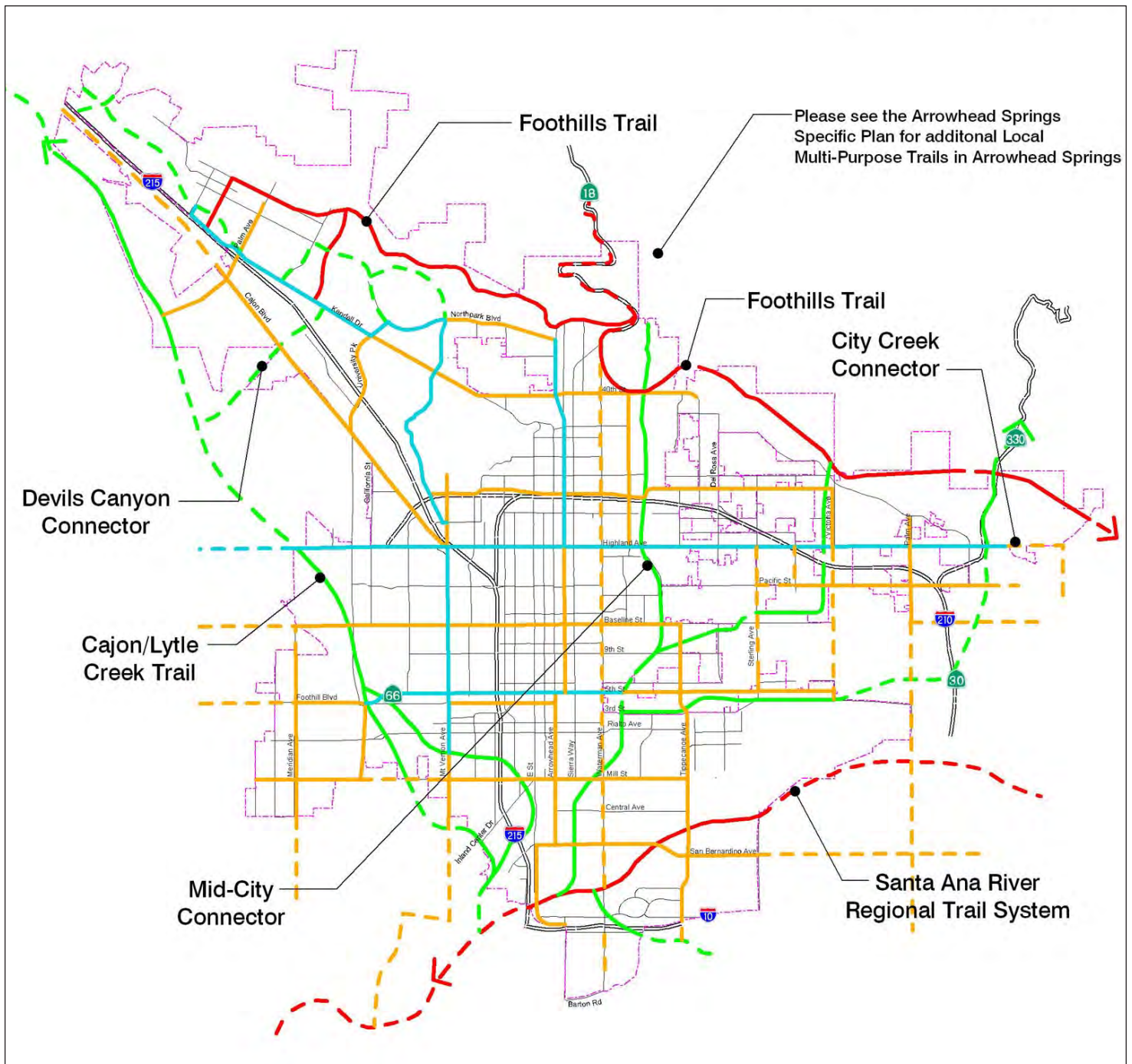
Not to Scale

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FIGURE 3.1-1
Scenic Highways/Routes
RANCHO PALMA



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Source: City of San Bernardino General Plan, 2005.

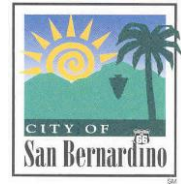


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FIGURE 3.1-2
Conceptual Trail System



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Craftsman



California Ranch



Spanish



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Source: Rancho Palma Specific Plan, Forma Design Inc., November 2015.

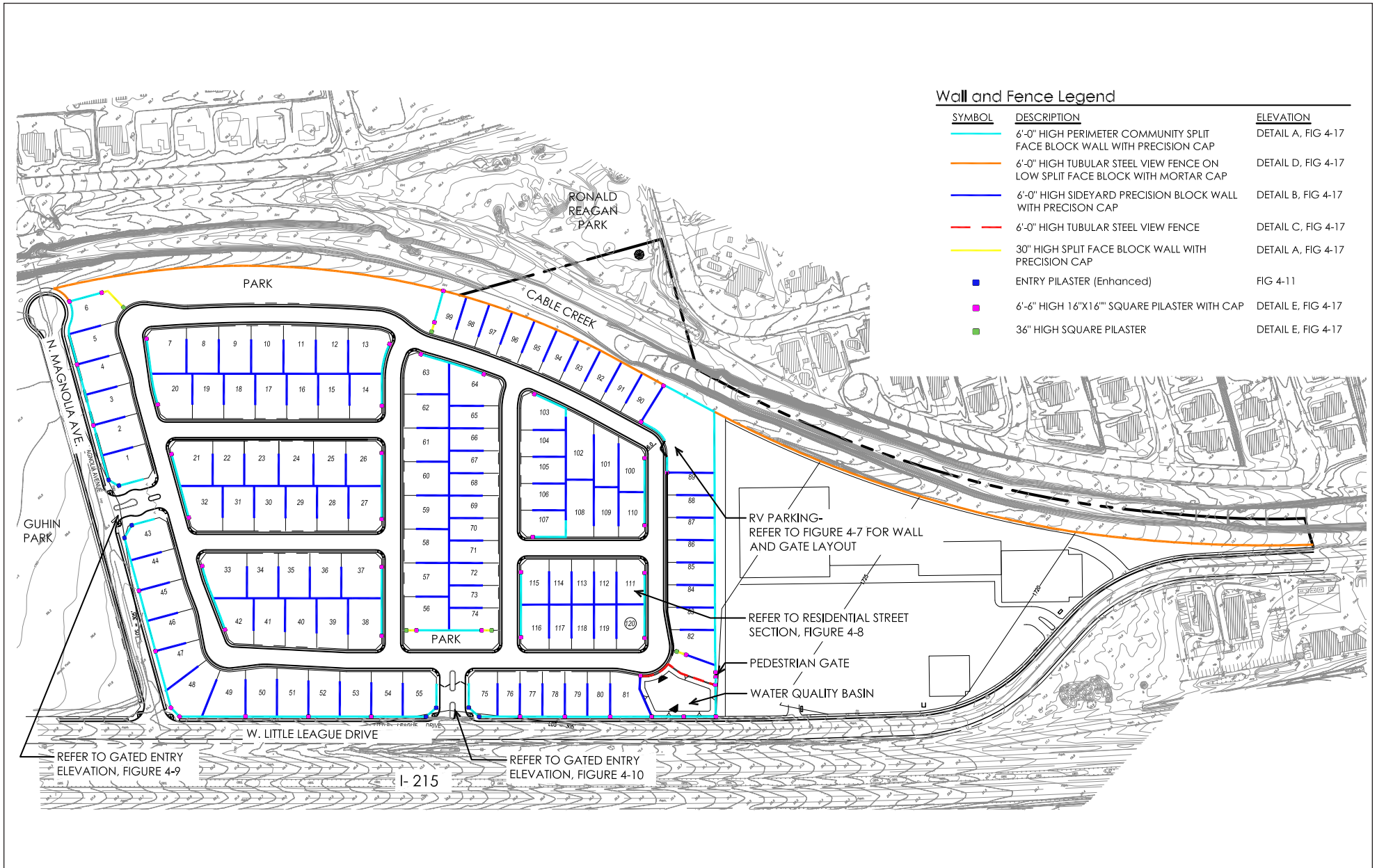
Michael Baker
INTERNATIONAL

03/2016 JN 151510

FIGURE 3.1-3B
Commercial Design Themes
RANCHO PALMA



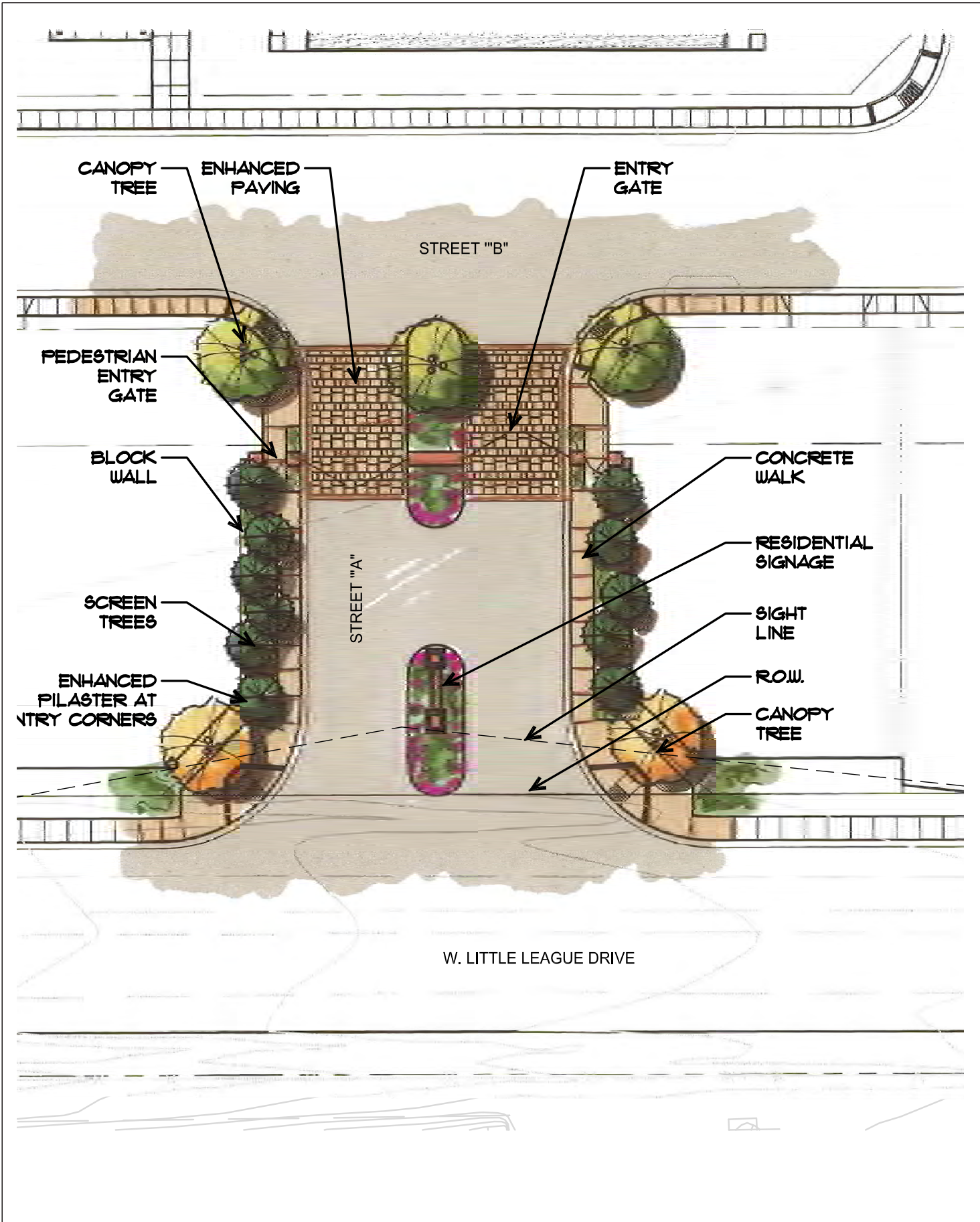
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Source: Forma Design, Inc., November 2015.



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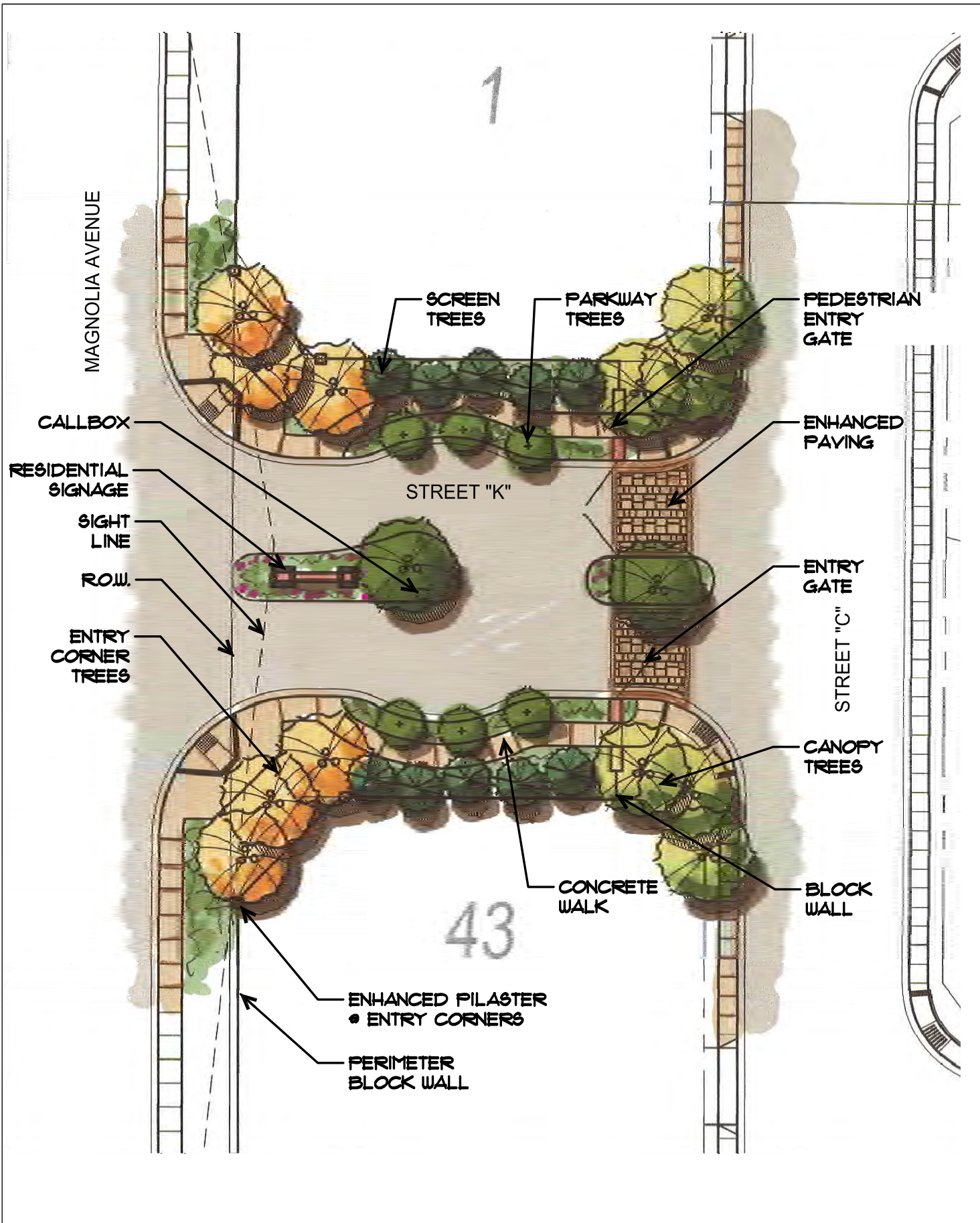


Source: Forma Design, Inc., November 2015.

FIGURE 3.1-5A



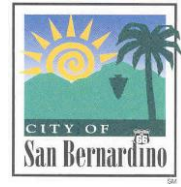
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Source: Forma Design, Inc., November 2015.

FIGURE 3.1-5B

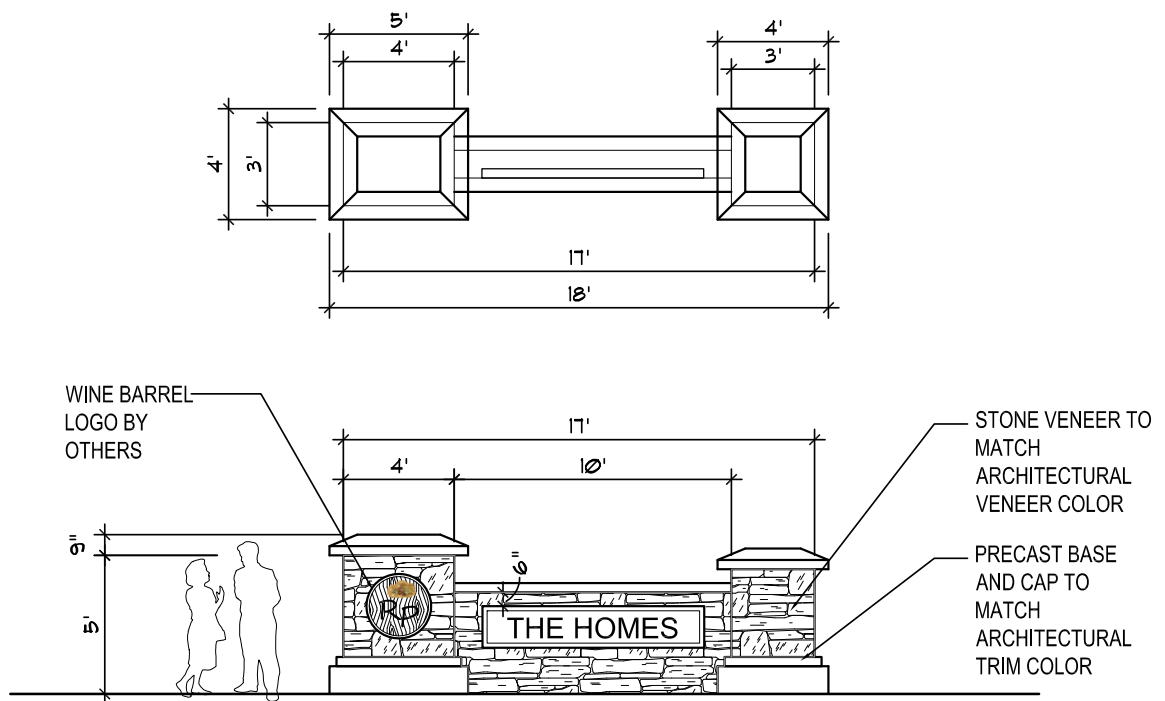
Project Entry Concept at Magnolia Avenue



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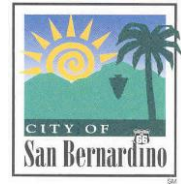
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Source: Forma Design, LLC., November 2015.

FIGURE 3.1-6A

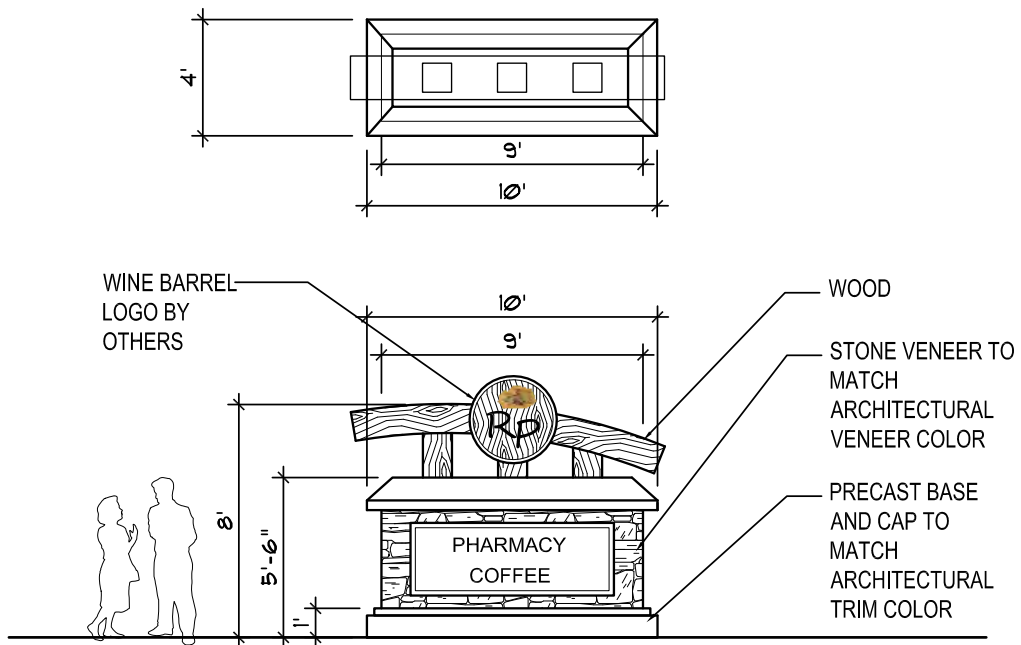
Residential Entry Monumentation



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Source: Forma Design, LLC., November 2015.

FIGURE 3.1-6B

Primary Commercial Monumentation



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3.2 Air Quality

This section evaluates potential air quality impacts associated with the proposed project and is focused on those areas defined and described in [Section 2.0, Project Description](#), of this EIR. The analysis is based primarily on the CEQA Air Quality Handbook, prepared by the South Coast Air Quality Management District (SCAQMD) in April 1993 (as revised through November 1993), Air Quality Data (California Air Resources Board 2004 through 2008), and the Final Air Quality Management Plan for the South Coast Air Basin, prepared by the SCAQMD (2012). Additionally, this section is based on information in the Rancho Palma Air Quality Impact Analysis and the Rancho Palma Mobile Source Air Toxic Health Risk Assessment completed by Urban Crossroads (2015a and 2015b). These reports are included in [Appendices 3.2-1](#) and [3.2-2](#) of this Draft EIR. Note that the Greenhouse Gas analysis can be found in [Section 3.6](#) of this Draft EIR.

3.2.1 Regulatory Setting

Regulatory oversight for air quality in the South Coast Air Basin rests with the US Environmental Protection Agency (EPA) Region IX office at the federal level, with the California Air Resources Board (CARB) at the state level, and with the SCAQMD at the regional level.

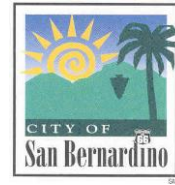
FEDERAL AND STATE

The proposed project has the ability to release gaseous emissions of criteria pollutants and dust into the ambient air; therefore, development activities under the proposed project entitlements fall under the ambient air quality standards promulgated at the local, state, and federal levels. The federal Clean Air Act of 1971 and the Clean Air Act Amendments (1977) established the national ambient air quality standards (NAAQS), which are promulgated by the EPA. The State of California has also adopted its own California ambient air quality standards (CAAQS), which are promulgated by CARB. Implementation of the project would occur in the South Coast Air Basin (SoCAB), which is under the air quality regulatory jurisdiction of the SCAQMD and is subject to the rules and regulations adopted by SCAQMD to achieve the national and state ambient air quality standards. Federal, state, regional, and local laws, regulations, plans, and guidelines are summarized below.

Ambient Air Quality Standards

The Clean Air Act of 1971 established NAAQS, with states retaining the option to adopt more stringent standards or to include other pollution species. These standards are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect those sensitive receptors most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both the State of California and the federal government have established health-based ambient air quality standards for six air pollutants. As shown in [Table 3.2-1, National and California Ambient Air Quality Standards](#), these pollutants include ozone (O₃), carbon monoxide (CO),



nitrogen dioxide (NO₂), sulfur dioxide (SO₂), coarse particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), and lead. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Air Quality Attainment Plans

The California Clean Air Act, approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan to achieve compliance with the California ambient air quality standards. The Air Quality Management Plan also serves as the basis for preparation of the State Implementation Plan for the State of California.

The SCAQMD and the Southern California Association of Governments (SCAG) are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the SoCAB pursuant to the federal Clean Air Act in order to reduce emissions of criteria pollutants for which the basin is in nonattainment. The SCAQMD drafted the 2012 Air Quality Management Plan in order to reduce emissions for which the South Coast Air Basin is in nonattainment. The 2012 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The 2012 AQMP is a regional and multi-agency effort including the SCAQMD, CARB, SCAG, and the EPA. The 2012 AQMP pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including the 2012 Regional Transportation Plan/Sustainable Communities Strategy, updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts (SCAQMD 2013). (SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans.)

The AQMP provides local guidance for the State Implementation Plan (SIP), which provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The attainment status for the SoCAB is included in [Table 3.2-1](#). As shown in [Table 3.2-1](#), the San Bernardino City area is nonattainment for state O₃, PM₁₀, and PM_{2.5} standards and federal O₃ and PM_{2.5} standards (CARB 2013 & 2014).

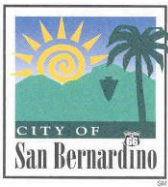
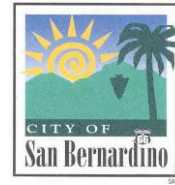


Table 3.2-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California		Federal	
		Standard	Attainment Status	Standard	Attainment Status
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Nonattainment	NA	NA
	8 Hours	0.07 ppm (137 µg/m ³)	Nonattainment	0.075 ppm (147 µg/m ³)	Nonattainment
Particulate Matter (PM ₁₀)	24 Hours	50 µg/m ³	Nonattainment	150 µg/m ³	Attainment
	Annual Arithmetic Mean	20 µg/m ³	Nonattainment	NA	Attainment
Fine Particulate Matter (PM _{2.5})	24 Hours	No Separate State Standard		35 µg/m ³	Unclassified
	Annual Arithmetic Mean	12 µg/m ³	Nonattainment	15 µg/m ³	Nonattainment
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment
	1 Hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm (56 µg/m ³)	NA	0.053 ppm (100 µg/m ³)	Attainment
	1 Hour	0.18 ppm (338 µg/m ³)	Attainment	0.100 ppm	NA
Lead	30 days average	1.5 µg/m ³	Attainment	N/A	NA
	Calendar Quarter	N/A	NA	1.5 µg/m ³	Attainment
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	N/A	NA	0.030 ppm (80 µg/m ³)	Attainment
	24 Hours	0.04 ppm (105 µg/m ³)	Attainment	0.14 ppm (365 µg/m ³)	Attainment
	3 Hours	N/A	NA	N/A	Attainment
	1 Hour	0.25 ppm (655 µg/m ³)	Attainment	N/A	NA
Visibility-Reducing Particles	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	No Federal Standards	
Sulfates	24 Hour	25 µg/m ³	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Unclassified		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m ³)	Unclassified		

µg/m³ = micrograms per cubic meter; ppm = parts per million; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = not applicable
Source: CARB 2013 & CARB 2014



South Coast Air Quality Management District Rules and Regulations

The SCAQMD is the air pollution control agency for Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino counties. The agency's primary responsibility is ensuring that the federal and state ambient air quality standards are attained and maintained in the South Coast Air Basin. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

The following is a list of noteworthy SCAQMD rules that are required of the proposed project during construction activities:

- **Rule 402 (Nuisance)** – This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.
- **Rule 403 (Fugitive Dust)** – This rule requires fugitive dust sources to implement Best Available Control Measures for all sources and all forms of visible particulate matter are prohibited from crossing any property line. Rule 403 is intended to reduce PM₁₀ emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. Examples of some PM₁₀ suppression techniques are summarized below.
 - a. Portions of the construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized in a manner acceptable to the City.
 - b. All on-site roads will be paved as soon as feasible or watered periodically or chemically stabilized.
 - c. All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.
 - d. The area disturbed by clearing, grading, earth moving, or excavation operations will be minimized at all times.
 - e. Where vehicles leave the construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the work day to remove soil tracked onto the paved surface.



- f. A wheel washing system will be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.
- g. Water will be applied to active portions of the site, including unpaved roads, in sufficient quantity.
- **Rule 1113 (Architectural Coatings)** – This rule requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce reactive organic gasses (ROG) emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories.

The following is a list of noteworthy SCAQMD rules that are required of the proposed project during project operations:

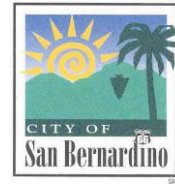
- **Rule 461 (Gasoline Transfer and Dispensing)** – This rule applies to the transfer of gasoline from any tank truck, trailer, or railroad tank car into any stationary storage tank or mobile fueler, and from any stationary storage tank or mobile fueler into any mobile fueler or motor vehicle fuel tank.
- **Rule 1401 (New Source Review of Toxic Air Contaminants)** – This rule specifies limits for maximum individual cancer risk (MICR), cancer burden, and noncancer acute and chronic hazard index (HI) from new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants.

State Air Toxics Program

Toxic air contaminants (TACs) are another group of pollutants of concern in Southern California. There are hundreds of different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle engine exhaust. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset spill conditions. Health effects of TACs include cancer, birth defects, neurological damage, and death.

In 1983, the California legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal Clean Air Act (42 United States Code Section 7412[b]) is a TAC. Under state law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics “Hot Spot” Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an “airborne toxics control measure” for sources that emit designated



TACs. If there is a safe threshold for a substance (a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. CARB has, to date, established formal control measures for 11 TACs, all of which are identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics “Hot Spot” Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

CARB has designated 244 compounds as TACs. Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

3.2.2 Environmental Setting

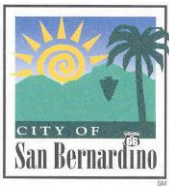
SOUTH COAST AIR BASIN

The South Coast Air Basin, which encompasses San Bernardino, is characterized as having a Mediterranean climate (a semi-arid environment with mild winters, warm summers, and moderate rainfall). The basin is a 6,600-square-mile area bounded by the Pacific Ocean to the west and by the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. The basin 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 basin’s terrain and geographical location (i.e., a coastal plain with connecting broad valleys and low hills) determine its distinctive climate.

The general region is in the semi-permanent high-pressure zone of the eastern Pacific. The climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the basin is a function of the area’s natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the basin.

CLIMATE

The basin’s climate is characterized by moderate temperatures and comfortable humidity, with precipitation limited to a few storms during the winter season (November through April). The average annual temperature varies little throughout the basin, averaging 75 degrees Fahrenheit. However, with a less pronounced oceanic influence, the basin’s eastern inland portions show greater variability in annual minimum and maximum temperatures. January is usually the coldest month at all locations, while July and August are usually the hottest months of the year. Although the basin has a semi-arid climate, the air near the surface is moist due to the presence of a shallow



marine layer. Except for infrequent periods when dry, continental air is brought into the basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as “high fog,” are a characteristic climate feature.

In San Bernardino, the climate is typically warm during the summer when temperatures tend to be in the 70s and 80s and cool during the winter when temperatures tend to be in the 50s. The warmest month of the year is July with an average maximum temperature of 96 degrees Fahrenheit, while the coldest month of the year is December with an average minimum temperature of 41 degrees Fahrenheit. Temperature variations between night and day tend to be moderate during the summer with a difference that can reach 33 degrees Fahrenheit and moderate during the winter with a difference of approximately 27 degrees Fahrenheit. The annual average precipitation in San Bernardino is 16.3 Inches. The wettest month of the year is February with an average rainfall of 3.7 inches (US Climate Data 2016).

AIR POLLUTANTS OF CONCERN

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These regulated air pollutants are known as criteria air pollutants and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), sulfur dioxide (SO₂), most particulate matter (PM₁₀ and PM_{2.5}), lead, and fugitive dust are primary air pollutants. Of these, CO, SO₂, PM₁₀, and PM_{2.5} are criteria pollutants. ROG and NO_x are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O₃) and nitrogen dioxide (NO₂) are the principal secondary criteria pollutants. Presented in [Table 3.2-2, Criteria Air Pollutants Summary of Common Sources and Effects](#), is a description of each of the primary and secondary criteria air pollutants and their known health effects.

Table 3.2-2. Criteria Air Pollutants Summary of Common Sources and Effects

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO ₂)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O ₃)	Formed by a chemical reaction between volatile organic compounds (VOC) and nitrous oxides (NO _x) in the presence of sunlight. VOCs are also commonly referred to as reactive organic gases (ROGs). Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles and dyes.

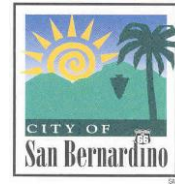


Table 3.2-2, continued

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Particulate Matter (PM ₁₀ & PM _{2.5})	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and other sources.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO ₂)	A colorless, nonflammable gas formed when fuel containing sulfur is burned; when gasoline is extracted from oil; or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.
Source: CAPCOA 2011		

MONITORED AIR QUALITY LEVELS

CARB monitors ambient air quality from approximately 250 air monitoring stations located across the state. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Each monitoring station is located in a Source Receptor Area. The communities in a Source Receptor Area have similar climatology and ambient air pollutant concentrations. San Bernardino is located in the Central San Bernardino Valley Source Receptor Area (Area 34).

The San Bernardino-4th Street Monitoring Station is the nearest air monitoring station, approximately 9.2 miles southeast of the project site. Air quality data from 2012 to 2014 for the San Bernardino-4th Street Monitoring Station is provided in [Table 3.2-3, Local Air Quality Levels](#). The following air quality information briefly describes the types of pollutants monitored at the local stations.

Table 3.2-3. Local Air Quality Levels

Pollutant	California Standard	Federal Primary Standard	Year	Maximum Concentration	Days (Samples) State/Federal Std. Exceeded
1-hour Ozone (O ₃)	0.09 ppm for 1 hour	NA ⁵	2012	0.124 ppm	41/0
			2013	0.139	22/2
			2014	0.121	38/0
8-hour Ozone (O ₃)	0.07 ppm for 8 hours	0.075 ppm for 8 hours	2012	0.109 ppm	74/54
			2013	0.112	53/36
			2014	0.099	76/51

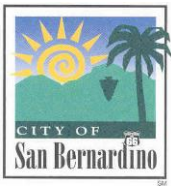


Table 3.2-3, continued

Pollutant	California Standard	Federal Primary Standard	Year	Maximum Concentration	Days (Samples) State/Federal Std. Exceeded
Carbon Monoxide (CO)	20 ppm	35 ppm	2012	—	—
			2013	—	—
			2014	4.0 ppm	0/0
Carbon Monoxide (CO)	9.0 ppm for 8 hours	9.0 ppm for 8 hours	2012	1.70 ppm	0/0
			2013	1.7	0/0
			2014	2.4	0/0
Nitrogen Dioxide (NO ₂)	0.18 ppm for 1 hour	0.100 ppm for 1 hour	2012	0.067 ppm	0/0
			2013	0.072	0/0
			2014	0.073	0/0
Fine Particulate Matter (PM _{2.5})	No Separate Standard	35 :g/m ³ for 24 hours	2012	34.8 µg/m ³	NA/0
			2013	55.3	NA/1
			2014	73.9	NA1
Particulate Matter (PM ₁₀)	50 :g/m ³ for 24 hours	150 :g/m ³ for 24 hours	2012	53 µg/m ³	1/0
			2013	102	3/0
			2014	136	4/0

Source: Urban Crossroads 2015a
ppm = parts per million; PM₁₀ = particulate matter 10 microns in diameter or less; NM = not measured; µg/m³ = micrograms per cubic meter; PM_{2.5} = particulate matter 2.5 microns in diameter or less; NA = not applicable

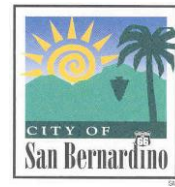
SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (or sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Land uses associated with sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes. The nearest sensitive receptor location is the residential community located approximately 151 feet (46 meters) east of the project site.

3.2.3 Significance Threshold Criteria

According to Appendix G of the CEQA Guidelines, the project may create a significant environmental impact if it causes one or more of the following to occur:

- a) Conflict with or obstruct implementation of the applicable air quality plan.
- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality



standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).

- d) Expose sensitive receptors to substantial pollutant concentrations.
- e) Create objectionable odors affecting a substantial number of people.

Under CEQA, the SCAQMD is an expert commenting agency on air quality and related matters within its jurisdiction or affecting its jurisdiction. The SCAQMD reviews projects to ensure that they will not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan.

The SCAQMD has also developed regional and localized significance thresholds for other regulated pollutants, as summarized in [Table 3.2-4, SCAQMD Emissions Thresholds](#). The SCAQMD's CEQA Air Quality Significance Thresholds (March 2011) indicate that any projects in the South Coast Air Basin with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

Table 3.2-4. SCAQMD Emissions Thresholds

Pollutant	Construction	Operations
Regional Thresholds		
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM ₁₀	150 lbs/day	150 lbs/day
PM _{2.5}	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Localized Thresholds		
CO	1,359 lbs/day (site preparation)	N/A
	1,488 lbs/day (grading)	
NOx	220 lbs/day (site preparation)	
	237 lbs/day (grading)	
PM ₁₀	11 lbs/day (site preparation)	
	12 lbs/day (grading)	
PM _{2.5}	6 lbs/day (site preparation)	
	7 lbs/day (grading)	
Source: Urban Crossroads 2015a Note: lbs/day – pounds per day. Localized thresholds for construction emissions are based on the SCAQMD look-up tables for a 4-acre disturbance with the nearest sensitive receptor 25 meters away.		



In addition to the daily thresholds listed above, the proposed project would be subject to the ambient air quality standards. These are addressed through an analysis of localized carbon monoxide impacts. The California 1-hour and 8-hour CO standards are:

- 1-hour = 20 parts per million
- 8-hour = 9 parts per million

The significance of localized impacts depends on whether ambient CO levels in the vicinity of a project are above state and federal CO standards. CO concentrations in San Bernardino no longer exceed the California or national ambient air quality standards criteria, and the SoCAB has been designated as attainment under the 1-hour and 8-hour standards.

The SCAQMD also regulates levels of TACs through a permitting process that covers both construction and operation. The SCAQMD considers any project involving the exposure of sensitive receptors to emissions of a carcinogenic or TACs that exceeds the maximum individual cancer risk of 10 in 1 million to be significant.

Based on these significance thresholds and criteria, the project's effects have been categorized as either effects found not to be significant or potentially significant impacts. Feasible mitigation measures that could avoid or minimize potentially significant impacts are identified. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

3.2.4 Project Impacts and Mitigation Measures

Impact 3.2-1

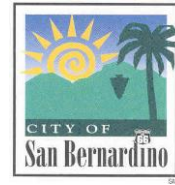
Would the project:

Conflict with or obstruct implementation of the applicable air quality plan?

Impact Analysis

As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the federal and state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

As previously mentioned, the project site is located in the South Coast Air Basin, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the federal Clean Air Act,



to reduce emissions of criteria pollutants for which the air basin is in nonattainment. In order to reduce such emissions, the SCAQMD drafted the 2012 Air Quality Management Plan. The 2012 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The 2012 AQMP pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including the 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy, updated emission inventory methodologies for various source categories, and SCAG’s latest growth forecasts (SCAQMD 2013). (SCAG’s latest growth forecasts were defined in consultation with local governments and with reference to local general plans.)

Criteria for determining consistency with the AQMP are defined by the following indicators:

- Consistency Criterion No. 1: The proposed project will not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.
- Consistency Criterion No. 2: The proposed project will not exceed the assumptions in the AQMP or increments based on the years of the project buildout phase.

The violations to which Consistency Criterion No. 1 refer are the California ambient air quality standards (CAAQS) and the national ambient air quality standards (NAAQS). As evaluated under Impact 3.2-2 below, the project would not exceed construction or operational standards and therefore, would not violate air quality standards. Therefore, the proposed project would comply with Consistency Criterion No. 1.

Concerning Consistency Criterion No. 2, the Air Quality Management Plan contains air pollutant reduction strategies based on SCAG’s latest growth forecasts, and SCAG’s growth forecasts were defined in consultation with local governments and with reference to local general plans. The existing General Plan land use designation for the site is Commercial General (CG-1). This land use category is intended for local- and regional-serving retail, personal service, entertainment, office, and other related commercial uses. Limited residential uses are also allowed with City approval of a Conditional Use Permit (CUP). With approval of a CUP, the proposed land uses on the project site are consistent with the City General Plan. Therefore, the development density and vehicle trip generation associated with the proposed project are not anticipated to be greater than the current assumptions contained in the City General Plan. Therefore, the proposed project would comply with Consistency Criterion No. 2.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.



Impact 3.2-2

Would the project:

Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Impact Analysis

Land uses such as the project affect air quality through construction-source and operational source emissions.

Criteria air pollutant emissions were modeled using the California Emissions Estimator Model (CalEEMod). CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operation from a variety of land use projects. Outputs from the model runs for both construction and operational activity are provided in [Appendix 3.2-1](#).

Construction Emissions

Construction activities associated with the project will result in emissions of CO, VOCs, NO_x, SO_x, PM₁₀, and PM_{2.5}. Construction-related emissions are expected from site preparation, grading, building construction, paving, architectural coating, and construction workers commuting.

Construction is expected to commence in January 2017 and extend through May 31, 2019. Modeling emissions based on this construction schedule represents a “worst-case” analysis scenario, and thus a conservative analysis, since emission factors for construction equipment will decrease as time passes due to increased stringency of emission regulations.¹ The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA guidelines. The construction of the residential component of the project is modeled as occurring separately from construction of the commercial component. The site-specific construction fleet may vary as a result of project needs at the time of construction. The duration of construction activity and types of construction equipment were based on CalEEMod 2013.2.2 defaults. Dust is typically a major concern during rough grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called fugitive emissions. Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was used to calculate fugitive dust emissions resulting from this phase of activity. The project site is currently vacant, and the project does not involve any demolition. Emissions from construction worker vehicles traveling to and from the project site, as well as vendor trips (construction materials delivered to the project site), were estimated based on CalEEMod defaults.

¹ As shown in the California Emissions Estimator Model (CalEEMod) User’s Guide Version 2013.2, Table 3.4 “OFFROAD Equipment Emission Factors” as the analysis year increases, emission factors for the same equipment pieces decrease because of the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.



Construction Emissions Summary

SCAQMD rules that are currently applicable during construction activity for this project include Rule 1113 (Architectural Coatings), Rule 431.2 (Low Sulfur Fuel), Rule 403 (Fugitive Dust), and Rule 1186 / 1186.1 (Street Sweepers). It should be noted that best available control methods are not mitigation, as they are standard regulatory requirements. Emission reductions attributable to implementation of Rule 403, fully described above, are accounted.

The estimated maximum daily construction emissions are summarized in [Table 3.2-5, Emissions Summary of Construction](#). Under the assumed scenarios, emissions resulting from project construction would not exceed applicable SCAQMD regional thresholds of significance. Therefore, a less than significant impact would occur during construction activities.

Table 3.2-5. Emissions Summary of Construction

Year	Emissions (pounds per day)					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
2017	37.36	81.72	48.73	0.07	10.00	6.46
2018	36.74	71.00	43.95	0.07	9.61	6.10
2019	68.67	29.91	35.75	0.07	4.16	2.22
Maximum Daily Emissions	68.67	81.72	48.73	0.07	10.00	6.46
SCAQMD Threshold	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source: Urban Crossroads 2015a, Table 3-4
See [Appendix 3.2-1](#) for the CalEEMod output files.

Operational Emissions

Operational activities associated with the proposed project will result in emissions of ROG, NOx, CO, SOx, PM₁₀, and PM_{2.5}. Operational emissions would be expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions

Area Source Emissions

Architectural Coatings

Over a period of time, the buildings that are part of this project will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of project maintenance. The emissions associated with architectural coatings were calculated using CalEEMod.



Consumer Products

Consumer products include but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults in CalEEMod.

Hearths/Fireplaces

The emissions associated with use of hearths/fireplaces were calculated based on assumptions in CalEEMod. The project is required to comply with SCAQMD Rule 445, which prohibits the use of wood-burning stoves and fireplaces in new development. In order to account for this rule's requirements, the unmitigated CalEEMod estimates were adjusted to remove wood-burning stoves and fireplaces. Because compliance with SCAQMD Rule 445 is required, the removal of wood-burning stoves and fireplaces is not considered mitigation.

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawn mowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the project. The emissions associated with landscape maintenance equipment were calculated based on assumptions in CalEEMod.

Energy Source Emissions

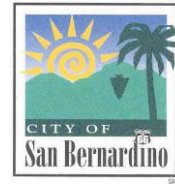
Combustion Emissions Associated with Natural Gas and Electricity

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and the consumption of natural gas. However, because electrical generating facilities for the project area are located either outside the region (in the state) or offset through the use of pollution credits for generation in the South Coast Air Basin, criteria pollutant emissions from off-site generation of electricity is generally excluded from the evaluation of significance and only natural gas use is considered. The emissions associated with natural gas use were calculated using CalEEMod.

Mobile Source Emissions

Vehicles

Project operational (vehicular) impacts are dependent on both overall daily vehicle trip generation and the effect of the project on peak-hour traffic volumes and traffic operations in the vicinity of the project. Project-related operational air quality impacts derive primarily from vehicle trips generated by the project. CalEEMod default trip characteristics were used in this analysis. Trip generation rates from the Institute of Transportation Engineers Trip Generation Handbook, 9th Edition, were also used in the analysis.



Fugitive Dust Related to Vehicular Travel

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of tire wear particulates. The emissions estimates for travel on paved roads were calculated using CalEEMod.

Operational Emissions Summary

The estimated total maximum daily operation emissions from project buildout are summarized in [Table 3.2-6, Summary of Peak Operational Emissions](#). As shown, emissions resulting from project operational activities would not exceed applicable SCAQMD regional thresholds of significance for operational air pollutant emissions.

Table 3.2-6. Summary of Peak Operational Emissions

Operational Emissions	Emissions (pounds per day)					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
Project Buildout – Summer Emissions						
Area Source	13.97	0.11	10.02	0.00	0.21	0.21
Energy Source	0.11	0.02	0.45	0.00	0.08	0.08
Mobile Source	19.43	44.25	177.51	0.43	28.45	8.01
Total Maximum Daily Emissions	33.53	45.39	187.99	0.44	28.75	8.31
SCAQMD Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No
Project Buildout – Winter Emissions						
Area Source	13.97	0.11	10.02	0.00	0.21	0.21
Energy Source	0.11	1.02	0.45	0.00	0.08	0.08
Mobile Source	18.85	45.98	173.77	0.40	28.45	8.01
Total Maximum Daily Emissions	32.94	47.12	184.25	0.41	28.75	8.31
SCAQMD Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No
Source: Urban Crossroads 2015a, Table 3-6 See Appendix 3.2-1 for the CalEEMod output files.						

As shown, emissions resulting from project operational activities would not exceed applicable SCAQMD regional thresholds of significance for air pollutant emissions. Therefore, operational air quality impacts are less than significant.

Impact Conclusion

Less than significant.



Mitigation Measures

No mitigation measures are required.

Impact 3.2-3

Would the project:

Expose sensitive receptors to substantial toxic air contaminant concentrations?

Impact Analysis

Development projects that involve numerous heavy-duty truck trips on-site create substantial quantities of diesel PM emissions, described as a TAC above, and therefore can negatively affect sensitive land uses. In addition, projects that locate sensitive receptors (i.e., residential land uses) near in proximity to a major freeway, such as Interstate 215, could result in the substantial exposure of sensitive receptors to diesel PM. The proposed project is a mixed-use development where the proposed commercial land uses could potentially result in numerous heavy-duty delivery truck trips on-site. The proposed residential land uses could be negatively affected by diesel PM emissions from such heavy-duty delivery truck trips as well as traffic on Interstate 215, which is adjacent to the project site. As a part of the environmental analysis, Urban Crossroads completed a health risk assessment titled Rancho Palma Mobile Source Air Toxic Health Risk Assessment to address the potential exposure of sensitive receptors to substantial concentration of the TAC, diesel PM. This assessment is included in [Appendix 3.2-2](#).

In urban communities, vehicle emissions contribute significantly to localized concentrations of air contaminants. Typically, emissions generated from these sources are characterized by vehicle mix, the rate pollutants are generated during the course of travel, and the number of vehicles traversing the roadway network.

Currently, emissions factors are generated from a series of computer-based programs to produce a composite emission rate for vehicles traveling at various speeds in a defined geographical area or along a discrete roadway segment. To account for the emissions standards imposed on the California fleet, CARB developed the EMFAC2014 emission factor model. EMFAC2014 was used to identify pollutant emission rates for total organic gases, diesel particulates, particulates (PM₁₀ and PM_{2.5}), carbon monoxide (CO), and nitrogen oxide (NO_x) compounds (Caltrans 2011). To produce a representative vehicle fleet distribution, the assessment utilized CARB's San Bernardino County population estimates for the 2020 calendar year as a conservative measure. This approach provides an estimate of vehicle mix associated with operational profiles at the link or intersection level.

Based on freeway traffic volumes and population profiles, discrete traffic counts were identified for each roadway segment. As discussed in the Mobile Source Air Toxic Health Risk Assessment completed for the proposed project, diesel vehicles account for 5.12 percent of the on-road mobile fleet. For chronic (long-term) and acute (e.g., 1-hour) exposures, annual average daily traffic values were averaged to produce representative hourly traffic volumes.

[Table 3.2-7, SCAQMD Toxic Air Contaminant Significance Thresholds](#), outlines the relevant SCAQMD significance thresholds considered to affect local air quality.

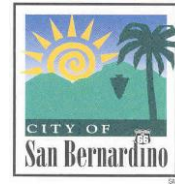


Table 3.2-7. SCAQMD Toxic Air Contaminant Significance Thresholds

Pollutant	Averaging Time	Pollutant Concentration
Particulates (PM ₁₀) Particulates (PM _{2.5})	24 Hours	2.5 µg/m ³ (operation)
Particulates (PM ₁₀)	Annual	1.0 µg/m ³
Carbon Monoxide (CO)	1 Hour 8 Hours	SCAQMD is in attainment; impacts are significant if they cause or contribute to an exceedance of the following attainment standards: 20 ppm (1-hour) and 9 ppm (8-hour).
Nitrogen Dioxide (NO ₂)	1 Hour	SCAQMD is in attainment; impacts are significant if they cause or contribute to an exceedance of the following attainment standard: 0.18 ppm.
<small>Source: Urban Crossroads 2015b, Table 5-3 Notes: ppm = parts per million; µg/m³= micrograms per cubic meter</small>		

For the maximum exposed residential receptor, results of the analysis predicted freeway emissions will produce PM₁₀ concentrations of 0.74 micrograms per cubic meter (µg/m³) for the 24-hour averaging time and 0.49 µg/m³ for the annual averaging time. These values will not exceed the SCAQMD significance thresholds of 2.5 µg/m³ and 1.0 µg/m³, respectively.

For PM_{2.5}, a maximum 24-hour average concentration of 0.245 µg/m³ was predicted. This value also will not exceed the identified significance threshold of 2.5 µg/m³.

The maximum modeled 1-hour average concentration for CO of 0.22 parts per million (ppm), when added to an existing background concentration of 4.0 ppm, would equal a total project concentration of 4.22 ppm. This would not cause an exceedance of the California ambient air quality standard of 20 ppm. For the 8-hour averaging time, the maximum predicted concentration of 0.18 ppm, when added to an existing background level of 2.4 ppm, would equal a total project concentration of 2.58 ppm. This would not cause an exceedance of the California ambient air quality standard of 9 ppm.

For NO₂, a maximum 1-hour concentration of 0.023 ppm was predicted. This concentration, when added to a background concentration of 0.073 ppm, would equal a total project concentration of 0.096 ppm. This would not cause an exceedance of the CAAQS of 0.18 ppm (Urban Crossroads 2015b, p. 17).

For carcinogenic exposures, the summation of risk for the maximum exposed residential receptor totaled 8.91 in one million for the 30-year and 2.67 in one million for the 9-year exposure scenarios. In comparison to the threshold level of 10 in one million, carcinogenic risks will not exceed the applicable thresholds for both the 30- and 9-year exposure scenarios. Therefore, carcinogenic exposures are calculated to be within acceptable limits and are less than significant.

For chronic noncarcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one for both the 30-year and 9-year exposure scenarios. For acute exposures, the hazard indices for the identified averaging times did not exceed unity. Therefore, noncarcinogenic hazards are calculated to be within acceptable limits and a less than significant impact would occur.



Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.2-4

Would the project:
Expose sensitive receptors to substantial pollutant concentrations?

Impact Analysis

Localized Significance – Construction Activity

Background on Localized Significance Thresholds

The analysis makes use of methodology included in the SCAQMD Final Localized Significance Threshold Methodology. The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as localized significance thresholds (LSTs).

The SCAQMD established localized significance thresholds in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses. The analysis makes use of methodology included in the SCAQMD Final Localized Significance Threshold Methodology. LSTs apply to CO, NO₂, PM₁₀, and PM_{2.5}.

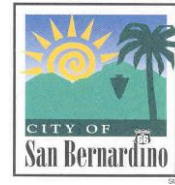
Emissions Considered

The SCAQMD's methodology clearly states that off-site mobile emissions from the project should not be included in the emissions compared to LSTs. Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod on-site emissions outputs were considered.

Applicability of LSTs for the Project

For this project, the appropriate Source Receptor Area (SRA) for the LST is the Central San Bernardino Valley 2 monitoring station (SRA 34). The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size. In order to determine the appropriate methodology for determining localized impacts that could occur as a result of project-related construction, the following process is undertaken:

- CalEEMod is used to determine the maximum daily on-site emissions that will occur during construction activity.



- The SCAQMD’s Fact Sheet for Applying CalEEMod to Localized Significance Thresholds is used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod.
- If the total acreage disturbed is less than or equal to 5 acres per day, the SCAQMD’s screening look-up tables are used to determine whether a project has the potential to result in a significant impact. The look-up tables establish a maximum daily emissions threshold in pounds per day that can be compared to CalEEMod outputs.
- If the total acreage disturbed is greater than 5 acres per day, the SCAQMD recommends dispersion modeling to be conducted to determine the actual pollutant concentrations for applicable LSTs in the air. In other words, the maximum daily on-site emissions as calculated in CalEEMod are modeled via air dispersion modeling to calculate the actual concentration in the air (e.g., parts per million or micrograms per cubic meter) in order to determine whether any applicable thresholds are exceeded.

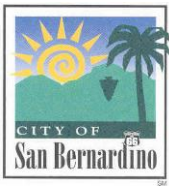
Maximum Daily Disturbed Acreage

Table 3.2-8, Maximum Daily Disturbed Acreage, is used to determine the maximum daily disturbed acreage for use in determining the applicability of the SCAQMD’s localized significance threshold look-up tables. Based on *Table 3.2-8*, the project could actively disturb approximately 3.5 acres per day during the peak site preparation phase and 4 acres per day during the peak grading phase.

Table 3.2-8. Maximum Daily Disturbed Acreage

Equipment Type	Number	Acres Graded per 8-Hour Day	Operating Hours per Day	Acres Graded per Day
Site Preparation				
Rubber-Tired Dozers	3	0.5	8	1.5
Crawler Tractors	4	0.5	8	2
Graders	0	0.5	8	0
Scrapers	0	1	8	0
Total Acres Graded per Day				3.5
Grading				
Rubber-Tired Dozers	1	0.5	8	0.5
Crawler Tractors	2	0.5	8	1
Graders	1	0.5	8	0.5
Scrapers	2	1	8	2
Total Acres Graded per Day				4

Source: Urban Crossroads 2015a, Table 3-8



Construction-Source Emissions LST Analysis

Since the project’s maximum daily disturbed acreage is less than 5 acres per day, the SCAQMD’s localized significance threshold look-up tables are used in determining localized impacts. This methodology is consistent with recent recommendations made by SCAQMD planning staff (Urban Crossroads 2015a, p. 32).

[Table 3.2-9, Localized Significance Summary of Construction](#), identifies the localized impacts at the nearest receptor location in the vicinity of the proposed project. As shown, emissions during construction activity would not exceed the SCAQMD’s localized significance thresholds.

Table 3.2-9. Localized Significance Summary of Construction

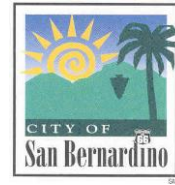
Equipment Type	Emissions (pounds per day)			
	NOx	CO	PM ₁₀	PM _{2.5}
On-Site Site Preparation Emissions				
Phase 1	51.75	39.40	9.81	6.41
Phase 2	45.61	36.23	9.41	6.05
Maximum Daily Emissions	51.75	39.40	9.80	6.41
SCAQMD Localized Threshold	246	1,838	29	8
Threshold Exceeded?	No	No	No	No
On-Site Grading Emissions				
Phase 1	81.62	47.50	7.35	4.71
Phase 2	70.92	42.84	6.84	4.25
Maximum Daily Emissions	81.62	47.50	7.35	4.71
SCAQMD Localized Threshold	263	1,989	33	8
Threshold Exceeded?	No	No	No	No
Source: Urban Crossroads 2015a, Table 3-9 See Appendix 3.2-1 for the CalEEMod output files.				

Localized Significance – Long-Term Operational Activity

The proposed project involves the construction and operation of 120 single-family detached residential dwelling units and 98,000 square feet of commercial retail. According to SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., warehouse or transfer facilities). The proposed project does not include such uses. Thus, due to the lack of stationary source emissions, no long-term localized significance threshold analysis is required.

Impact Conclusion

Less than significant.



As shown above, project operational-source emissions would not result in or cause a significant localized air quality impact.

Mitigation Measures

No mitigation measures are required.

Impact 3.2-5

Would the project:

Expose sensitive receptors to substantial pollutant concentrations – carbon monoxide?

Impact Analysis

A CO hot-spots analysis is needed to determine whether the change in the level of service (LOS) of an intersection as a result of the proposed project would have the potential to result in exceedances of the California or national ambient air quality standards (CAAQS or NAAQS).

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when vehicles are idling at intersections. Vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the project vicinity have steadily declined.

Accordingly, with the steadily decreasing carbon monoxide emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. The analysis prepared for CO attainment in the South Coast Air Basin by the SCAQMD can be used to assist in evaluating the potential for carbon monoxide exceedances in the air basin. CO attainment was thoroughly analyzed as part of the SCAQMD's 2003 Air Quality Management Plan update (2003 AQMP) and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan). As discussed in the 1992 CO Plan, peak carbon monoxide concentrations in the South Coast Air Basin are due to unusual meteorological and topographical conditions, and are not due to the impact of particular intersections. Considering the region's unique meteorological conditions and the increasingly stringent CO emissions standards, carbon monoxide modeling was performed as part of 1992 CO Plan and subsequent plan updates and air quality management plans.

In the 1992 CO Plan, a CO hot-spot analysis was conducted for four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The analysis in the 1992 CO Plan did not result in a violation of carbon monoxide standards (current CO standards are the same as the 1992 standards [CARB 2009]). The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the level of service in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be LOS E at peak morning traffic and LOS F at peak afternoon traffic. A review of Exhibit 10-2 of the Traffic Impact



Study prepared for the project (Urban Crossroads 2015c) show that even under cumulative plus project conditions, none of the project vicinity intersections would experience 100,000 average daily trips.

More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2016). The proposed project would not produce the volume of traffic required to generate a CO hot spot, either in the context of the 2003 Los Angeles hot-spot study or based on representative BAAQMD carbon monoxide threshold considerations

For the reasons described, CO hot spots are not an environmental impact of concern for the proposed project. The proposed project would not produce the volume of peak hour traffic required to generate a CO hot spot. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.2-6

Would the project:

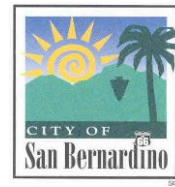
Create objectionable odors affecting a substantial number of people?

Impact Analysis

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet,



then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word “strong” to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

The potential for the project to generate objectionable odors has been considered. According to the SCAQMD, land uses generally associated with odor complaints include agricultural uses (livestock and farming), wastewater treatment plants, chemical plants, asphalt and cement plant, composting operations, refineries, landfills, dairies, rendering plants, rail yards, and fiberglass molding facilities. The project does not contain any of these land uses identified as typically associated with emissions of objectionable odors.

However, as previously described, the ability to detect odors varies considerably among the population and is inherently subjective in nature. For instance, the project proposes up to 98,000 square feet of commercial land uses, which could potentially include such uses as coffee shops, fast-food and sit-down restaurants, or other uses that are potential sources of odors that may affect certain people. For example, cooking odors (molecules) generated by the combustion of animal and vegetable matter result in a complex mixture of reactive odorous gases. A small percentage of these odors may be absorbed by the grease particles, but the vast majority exists separately in the airstream. The two common methods of abating odor from cooking are (1) the use of an odor oxidant (potassium permanganate) which oxidizes the molecules to solids and then retains them; and (2) a spray odor neutralizer system. Either of the above-mentioned types of odor control can remove 85 to 90 percent of the molecules, depending on the type of cooking. Any future restaurant uses would be required to comply with all State regulations associated with cooking equipment and controls, such as grease filtration and removal systems, exhaust hood systems, and blowers to move air into the hood systems, through air cleaning equipment, and then outdoors. Any future restaurant uses would be equipped with kitchen exhaust systems and pollution/odor control systems. Pollution/odor control systems typically include smoke control, odor control, and exhaust fan sections. Such equipment would ensure that pollutants associated with smoke and exhaust from cooking surfaces would be captured and filtered, allowing only filtered air to be released into the atmosphere.

Heavy-duty haul trucks used for commercial-related deliveries would emit odors associated with the burning of diesel fuel. However, such exhaust odors would dissipate quickly and are common in a suburban environment. The residential component of the project would also generate odors. Typical odor-producers in a residential environment include lawnmowers, barbecues, trash cans, and dumpsters. However, such odor sources are also common in a suburban environment and are unlikely to cause complaints.

The proposed project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Rule 402 prohibits the discharge from any source that causes nuisance, annoyance, or discomfort to a considerable number of persons.



For these reasons, odors associated with the proposed project would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

3.2.5 Cumulative Impacts and Mitigation Measures

Impact 3.2-7

Would the project:

Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Impact Analysis

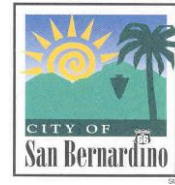
The project area is designated as an extreme nonattainment area for ozone and a nonattainment area for PM₁₀ and PM_{2.5}.

Criterion 1: Regional Analysis

The SCAQMD's approach to assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and California Clean Air Acts. The SCAQMD has published a report on how to address cumulative impacts from air pollution titled White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (SCAQMD 2003b). In this report, the SCAQMD states:

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

Refer also to [Figure 3.2-1, Cumulative Projects Map](#). As discussed earlier, the project would not result in exceedances of any applicable thresholds which are designed to assist the region in attaining the applicable state and national ambient air quality standards (see Impact 3.2-2). In addition, the proposed project would be consistent with the Air Quality Management Plan (see Impact 3.2-1), which is intended to bring the SoCAB into attainment for all criteria pollutants, since the project-specific evaluation of emissions demonstrates that projected emissions would not exceed SCAQMD significance thresholds. Furthermore, the project would comply with SCAQMD's Rule 403 pertaining to fugitive dust control during construction, as well as with all other adopted AQMP emissions control measures. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same



requirements would also be imposed on all projects basin-wide. As such, cumulative impacts would be less than cumulatively considerable.

Impact Conclusion

Less than cumulatively considerable.

Mitigation Measures

No mitigation measures are required.

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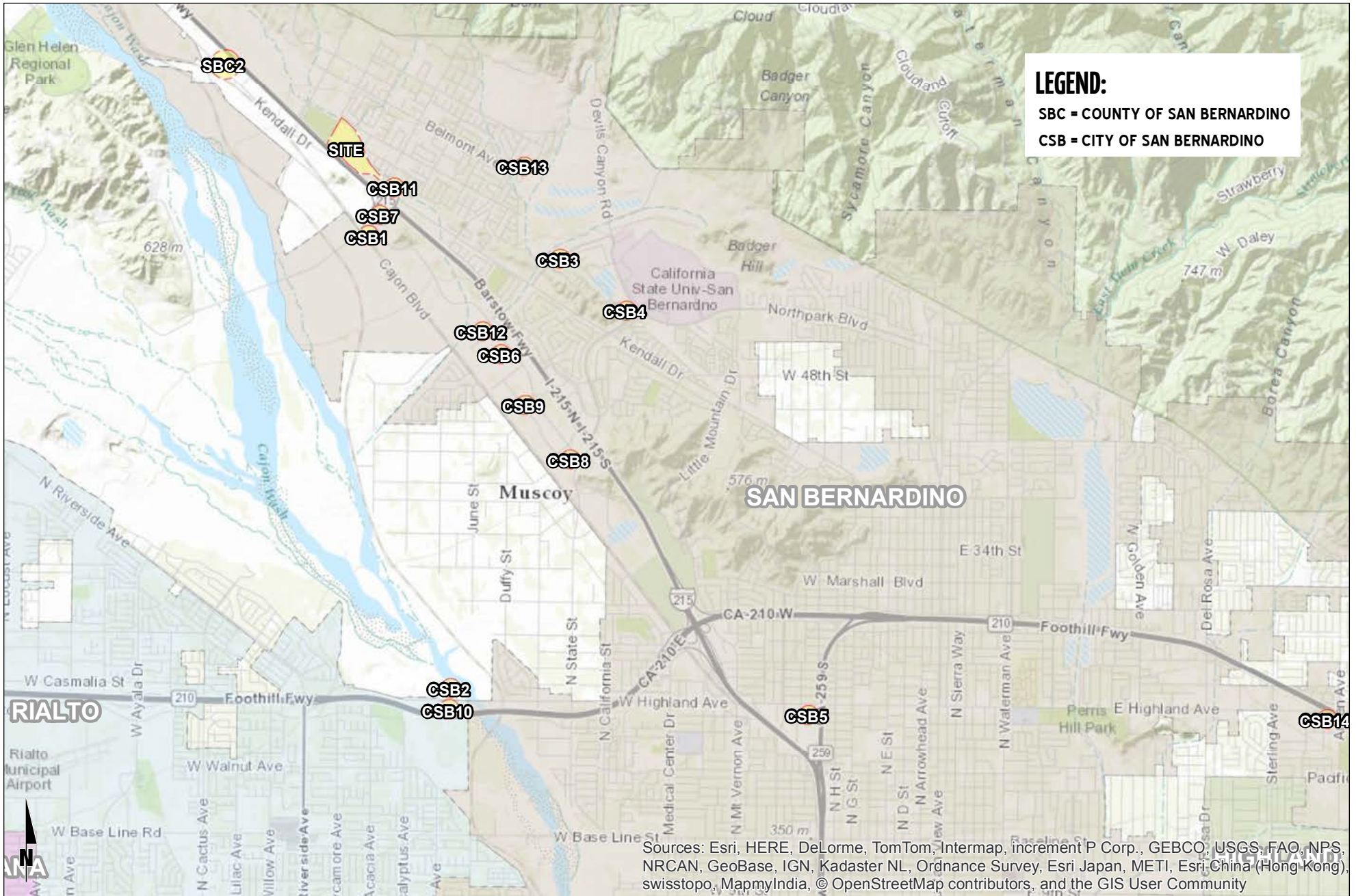


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Source: Rancho Palma Traffic Impact Analysis, Urban Cororoads, September 2015.



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3.3 Biological Resources

This section describes biological resources in the City of San Bernardino, evaluates potential impacts to biological resources associated with implementation of the proposed project, and proposes mitigation measures to reduce those impacts that are determined to be significant. Jericho Systems prepared a Burrowing Owl Survey Report on September 1, 2015 and a Biological Resources Report on September 1, 2015; refer to [Appendices 3.3-1](#) and [3.3-2](#). A technical memorandum addressing the San Bernardino Kangaroo Rat was subsequently prepared in April 2016 and is provided as [Appendix 3.3-3](#).

3.3.1 Regulatory Setting

FEDERAL REGULATIONS

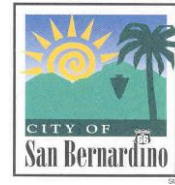
Endangered Species Act

The Endangered Species Act (ESA) provides legislation to protect federally listed plant and animal species. It provides legal protection and requires definition of critical habitat and development of recovery plans for plant and animal species in danger of extinction. The ESA requires all federal agencies to consider listed species in their planning efforts and to take positive actions to further the conservation of these species. Acquisition, development reviews, or the establishment of mitigation and enhancement measures can address threats to critical habitat areas. Section 9 of the ESA prohibits any taking of a listed species. The definition of “take” includes to harass, harm, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. A notable component of this definition is the definition of “harm.” Harm in the definition of take means an act that actually kills or injures protected wildlife. Such acts may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering (50 Code of Federal Regulations [CFR] 17.3). Sections 7 and 10 of the ESA describe agency consultation procedures that allow the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) to approve exceptions to the federal prohibition against take of listed species. If there is a federal nexus (i.e., another federal agency involved with a project), Section 7 requires federal interagency consultation to minimize impacts to listed species. If no other federal agency is involved, Section 10 may be used for activities connected to a single project or for takings as small as a single specimen. Under both Sections 7 and 10, the USFWS and/or the NMFS will evaluate potential effects of the project and require specific protection measures.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the Fish and Game Code (FGC).

All raptors and their nests are protected from take or disturbance under the MBTA (16 USC Section 703 et seq.) and California statute (FGC Section 3503.5). The golden eagle and bald eagle are also



afforded additional protection under the Eagle Protection Act, amended in 1973 (16 USC Section 669 et seq.).

Clean Water Act

Section 401 of the federal Clean Water Act (CWA) requires any applicant for a federal license or permit that is conducting any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards. The appropriate Regional Water Quality Control Board (RWQCB) regulates Section 401 requirements.

Section 404 of the CWA prohibits the discharge of dredged or fill material into waters of the United States without a permit from the US Army Corps of Engineers (USACE). The USACE and the US Environmental Protection Agency (EPA) administer the act. In addition to streams with a defined bed and bank, the definition of waters of the United States includes wetland areas “that are inundated or saturated by surface or groundwater 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” (33 CFR 328.3 7b). The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (33 CFR Section 328.4[c][1]).

If adjacent wetlands occur, the limits of jurisdiction extend beyond the ordinary high water mark to the outer edge of the wetlands. The presence and extent of wetland areas are normally determined by examination of the vegetation, soils, and hydrology of a site. The majority of jurisdictional wetlands exhibit three wetland criteria—hydrophytic vegetation, wetland hydrology, and hydric soils.

Substantial impacts to jurisdictional wetlands may require an individual permit. Small-scale projects may require a nationwide permit, which typically has an expedited process compared to the individual permit process. Mitigation of wetland impacts is required as a condition of the 404 permit and may include on-site preservation, restoration, and/or enhancement and/or off-site restoration or enhancement. The characteristics of the restored or enhanced wetlands must be equal to or better than those of the affected wetlands to achieve no net loss of wetlands.

STATE REGULATIONS

California Endangered Species Act

The State of California enacted similar laws to the federal ESA—the California Native Plant Protection Act (NPPA) in 1977 and the California Endangered Species Act (CESA) in 1984. The CESA expanded on the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the California Fish and Game Code. To align with the federal ESA, the CESA created the categories of threatened and endangered species. It converted all rare animals into the CESA as threatened species, but did not do so for rare plants. Thus, these laws provide the legal framework for protection of California-listed rare, threatened, and endangered plant and animal species. The California Department of Fish and Wildlife implements NPPA and CESA, and its Wildlife and Habitat Data Analysis Branch maintains the California Natural Diversity Database (CNDDB), a computerized inventory of information on the general location and status of California’s rarest



plants, animals, and natural communities. During the CEQA review process, the CDFW is given the opportunity to comment on the potential of the project to affect listed plants and animals.

In addition, the CDFW generally requires a CESA Section 2081(b) permit for incidental take of listed threatened and endangered plants from development activities. CEQA defines rare and endangered plants under Section 15380, and the CNPS maintains the California Rare Plant Rank (CRPR) list of rare plants; List 1B and 2 plants are generally considered rare under CEQA Guidelines Section 15380. According to the thresholds of significance listed below, a significant impact would occur if a substantial degradation in the quality of the environment or reduction of habitat would occur that would eliminate or reduce the population of a sensitive species in the planning area.

California Fish and Game Code

Native Plant Protection Act

The Native Plant Protection Act (FGC Sections 1900–1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered (as defined by the CDFW). An exception in the act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify the CDFW and give that state agency at least 10 days to retrieve the plants before they are plowed under or otherwise destroyed (FGC Section 1913). Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

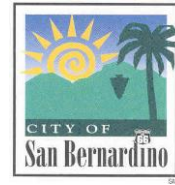
Birds of Prey

Under FGC Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

“Fully Protected” Species

California statutes also afford “fully protected” status to a number of specifically identified birds, mammals, reptiles, and amphibians. These species cannot be “taken,” even with an incidental take permit. FGC Section 3505 makes it unlawful to take “any egret or egret, osprey, bird of paradise, goura, numidi, or any part of such a bird. FGC Section 3511 protects from take the following fully protected birds: (a) American peregrine falcon (*Falco peregrinus anatum*); (b) brown pelican (*Pelecanus occidentalis*); (c) California black rail (*Laterallus jamaicensis coturniculus*); (d) California clapper rail (*Rallus longirostris obsoletus*); (e) California condor (*Gymnogyps californianus*); (f) California least tern (*Sterna albifrons browni*); (g) golden eagle; (h) greater sandhill crane (*Grus canadensis tabida*); (i) light-footed clapper rail (*Rallus longirostris levipes*); (j) southern bald eagle (*Haliaeetus leucocephalus leucocephalus*); (k) trumpeter swan (*Cygnus buccinator*); (l) white-tailed kite (*Elanus leucurus*); and (m) Yuma clapper rail (*Rallus longirostris yumanensis*).

FGC Section 4700 identifies the following fully protected mammals that cannot be taken: (a) Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*); (b) bighorn sheep (*Ovis canadensis*), except Nelson bighorn sheep (subspecies *Ovis canadensis nelsoni*); (c) northern



elephant seal (*Mirounga angustirostris*); (d) Guadalupe fur seal (*Arctocephalus townsendi*); (e) ring-tailed cat (genus *Bassariscus*); (f) Pacific right whale (*Eubalaena sieboldi*); (g) salt-marsh harvest mouse (*Reithrodontomys raviventris*); (h) southern sea otter (*Enhydra lutris nereis*); and (i) wolverine (*Gulo gulo*).

FGC Section 5050 protects from take the following fully protected reptiles and amphibians: (a) blunt-nosed leopard lizard (*Crotaphytus wislizenii silus*); (b) San Francisco garter snake (*Thamnophis sirtalis tetrataenia*); (c) Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*); (d) limestone salamander (*Hydromantes brunus*); and (e) black toad (*Bufo boreas exsul*).

FGC Section 5515 identifies certain fully protected fish that cannot lawfully be taken, even with an incidental take permit. The following species are protected in this fashion: (a) Colorado River squawfish (*Ptychocheilus lucius*); (b) thicketail chub (*Gila crassicauda*); (c) Mohave chub (*Gila mohavensis*); (d) Lost River sucker (*Catostomus luxatus*); (e) Modoc sucker (*Catostomus microps*); (f) shortnose sucker (*Chasmistes brevirostris*); (g) humpback sucker (*Xyrauchen texanus*); (h) Owens River pupfish (*Cyprinoden radiosus*); (i) unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*); and (j) rough sculpin (*Cottus asperimus*).

Sensitive Vegetation Communities

Sensitive vegetation communities are natural communities and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. These resources have been defined by various federal, state, and local conservation plans, policies, or regulations. The CDFW ranks sensitive communities as threatened or very threatened and keeps records of their occurrences in the CNDDDB. The CDFW also identifies sensitive vegetation communities on its List of California Natural Communities Recognized by the CNDDDB. Impacts to sensitive natural communities and habitats identified in local or regional plans, policies, and regulations, or by federal or state agencies, must be considered and evaluated under CEQA.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act defines waters of the State as “any surface water or groundwater, including saline waters, within the boundaries of the State.” The RWQCB protects all waters in its regulatory scope, but has special responsibility for isolated wetlands and headwaters. These water bodies have high resource value, are vulnerable to filling, and may not be regulated by other programs, such as CWA Section 404. The RWQCB regulates waters of the State under the Water Quality Certification Program, which regulates discharges of dredged and fill material under CWA Section 401 and the Porter-Cologne Water Quality Control Act. Projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact waters of the State are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge of harmful substances to waters of the State, the RWQCB has the option to regulate such activities under its state authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements.



Species of Special Concern

Species of special concern are broadly defined as animals not listed under the CESA, but which are nonetheless of concern to the CDFW because they are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by the CDFW, land managers, consulting biologists, and others, and is intended to focus attention on the species to help avert the need for costly listing under the CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species and to focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under CEQA during project review.

LOCAL

City of San Bernardino Municipal Code

City Ordinance MC-1027 and MC-682 (Title 15, Chapter 15.34) prohibit the removal and destruction of more than five trees within any 36-month period from a development site or parcel of property without first being issued a permit from the Development Services Department. Per the Municipal Code, a permit is not required when a lawful order to remove the trees for health and safety purposes has been issued by a local, state, or federal government agency, nor is a permit required if a removal is to be accomplished by or under the auspices of a governmental entity.

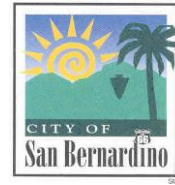
3.3.2 Environmental Setting

The proposed project area consists of an approximately 42-acre site located along the northeast side of West Little League Drive and west of Palm Avenue in the Verdemont area of the City of San Bernardino, California. It comprises portions of Sections 1, 2, and 8, of Township 1 North, Range 5 West, San Bernardino Base and Meridian, as shown on the 7.5-minute USGS San Bernardino North topographic quadrangle. The site is largely west of the Cable Creek Channel and east of Little League Drive, however a 0.5-acre portion of the site exists east of the Channel.

PHYSICAL AND BIOLOGICAL SETTING

Soils on the site are dominated by the Soboba Stony Loamy Sand and Tujunga Gravelly Loamy Sand series, which are characteristically excessively well drained to somewhat excessively well drained soils formed in alluvium from predominantly granitic rock sources and are usually found in alluvial fans and floodplains. They primarily consist of very stony, gravelly, loamy sand.

The site is completely disturbed and there is evidence of dumping. Only bare ground and non-native and ruderal vegetation exists throughout most of the site. The 0.5-acre portion of the site adjacent to the north side of Cable Creek consists mostly of non-native ruderal species. Native plant species observed on the site include mulefat (*Baccharis salicifolia*), hairy yerba santa (*Eriodictyon trichocalyx*), buckwheat (*Eriogonum fasciculatum*), sunflower (*Helianthus annuus*), and scalebroom (*Lepidospartum squamatum*). The majority of plant species observed on the site were non-native invasive species including giant reed (*Arundo donax*), star thistle (*Centaurea melitensis*), redstem stork's bill (*Erodium cicutarium*), shortpod mustard (*Hirschfeldia incana*),



tree tobacco (*Nicotiana glauca*), Russian thistle (*Salsola tragus*), tamarisk (*Tamarix ramosissima*), and puncturevine (*Tribulus terrestris*). Numerous non-native olive trees (*Olea europaea*) line the northwestern boundary of the site, adjacent to the southeast side of the Magnolia Avenue alignment.

There is a less than 2,500 square feet patch of native alluvial scrub vegetation at the farthest southeast corner of the site consisting of hairy yerba santa, buckwheat, and scalebroom. Much of the northern boundary of the project site abuts the levee on the south side of Cable Creek, and an approximately 475-foot stretch of Cable Creek traverses the northeastern corner of the project site. The immediately adjacent uses are consistent with the land uses in the general area and include residential and commercial uses.

REGULATORY REVIEW

Jericho Systems (2015) reviewed several sources to characterize the environmental setting on the project site. Project-related documentation was reviewed to collect site-specific data regarding habitat suitability for special-status species and to identify potentially jurisdictional waters. Additional information was obtained from a variety of outside data sources and can be found in the reference list. Preliminary database searches were performed on the following websites to identify special-status species with the potential to occur in the area:

- US Fish and Wildlife Service's (USFWS) Information, Planning, and Conservation (IPaC) System (2014a)
- USFWS Critical Habitat Portal (2014b)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (2014)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (2015)

The USFWS Information, Planning, and Conservation System was reviewed for an up-to-date list of federally listed species and critical habitats occurring or expected to occur in the project area. The California Natural Diversity Database (CNDDDB) and the California Native Plant Society's Inventory of Rare and Endangered Plants of California were reviewed for the San Bernardino North and Devore US Geological Survey (USGS) 7.5-minute quadrangles.

SENSITIVE HABITATS

Sensitive habitats include:

- areas of special concern to resource agencies;
- areas which provide habitat for rare or endangered species which meet the definition of Section 15380 of the California Environmental Quality Act guidelines;



- areas designated as sensitive natural communities by the CDFW;
- areas outlined in California Fish and Game Code Section 1600;
- areas regulated under Clean Water Act Section 404;
- areas protected under CWA Section 401, and;
- areas protected under local regulations and policies.

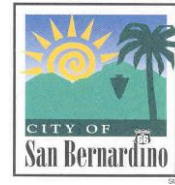
The USFWS defines critical habitat as a specific area that is essential for the conservation of a federally listed species and which may require special management considerations or protection. Critical habitat is designated by the USFWS for some threatened and endangered species. According to the USFWS IPac list, the project area is not located within or adjacent to any designated critical habitat (Jericho Systems 2015a).

The County of San Bernardino issued a comment on the Notice of Preparation ([Appendix 1-1](#)) stating that the project site is adjacent to USFWS designated critical habitat for San Bernardino kangaroo rat (SBKR). The biological resources report (Jericho Systems 2015; [Appendix 3.3-2](#)) determined that critical habitat for SBKR is not found adjacent to the proposed project site. The biological report describes the methods used and on site conditions observed to make that determination. Additionally, in response to the comment on the Notice of Preparation, Shay Lawry from Jericho Systems, Inc., issued a follow up memo expanding the discussion on SBKR:

A Biological Resources Report was prepared for the Rancho Palma Project, which provided an analysis of the proposed project relative to SBKR and U. S. Fish and Wildlife Service (USFWS) designated Critical Habitat for SBKR, as well as any other designated Critical Habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the California Department of Fish and Wildlife (CDFW) or the California Native Plant Society (CNPS) that may potentially be impacted by the proposed project.

The findings of the Biological Resources Report specific to SBKR and SBKR Critical Habitat were that no direct or indirect impacts to SBKR or SBKR Critical Habitat were identified. The proposed project is not located within any Critical Habitat and the habitat on site is not considered suitable for SBKR because appropriate vegetative communities do not exist on site and the site is completely surrounded by development and isolated from any suitable or occupied SBKR habitat.

Furthermore, in November of 2006, LSA, Associates, Inc. conducted focused small mammal live trapping within the boundaries of the proposed project to determine the presence or absence of SBKR. The result was that no SBKR were trapped during the focused survey and that they are presumed absent from the site. Site conditions have not changed significantly since the 2006 SBKR surveys. Additionally, the site has been disked for weed abatement purposes twice annually since the 2006 surveys.



The comment provided by the San Bernardino County Department of Public Works, Environmental Management Division states that “The proposed project area is adjacent to United States Fish and Wildlife Service designated critical habitat for San Bernardino Kangaroo Rat (SBKR).” However, as was identified in the Biological Resources Report prepared for the Rancho Palma Project and accompanying figures, the proposed project site is not adjacent USFWS designated Critical Habitat for SBKR (please refer to the attached figure). “Adjacent” implies a shared border or something next to, adjoining, or abutting. The nearest USFWS designated Critical Habitat boundary is located approximately 0.27 mile west of the project site. Located between the project site and this nearest Critical Habitat unit are the Blast Soccer Complex, Guhin Park, Verdemont Park and the Little League Baseball Western Region Headquarters Little League Park. Therefore, the proposed project site is not adjacent USFWS designated Critical Habitat for SBKR and will not impact Critical Habitat for this species.

The stretch of Cable Creek that is adjacent and within the proposed project site consists of improved and maintained channel, which no longer retains the natural characteristics that would provide suitable habitat for SBKR. The nearest suitable SBKR habitat is within the natural braided channel and alluvial floodplain of City Creek located approximately 0.27 mile west of the project site, within USFWS designated Critical Habitat for this species.

The memo in its entirety is found in [Appendix 3.3-3](#) of this EIR.

JURISDICTIONAL WATERS

Jurisdictional waters of the State and waters of the United States, along with isolated wetlands, serve a variety of functions for plants and wildlife. Wetlands and other water features provide habitat, foraging, cover, and migration and movement corridors for both special-status and common species. In addition to habitat functions, these features physically convey surface water flows and are capable of handling large stormwater events. Large storms can produce extreme flows that cause bank cutting and sedimentation of open waters and streams. Jurisdictional waters can slow these flows and lessen the effects of these large storm events, protecting habitat and other resources.

The project site contains jurisdictional water features. Much of the northern boundary of the project site abuts the levee on the south side of Cable Creek and an approximately 475-foot stretch of Cable Creek traverses the site’s northeastern corner. Cable Creek is an ephemeral stream tributary to Cajon Wash. The stretch of Cable Creek adjacent to and within the project site flows in an improved and maintained channel.

SPECIAL-STATUS SPECIES

Candidate, sensitive, or special-status species are commonly characterized as species that are at potential risk or actual risk to their persistence in a given area or across their native habitat. These species have been identified and assigned a status ranking by governmental agencies such as the CDFW or the USFWS and private organizations such as the CNPS. The degree to which a species is at risk of extinction is the determining factor in the assignment of a status ranking. Some common threats to a species’ or population’s persistence include habitat loss, degradation, and



fragmentation, as well as human conflict and intrusion. For the purposes of this biological review, special-status species are defined by the following codes:

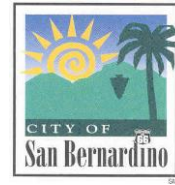
- Listed, proposed, or candidates for listing under the federal Endangered Species Act (50 CFR 17.11 – listed; 61 Federal Register [FR] 7591, February 28, 1996, candidates)
- Listed or proposed for listing under the California Endangered Species Act (FGC 1992 Section 2050 et seq.; 14 CCR Section 670.1 et seq.)
- Designated as Species of Special Concern by the CDFW
- Designated as Fully Protected by the CDFW (FGC Sections 3511, 4700, 5050, and 5515)
- Species that meet the definition of rare or endangered under CEQA (14 CCR Section 15380) including CNPS List Rank 1b and 2

The results of the USFWS, CDFW, and CNPS database queries identified several special-status species with the potential to be impacted by project-related activities. According to the CNDDDB, 48 special-status species (23 plant species and 25 animal species) and 3 sensitive plant communities have been documented to occur within the Devore and San Bernardino North 7.5-minute quadrangles. Of the approximately 48 sensitive species identified in these quadrangles, two state and/or federally listed as threatened or endangered species have moderate to high potential to occur in the vicinity of the project site—the burrowing owl (*Athene cunicularia* [BUOW]) and the California horned-lark (*Eremophila alpestris actia*).

3.3.3 Significance Threshold Criteria

The issues presented in Appendix G of the CEQA Guidelines are used as thresholds of significance in this section. Accordingly, the project may create a significant environmental impact if it causes one or more of the following to occur:

- a) 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 US Fish and Wildlife Service.
- b) 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 US Fish and Wildlife Service.
- c) 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.
- d) 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.



- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

3.3.4 Project Impacts and Mitigation Measures

Impact 3.3-1

Would the project:

Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

Impact Analysis

Construction of the project will regrade the site, remove the existing vegetation and result in urban improvements for the property west of the Cable Creek Channel. The Channel, as well as the 0.50-acre portion of the site east of the Channel, will remain largely undisturbed during project construction. The 0.50-acre portion will become part of the existing Ronald Regan park, and will be developed with park features such as grass, trails, trees, etc. While the resulting development will include landscaping, the project site will not have any natural habitat value once fully occupied.

Twenty-eight sensitive plant species have been documented to occur in the San Bernardino North and Devore 7.5-minute USGS quadrangles. However, none of those species are documented on or near the project site and none were observed during the field survey conducted by Jericho Systems (2015a; [Appendix 3.3-2](#)). Additionally, no special-status plants were observed during the field survey. Further, the project site is characterized as disturbed, and regular disking appears have occurred on the site. As such, the occurrence potential for any of the sensitive plant species listed in the Biological Resources Report ([Appendix 3.3-2](#)) is low. Therefore, impacts to special-status plants species are highly unlikely to occur and no impacts are anticipated.

Suitable habitat for two species were found on site: burrowing owl, which is a species of special concern and the California horned lark, which is on the CDFW Watch List. Impacts to special-status plants species are highly unlikely to occur and no impacts are anticipated.

Burrowing Owl: Focused breeding season protocol-level surveys were conducted and were structured to detect BUOW. The result of these surveys indicated that no BUOW individuals or sign were observed on the project site during the survey. However, because suitable habitat is found on-site, impacts to burrowing owls are considered potentially significant and additional surveys/assessments are required.

California Horned Lark: The California horned lark is not a state or federally listed species. However, the species is on the CDFW Watch List and was observed within the boundaries of the



project area during the field survey conducted by Jericho Systems ([Appendix 3.3-1](#)). Therefore, impacts to the California horned-lark are considered potentially significant.

Impact Conclusion

Potentially significant.

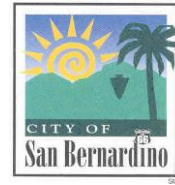
Mitigation Measures

BIO-1 All construction and clearing activities shall be conducted outside of the avian nesting season (January 15 to August 31), when feasible. A migratory nesting bird survey of the project's impact footprint for nesting raptors, special-status resident birds, and other migratory birds protected by the Migratory Bird Treaty Act shall be conducted by a qualified biologist within seventeen (17) days prior to initiating vegetation clearing or ground disturbance. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, monitoring, and reporting. The NBP will include a copy of maps showing the location of all nests and an appropriate buffer zone around each nest sufficient to protect the nest from direct and indirect impacts. The size and location of all buffer zones, if required, shall be determined by the biologist in consultation with the CDFW and shall be based on the nesting species, its sensitivity to disturbance, and expected types of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved buffer zone shall be marked in the field with construction fencing, within which no vegetation clearing or ground disturbance shall commence until the qualified biologist has determined that the young birds have successfully fledged and a monitoring report has been submitted to the CDFW for review and approval.

Timing/Implementation: Requirements shall be incorporated into all rough and/or precise grading plan documents. The project applicant's construction inspector shall monitor to ensure that measures are implemented during construction.

Enforcement/Monitoring: City of San Bernardino Planning Department

BIO-2 A preconstruction burrowing owl survey shall be conducted by a qualified biologist at least 30 days prior to construction activities to determine whether there are any active burrowing owl burrows within or adjacent to the impact area. If an active burrow is observed outside the nesting season (September 1 to January 31) and the burrow is within the impact area, a Burrowing Owl Exclusion Plan shall be prepared and submitted to the CDFW for approval, outlining standard burrowing owl burrow closing procedures used to exclude burrowing owls (e.g., using passive relocation with one-way doors). The loss of any active burrowing owl burrow/territory shall be mitigated through replacement of habitat and burrows at no less than a 1:1 ratio. If an active burrow is observed



outside the nesting season (i.e., between September 1 and January 31) and the burrow is not within the impact area, construction work shall be restricted within 160 to 1,605 feet of the burrow depending on the time of year and the level of disturbance near the site in accordance with guidelines specified by the CDFW.

Timing/Implementation: Prior to any vegetation removal or ground-disturbing activities

Enforcement/Monitoring: City of San Bernardino Planning and Public Works Department

Level of Significance After Mitigation: Less than significant.

Impact 3.3-2

Would the project:

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 US Fish and Wildlife Service?

Impact Analysis

Sensitive habitats include (a) areas of special concern to resource agencies; (b) areas which provide habitat for rare or endangered species which meet the definition of Section 15380 of the California Environmental Quality Act guidelines; (c) areas designated as sensitive natural communities by the CDFW; (d) areas outlined in Fish and Game Code Section 1600; and (e) areas regulated under Clean Water Act Section 404. There are no sensitive habitats within the project area (Jericho Systems 2015a).

Project-related activities would not adversely affect riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS.

No drainages, stream courses, or other natural water features occur within the boundaries of the project site. The project is anticipated to have a less than significant impact on riparian habitat and sensitive natural communities. Therefore, impacts associated with sensitive habitats are considered less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.



Impact Analysis

Impact 3.3-3

Would the project:

Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact Analysis

There are jurisdictional waters within the project site (Jericho Systems 2015a). Much of the northern boundary of the project site abuts the levee of the south side of Cable Creek and an approximately 475-foot stretch of Cable Creek is located within the northeastern corner of the project site. Cable Creek is an ephemeral stream tributary to Cajon Wash and the stretch of Cable Creek that is adjacent and within the project site consists of improved and maintained channel. Cable Creek is a jurisdictional water subject to the Clean Water Act (CWA) and Fish and Game Code under the jurisdictions of U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW respectively. The project proposes to make minor modifications, as necessary, to ensure that the flows remain within the banks of Cable Creek; however, no modifications to Cable Creek are proposed as part of the project.

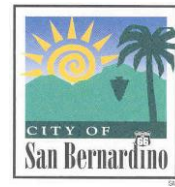
Modifications will be made to the stormwater outflow structure to accommodate an increase in stormwater flows as a result of this project. The current outflow is 36-inch and the project will increase it to 48-inch. The outflow is currently in a cemented portion of the channel. Modifications to the stormwater outflow would not result in physical changes to Cable Creek. Physical changes made to Cable Creek requires a Lake and Streambed Alteration Agreement (LSA) from the CDFW, and CWA Sections 401/404 permits from the RWQCB and USACE, respectively. However, the incremental increase in stormwater outflows would not result in modifications to Cable Creek and would not trigger a LSA or CWA Sections 401/404 permit. Therefore, the proposed project does not result in any substantial adverse effects to jurisdictional features.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.



Impact 3.3-4

Would the project:

Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Impact Analysis

The Biological Resources Report prepared by Jericho Systems (2015a; [Appendix 3.3-2](#)) did not identify any wildlife corridors within the boundaries of the project site. Available data on movement corridors and linkages was accessed via the CDFW (2016) BIOS 5 Viewer. Therefore, no native resident, migratory fish, or wildlife species or established native resident or migratory wildlife corridors are present on-site or in the project vicinity, nor would the project impede any use of native wildlife nursery sites. Impacts are considered less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.3-5

Would the project:

Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact Analysis

The City of San Bernardino Municipal Code (Chapter 12.40) includes a requirement for street trees. However, these provisions are intended for new trees to be planted along roadways and in other public places in the City in conformance with the street tree master plan (City of San Bernardino Municipal Code Section 12.40.030). Tree species found onsite includes non-native, invasive species including giant reed (*Arundo donax*), star thistle (*Centaurea melitensis*), redstem stork's bill (*Erodium cicutarium*), shortpod mustard (*Hirschfeldia incana*), tree tobacco (*Nicotiana glauca*), Russian thistle (*Salsola tragus*), tamarisk (*Tamarix ramosissima*), and puncturevine (*Tribulus terrestris*). There are also numerous non-native olive trees (*Olea europaea*) lining the northwestern boundary of the site, adjacent to the southeast side of the Magnolia Avenue alignment. Development Code Section 19.28.100 (Removal or Destruction of Trees) includes provisions pertaining to the removal of mature trees that require a City permit when five or more trees need to be cut down, uprooted, destroyed, or removed within a 36-month period. An arborist survey and report may be required at the developer's expense to evaluate existing trees prior to the issuance of a tree removal permit, as determined by the Director of Community Development. The project would remove on site trees. As such, a tree removal permit is required as part of the development package and prior to any ground breaking construction. Since a tree removal permit is a requirement, impacts related to tree removal are less than significant.



In addition, the Hillside Management Overlay Zone (Development Code Chapter 19.17) protects slope banks, ridgelines, significant rock outcroppings, native plant material, and natural hydrology. However, the proposed project site is not in a Hillside Management Overlay Zone. The City of San Bernardino does not have ordinances adopting any habitat conservation plan fees. As such, the proposed project would not conflict with any local policies or ordinances protecting biological resources.

Impact Conclusion

Less than Significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.3-6

Would the project:

Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

Impact Analysis

There are no adopted or draft habitat conservation plans or natural community conservation plans for the City of San Bernardino. There are no other approved local, regional, or state habitat conservation that applies to the project site or its vicinity. Therefore, the proposed project would result in no conflicts with such plans.

Impact Conclusion

No impact.

Mitigation Measures

No mitigation measures are required.

3.3.5 Cumulative Impacts and Mitigation Measures

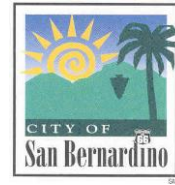
Impact 3.3-7

Would the project:

Result in cumulatively considerable impacts related to biological resources?

Impact Analysis

Future development in San Bernardino and surrounding cities could result in the loss of biological resources. San Bernardino is an urbanized city surrounded by other urban cities. Similar to other areas of San Bernardino, neighboring properties are developed with homes, Interstate 215, soccer fields and commercial development. No special-status wildlife species were observed on the



project site during a reconnaissance-level survey, and none are likely to be present due to the disturbed nature of the project site and the developed characteristics surrounding lands. Although some special-status species could potentially occur on the project site as transients, direct and indirect project impacts would be precluded by implementing standard avoidance and minimization measures. Given the low quality habitat that exists on the project site, the project will not result in a significant loss of habitat. Therefore, cumulative impacts related to biological resources would be reduced to less than cumulatively considerable.

Impact Conclusion

Less than Cumulatively Considerable.

Mitigation Measures

No mitigation measures are required.

3.3.6 Sources Cited

CDFW (California Department of Fish and Wildlife). 2014. *California Natural Diversity Database*.

———. 2016. *BIOS 5 Viewer*. <http://www.dfg.ca.gov/biogeodata/bios/>.

CNPS (California Native Plant Society). 2015. *Inventory of Rare and Endangered Plants of California*.

Jericho Systems, Inc. 2015a. *Biological Resources Report, Rancho Palma Project San Bernardino, California*.

———. 2015b. *Burrowing Owl Survey Report Property on Little League Drive, West of Palm Avenue, Verdemon Area of San Bernardino County*.

San Bernardino, City of. 2005a. *City of San Bernardino General Plan*.

———. 2005b. *Final San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report*.

USFWS (US Fish and Wildlife Service). 2014a. *Information, Planning, and Conservation (IPaC) System*.

———. 2014b. *Critical Habitat Portal*.



3.4 Cultural Resources

This section describes cultural resources in the City of San Bernardino and evaluates potential impacts to cultural resources associated with the implementation of the proposed project. Cultural resources relate to archaeological remains, historic buildings, traditional customs, tangible artifacts, historical documents, and public records that make the City unique or significant. Mitigation measures to reduce the significance of impacts are recommended, as necessary. Information in this section is based on the General Plan Historical and Archaeological Resources Element and research conducted by BCR Consulting (October 9, 2015); refer to [Appendix 3.4-1](#).

3.4.1 Regulatory Setting

STATE

California Register of Historical Resources

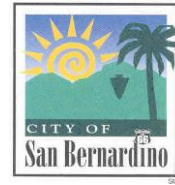
The State Historical Resources Commission designed the California Register of Historical Resources (CRHR) for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The CRHR is the authoritative guide to the state's significant historical and archaeological resources. This program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding, and affords certain protections under the California Environmental Quality Act (CEQA).

California Environmental Quality Act

CEQA is the state law that applies to a project's impacts on cultural resources. A project is an activity that may cause a direct or indirect physical change in the environment and that is undertaken or funded by a state or local agency, or requires a permit, license, or lease from a state or local agency. CEQA requires that impacts to historical resources be identified and, if the impacts will be significant, that mitigation measures to reduce the impacts be applied.

A historical resource is a resource that:

- Is listed in or has been determined eligible for listing in the California Register of Historical Resources by the State Historical Resources Commission, or has been determined historically significant by the CEQA lead agency because it meets the eligibility criteria for the CRHR;
- Is included in a local register of historical resources, as defined in Public Resources Code Section 5020.1(k); or
- Has been identified as significant in an historical resources survey, as defined in Public Resources Code 5024.1(g) [CCR Title 14, Section 15064.5(a)].



The eligibility criteria for the CRHR are as follows [CCR Title 14, Section 4852(b)]:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2. It is associated with the lives of persons important to local, California, or national history;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, the resource should be at least 50 years old and must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)].

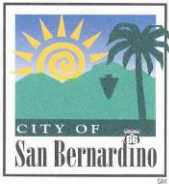
Historical buildings and structures are evaluated using CRHR Criteria 1, 2, and 3. The results of historical research are used to determine if the building or structure is associated with important historical events or persons and architectural analysis is used to assess whether the building or structure embodies distinctive characteristics or possesses high artistic values. Archaeological sites are usually evaluated under Criterion 4, the potential to yield information important in prehistory or history. An archaeological test program may be necessary to determine whether the site has the potential to yield important data. The CEQA lead agency makes the determination of eligibility, usually by certifying the environmental document if it contains the results of the evaluation.

Impacts to a historical resource (as defined by CEQA) are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, Section 15064.5(a)].

Role of Tribes in CEQA (Assembly Bill 52)

As of July 1, 2015, Public Resources Code Sections 21080.3.1 and 21080.3.2 require public agencies to formally notify and potentially consult with California Native American tribes that have requested that the lead agency notify them of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe. This law does not preclude agencies from initiating consultation with the tribes that are culturally and traditionally affiliated with their jurisdictions.

In accordance with Public Resources Code Section 21080.3.1(d), formal notification must no later than 14 days following the proposed project application being deemed complete, and include a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation. If consultation is requested, the Lead Agency and tribe are to meet within 30 days to discuss ways to avoid or mitigate potential project impacts on tribal cultural resources. Lead agencies should also include information regarding any cultural resources assessment that has been completed on the project site, such as:



1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:
 - A listing of any and all known cultural resources have already been recorded on or adjacent to the project site;
 - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
 - If the probability is low, moderate, or high that cultural resources are located on the project site;
 - Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located on the potential project site; and
 - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.
2. The results of any archaeological inventory survey that was conducted, including:
 - Any report that may contain site forms, site significance, and suggested mitigation measures; or
 - All information regarding site locations, Native America human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with California Government Code Section 6254.10.
3. The results of any Sacred Lands File check conducted through the NAHC.
4. Any ethnographic studies conducted for any area including all or part of the potential project site.
5. Any geotechnical reports regarding all or part of the potential project site.

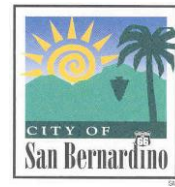
California Health and Safety Code Sections 7050.5, 7051, and 7054

These Health and Safety Code sections address the illegality of interference with human burial remains and the disposition of Native American burials on an archaeological site. The law protects remains from disturbance, vandalism, and inadvertent destruction, and establishes procedures that outline mitigation measures if remains are found on the site during construction.

LOCAL

City of San Bernardino General Plan – Historical and Archaeological Resources Element

The City's General Plan Historical and Archaeological Resources Element provides policy and guidance that addresses the preservation and reuse of the City's historic and archaeological resources. Relevant goals from the element include protecting and enhancing the City of San



Bernardino's historic and cultural resources (Goal 11.4) and protecting and enhancing the City's archaeological resources (Goal 11.5).

3.4.2 Existing Setting

The following summary of the history and ethnographic setting of the project area is taken from the cultural resources assessment prepared for the proposed project. Text citations to this source document are not included in individual paragraphs; refer also to [Appendix 3.4-1](#).

PREHISTORIC AND ETHNOGRAPHIC SETTING

Prehistoric Setting

The difficulties in establishing cultural chronologies for western San Bernardino County are a function of its large size and the small number of archaeological excavations conducted there. Throughout prehistory, many groups have occupied the area and their territories overlap spatially and chronologically, resulting in mixed artifact deposits. Due to dry climate and capricious geological processes, these artifacts rarely become integrated in situ. Without a hospitable setting for preservation, local chronologies have relied on temporally diagnostic artifacts, such as projectile points, or on the presence/absence of other temporal indicators, such as groundstone. Such methods are instructive, but can be limited by prehistoric occupants' concurrent use of different artifact styles or by artifact reuse or re-sharpening, as well as by researchers' mistaken diagnosis and other factors.

On the basis of currently available archaeological research, occupation of Southern California by human populations is believed to have begun at least 10,000 years ago. The earliest established tradition in Southern California is accepted to be the San Dieguito Tradition. The San Dieguito people were nomadic large-game hunters whose tool assemblage included large domed scrapers, leaf-shaped knives and projectile points, stemmed projectile points, chipped stone crescentics, and hammerstones.

Throughout southwestern California, the La Jolla Complex followed the San Dieguito Tradition. The La Jolla Complex is recognized primarily by the presence of millingstone assemblages in shell middens. Characteristic cultural resources of the La Jolla Complex include basined millingstones, unshaped manos, flaked stone tools, shell middens, and a few Pinto-like projectile points. Flexed inhumations under stone cairns, with heads pointing north, are also present. The La Jolla Complex existed from 5500 to 1000 BC.

The Pauma Tradition may be an inland variant of the La Jolla Complex, exhibiting a shift to a hunting and gathering economy, rather than one based on shellfish gathering. Implications of this shift are an increase in the number and variety of stone tools and a decrease in the amount of shell.

The late period is represented by the San Luis Rey Complex, divided into two periods: San Luis Rey I (AD 1400–1750) and San Luis Rey II (AD 1750–1850). The San Luis Rey I component includes cremations, bedrock mortars, millingstones, small triangular projectile points with concave bases, bone awls, stone pendant, *Olivella* shell beads, and quartz crystals. The San Luis Rey II assemblage is the same as San Luis Rey I, but with the addition of pottery vessels, cremation urns, tubular



pipes, stone knives, steatite arrow straighteners, red and black pictographs, and sub non-aboriginal items as metal knives and glass beads. Inferred San Luis Rey subsistence activities include hunting and gathering with an emphasis on acorn harvesting.

Ethnographic Setting

The project area is situated at an ethnographic nexus occupied by the semi-nomadic, Takic speaking hunter-gatherer groups, Gabrielino and Serrano.

Gabrielino

Attributed by association with the Spanish mission of San Gabriel, the Gabrielino name refers to a subset of people sharing speech and customs with other Cupan speakers from the greater Takic branch of the Uto-Aztecan language family. The villages of this group existed in watersheds of rivers, locally the Santa Ana River. Gabrielino society was somewhat stratified and is thought to have contained three hierarchical social classes that dictated ownership rights and social status and obligations. Chiefs were generally descended through the male line and often administered several villages. Gabrielinos relied on acorn-producing oaks and seed-producing grasses and sage as food sources. Protein sources commonly consisted of rabbits and deer inland, and fish, shellfish, and marine mammals closer to the coast. Dogs, coyotes, bears, tree squirrels, pigeons, doves, mud hens, eagles, buzzards, ravens, lizards, frogs, and turtles were not used as a food source.

The Gabrielino probably first encountered Europeans when Spanish explorers reached California's southern coast during the fifteenth and sixteenth centuries. However, the first documented encounter occurred in 1769 when Gaspar de Portola's expedition crossed Gabrielino territory.

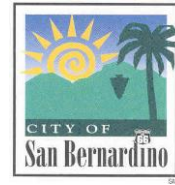
Serrano

There is only one group in the San Bernardino Mountains and west-central Mojave Desert that ethnically claims the terms Serrano. However, the *Serrano* term is commonly applied to four groups, each with distinct territories: the Kitanemuk, Tatviam, Vanyume, and Serrano. The Vanyume, an obscure Takic population, was found along the Mojave River at the time of Spanish contact, the Kitanemuk lived to the north and west, and the Tataviam lived to the west. All groups may have used what is now the San Bernardino County area seasonally.

The groups' villages consisted of small collections of willow-framed domed structures near reliable water sources. A lineage leader administered laws and ceremonies from a large centrally located ceremonial house. Local Serrano relied on acorns and pinon nuts as a main food source. Roots, bulbs, shoots, and seed supplemented these. Protein sources were derived from deer, mountain sheep, antelope, rabbits, small rodents, and various birds, when available.

HISTORIC SETTING

Historic-era California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).



Spanish Period

The first European to pass through the area is thought to be a Spaniard called Father Francisco Garces. Garces acted as a guide to Juan Bautista de Anza, who had been commissioned to lead a group across the desert from a Spanish outpost in Arizona to set up quarters at the Mission San Gabriel in 1771 near what today is Pasadena. In 1772, Alta California Governor Pedro Fages briefly explored the region traveling through Riverside to San Bernardino, over the mountains into the Mojave Desert and westward to the San Joaquin Valley, searching for San Diego Presidio deserters.

Mexican Period

In 1821, Mexico overthrew Spanish rule and missions began to decline. By 1833, the Mexican Secularization Act was passed and the missions, reorganized as parish churches, lost their land holdings and released their neophytes.

American Period

The American period began in 1848 with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States, primarily due to the population increase following the Gold Rush of 1849. Mexican Period land grants created large pastoral estates in California, and the demand for beef during the Gold Rush led to a cattle boom from 1849 to 1855. In 1855, the demand for beef began to decline as imports of sheep from New Mexico and cattle from the Mississippi and Missouri valleys increased. Many California ranchers lost their ranchos due to the collapse of the beef market. A series of disastrous floods in 1861–1862, followed by a significant drought, diminished the economic impact of local ranching. This decline, combined with agricultural and real estate developments of the late nineteenth century, set the stage for diversified economic pursuits that have continued to proliferate to this day.

KNOWN CULTURAL RESOURCES

The records search conducted for the project site indicated no previously recorded cultural resources in the project area. Additionally, the records search revealed that 38 cultural resources studies have taken place, resulting in the recording of 13 cultural resources (all historic period) within 1 mile of the subject property. One cultural resource (the historic-period Cable Creek Levee) bisects the property. However, this resource would not be subject to any direct impacts from the project as proposed.

3.4.3 Significance Threshold Criteria

The following evaluation criteria have been established for use in assessing the proposed project's potential impacts on cultural and historic resources. Cultural impacts resulting from the implementation of the proposed project could be considered significant if they cause any of the following results:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.



- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- c) Disturb any human remains, including those interred outside of formal cemeteries.
- d) Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074.

Based on these significance standards, the effects of the proposed project have been categorized as either no impact, a less than significant impact, or a potentially significant impact. Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

3.4.4 Project Impacts and Mitigation Measures

Impact 3.4-1

Would the project:

Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Impact Analysis

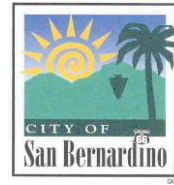
The cultural resources assessment (BCR Consulting 2015; [Appendix 3.4-1](#)) performed for the proposed project identified no historical resources within the project's boundaries. Record search results, combined with surface conditions, failed to indicate sensitivity for buried historic or cultural resources. It was therefore recommended that no additional cultural resource work or monitoring is necessary for any earth-moving activities required on the project site. However, it is possible that project-related ground-disturbing activities could uncover previously unknown historical resources within the project's boundaries. Therefore, unanticipated and accidental historical discoveries made during project construction would have the potential to impact historical resources.

Impact Conclusion

Potentially significant.

Mitigation Measures

CUL-1 If previously undocumented resources are identified on the project site during earth-moving activities, a qualified archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology shall be contacted to assess the nature and significance of the find and to divert construction activities, if necessary. If evidence of archaeological resources (e.g., chipped or ground stone, historical debris, building foundations, or human bone) is identified during excavation, all work within 50 feet of the discovery site shall cease until the project archaeologist can evaluate the significance of the resource. In the



event of a new find, salvage excavation and reporting shall be required, in conformance with established regulatory protocols.

Timing/Implementation: Prior to ground-disturbing construction activities

Enforcement/Monitoring: City of San Bernardino Engineering and Planning Departments

Level of Significance After Mitigation: Less than significant.

Impact 3.4-2

Would the project:

Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Impact Analysis

An archaeological field survey of the subject property was conducted on September 29, 2015. The survey was conducted by walking parallel transects spaced approximately 15 meters apart across 100 percent of the project site. No cultural resources were found during the survey within the project's boundaries. Surface visibility was approximately 60 percent on the property, and ground disturbances were severe, including grading for weed abatement and levee construction. However, it is possible that project-related ground-disturbing activities could uncover previously unknown archaeological resources within the project's boundaries. Unanticipated and accidental archaeological discoveries during project implementation would have the potential to impact archaeological resources.

Impact Conclusion

Potentially significant.

Mitigation Measures

CUL-2 If during grading or construction activities, cultural resources are discovered on the project site, work shall be halted immediately within 50 feet of the discovery, and the resources shall be evaluated by a qualified archaeologist (retained by the applicant) and the relevant Native American tribes or bands notified (i.e., Ramona, San Manuel, Soboba, San Fernando, Agua Caliente, Morongo, and Pechanga Bands, and the Serrano Nation), as appropriate. Any unanticipated cultural resources that are discovered shall be evaluated and a final report prepared by the qualified archaeologist. The report shall include a list of the resources discovered, documentation of each site/locality, and interpretation of the resources identified, and the method of preservation and/or recovery for identified resources. In the event the significant resources are recovered and if the qualified archaeologist, the tribe, and/or the band determines the resources to be historic or unique, avoidance and/or mitigation would be required pursuant to and consistent with CEQA Guidelines Sections 15064.5 and 15126.4, Public Resources Code Section 21083.2.



Timing/Implementation: Prior to ground-disturbing construction activities

*Enforcement/Monitoring: City of San Bernardino Building and Planning
Departments*

Level of Significance After Mitigation: Less than significant.

Impact 3.4-3

Would the project:

Disturb any human remains, including those interred outside of formal
cemeteries?

Impact Analysis

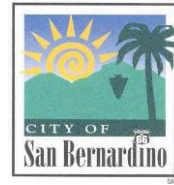
No human remains have been identified on the project site. However, the proposed project could result in the inadvertent disturbance of currently undiscovered human remains. Any discovery of human remains would trigger state law governing the treatment of human remains. Procedures of conduct following the discovery of human remains on non-federal lands are mandated by Health and Safety Code Section 7050.5, by Public Resources Code Section 5097.98, and by CEQA in California Code of Regulations Section 15064.5(e). According to these provisions, should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The remains are required to be left in place and free from disturbance until a final decision as to treatment and their disposition has been made. The San Bernardino County Coroner would be immediately notified, and the coroner would then determine whether the remains are Native American. If the coroner determines the remains are Native American, the coroner has 24 hours to notify the Native American Heritage Commission, which will in turn notify the person identified as the most likely descendant (MLD) of any human remains. Further actions would be determined, in part, by the desires of the MLD, who has 24 hours to make recommendations regarding the disposition of the remains following notification by the NAHC of the discovery. If the MLD does not make recommendations within 24 hours, the owner is required, with appropriate dignity, to reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendant may request mediation by the Native American Heritage Commission. Because the project would have the potential to result in the discovery of human remains on the project site, such impacts would be considered potentially significant.

Impact Conclusion

Potentially significant.

Mitigation Measures

CUL-3a If human remains are encountered, California Health and Safety Code Section 7050.5 requires that no further disturbance occur until the county coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been



made. If the San Bernardino County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within a reasonable time frame. Subsequently, the NAHC shall identify the most likely descendant within 24 hours of receiving notification from the coroner. The most like descendant shall then have 48 hours to make recommendation and engage in consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

Timing/Implementation: During ground-disturbing construction activities

Enforcement/Monitoring: City of San Bernardino Engineering and Planning Departments

CUL-3b

All cultural materials, with the exception of sacred items, burial goods, and human remains, collected during the grading monitoring program and from any previous archaeological studies and excavations on the project site shall be curated according to the current professional repository standards. The collections and associated records shall be transferred, including title, to the appropriate tribe's curation facility, which meets the standards set forth in 36 Code of Federal Regulations (CFR) Part 79 regulating federal repositories.

Timing/Implementation: During ground-disturbing construction activities

Enforcement/Monitoring: City of San Bernardino Engineering and Planning Departments

CUL-3c

All sacred sites, should they be encountered on the project site, shall be avoided and preserved as the preferred mitigation, if feasible, as determined by a qualified professional in consultation with the tribe(s). To the extent that a sacred site cannot be feasibly preserved in place or left in an undisturbed state, mitigation shall be required pursuant to and consistent with Public Resources Code Section 21083.2 and CEQA Guidelines Sections 15064.5 and 15126.4.

Timing/Implementation: During ground-disturbing construction activities

Enforcement/Monitoring: City of San Bernardino Engineering and Planning Departments

Level of Significance After Mitigation: Less than significant.

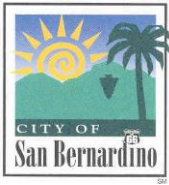
Impact 3.4-4

Would the project:

Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074?

Impact Analysis

No tribal cultural resources have been identified on the project site. However, the proposed project could result in the inadvertent disturbance of undiscovered tribal cultural resources. Any



discovery of these resources would trigger state law governing their treatment. If the resource found is in the form of remains, the procedure of conduct following their discovery on non-federal lands is mandated by Health and Safety Code Section 7050.5, by Public Resources Code Section 5097.98, and by CEQA in California Code of Regulations Section 15064.5(e). According to these provisions, should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The remains are required to be left in place and free from disturbance until a final decision as to the treatment and their disposition has been made. The San Bernardino County Coroner would be immediately notified, and the coroner would then determine whether the remains are Native American. If the coroner determines the remains are Native American, the coroner has 24 hours to notify the Native American Heritage Commission, which will in turn notify the person identified as the most likely descendant of any human remains. Further actions would be determined, in part, by the desires of the MLD, who has 24 hours to make recommendations regarding the disposition of the remains following the notification from the NAHC of the discovery. If the MLD does not make recommendations within 24 hours, the owner is required, with appropriate dignity, to reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendant may request mediation by the Native American Heritage Commission. Any discovery of human remains on the project site would be subject to these procedural requirements.

If the resource is a tribal cultural resource of non-human remains, a qualified archaeologist shall be contacted to assess the nature and significance of the find in consultation with relevant Native American tribes or bands (i.e., Ramona, San Manuel, Soboba, San Fernando, Agua Caliente, Morongo, and Pechanga Bands, and the Serrano Nation), as determined appropriate.

Impact Conclusion

Potentially significant.

Mitigation Measures

Compliance with CUL-1, 3a, 3b, and 3c.

Level of Significance After Mitigation: Less than significant.

3.4.5 Cumulative Impacts and Mitigation Measures

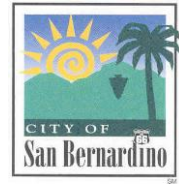
Impact 3.4-5

Would the project:

Result in cumulatively considerable impacts related to cultural resources?

Impact Analysis

The proposed project, along with any foreseeable development in the project vicinity, could result in cumulative impacts to cultural resources (i.e., prehistoric sites, historic sites, and isolated artifacts and features). As mitigated, the direct impacts associated with the proposed project will be reduced to a less than significant level. While it is possible that grading and development will result in the accidental discovery of cultural resources, state and federal laws already in place, as



well as the mitigation measures included in this [Section 3.4, Cultural Resources](#), will set in motion actions designed to mitigate any potential impacts. The proposed project is adjacent to existing development that has disturbed the soil and likely already affected any cultural resources. As a result of surrounding development, mitigation proposed to reduce direct project impacts, and existing federal and state laws that would require project conformance, this impact is considered less than cumulatively considerable.

Impact Conclusion

Less than cumulatively considerable.

Mitigation Measures

No mitigation measures are required.

3.4.6 Sources Cited

BCR Consulting LLC. 2015. *Cultural Resources Assessment, Rancho Palma Project, City of San Bernardino, San Bernardino County, California.*

San Bernardino, City of. 2005. *City of San Bernardino General Plan.*



3.5 Geology and Soils

This section describes geological resources in San Bernardino and evaluates potential impacts to geology and soils associated with implementation of the proposed project and proposes mitigation measures to reduce those impacts that are determined to be significant. Geocon West prepared a *Preliminary Geotechnical Investigation* on April 20, 2015; refer to [Appendix 3.5-1](#).

3.5.1 Regulatory Setting

STATE

California Building Code

The State of California establishes minimum standards for building design and construction through the California Building Code (CBC) (California Code of Regulations, Title 24). The CBC is based on the Uniform Building Code, which is used widely throughout the United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for conditions in California. State regulations and engineering standards related to geology, soils, and seismic activity in the Uniform Building Code are reflected in the CBC requirements.

The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control. The City of San Bernardino enforces the CBC through its Municipal Code. The City Building Code (Municipal Code Section 15.04.020) adopts the most recent version of the California Building Code.

LOCAL

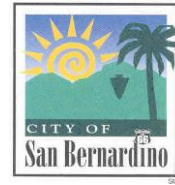
City of San Bernardino Municipal Code

The City's Building Code is codified in Title 15, Buildings and Construction, of the City's Municipal Code. The Building Code adopted the 2007 edition of the California Building Code (California Code of Regulations, Title 24, Part 2) based on the 2006 International Building Code, including Appendix Chapter 1, Administration, and Appendix 1, Patio Covers, 2007 Edition, as published by the International Code Council.

The purpose of the Building Code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures in San Bernardino.

City of San Bernardino General Plan Safety Element

The City's General Plan Safety Element addresses natural and man-made hazards present in San Bernardino. The element considers potential risks to city residents and the local environment associated with identified hazards. The Safety Element specifically addresses the way in which the City will prepare for and respond to fire hazards, geologic and seismic hazards, and flood hazards. The element includes background information related to each issue and identifies hazard



locations in the city, risk reduction strategies, and hazard abatement measures that can ultimately be used by decision-makers in their review of projects.

City of San Bernardino Emergency Management Plan

The City's Emergency Management Plan details the functional responsibilities and interactions of federal, state, and local governmental agencies as well as private organizations in the event of natural and human-related disasters. Included in the natural disaster category are geologic hazards, earthquakes, floods, and fires. Potential human-related disasters include nuclear attacks, transportation-related accidents, and hazardous materials incidents. In the Emergency Management Plan, potential hazards are described, with the possible effects delineated. Recommended mitigation is discussed where applicable. Reconstruction, post-disaster aid, and financial assistance are also discussed.

City of San Bernardino Hazards Mitigation Plan

The Disaster Mitigation Act of 2000, Public Law 106-390 (Section 322(a-d)), requires that local governments, as a condition of receiving federal disaster mitigation funds, adopt a mitigation plan that describes the process for identifying hazards, vulnerabilities, and risks, identifies and prioritizes mitigation actions, encourages the development of local mitigation, and provides technical support for those efforts. In response to this and the requirements of the State of California Office of Emergency Services and the San Bernardino County Office of Emergency Services, the City has prepared the San Bernardino Hazard Mitigation Plan. While the City cannot prevent natural disasters from occurring, the City can reduce and eliminate their effects through well-organized public education and awareness efforts, preparedness, and mitigation set forth in the San Bernardino Hazard Mitigation Plan.

3.5.2 Environmental Setting

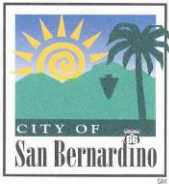
GEOLOGIC SETTING

Regional Geology

The project site is located in the San Bernardino Valley in the Peninsular Ranges Geomorphic Province. The Peninsular Ranges are bounded on the north by the Transverse Ranges (San Gabriel and San Bernardino Mountains) and on the east by the San Andreas Fault. The Peninsular Ranges Province extends southward into Mexico and westward past the Channel Islands. Geologic units in the Peninsular Ranges consist of granitic and metamorphic bedrock highlands and deep and broad alluvial valleys. Specifically, the project site is located on an alluvial fan emanating from the San Bernardino Mountains. Several hundred feet of sand with variable amounts of gravels, cobbles, and boulders underlie the site.

Local Geology

The city is located between several active faults. The San Andreas Fault, the largest fault in Southern California, traverses the city in a northwest to southeast direction, following the foothills along the city's northern edge. The San Jacinto fault (includes the Glen Helen and Loma Linda faults) traverses the city in a northwest to southeast direction through the lower middle and southern portions of the city.



SOILS

The earth materials on the site are primarily composed of Quaternary-age alluvial deposits and localized previously placed fill. The alluvium's upper layer has been disturbed by previous grading, clearing, or agricultural activities. Descriptions of the soil and geologic conditions are shown on the excavation logs located in Appendix A of the *Geotechnical Investigation* ([Appendix 3.5-1](#)) and described herein in order of increasing age.

Previously Placed Artificial Fill (Qaf) – Previously placed artificial fill was encountered in the northeast portion of the site in Test Pit TP-11. It appears that this fill was placed perhaps in association with the adjacent park grading. As encountered, this unit consists of silty sand that is medium dense, moist, and brown and contained some gravel and cobble. The upper portion of this unit will require remedial grading.

Quaternary Alluvial Deposits (Qal) – Quaternary-age alluvium is present on the remainder of the site and underlies the site at depth. The soils, as encountered during excavation, consist of sands and gravels with varying amounts of silt and cobbles. The alluvial deposits are generally medium dense and slightly moist. The upper 1 to 2 feet of alluvium was disturbed by previous grading, clearing, or agricultural activities and was loose as a result. The alluvium is considered suitable for support of the proposed site improvements. However, the upper portion of this unit will require remedial grading.

Collapsible and Expansive Soils

Soil permeability is the property of the soil to transmit water and air. The more permeable the soil, the greater the seepage (FAO 2006), resulting in higher rates of infiltration. Pore size and number of pores closely relate to soil texture and structure, and also influence permeability (FAO 2006). Soils that transmit water faster (such as sandy soils) and have higher permeability will have less shrink-swell potential because less water retention occurs with these types of soils.

Conversely, soils that transmit water at a slower rate (such as soils with high clay content) have lower permeability and therefore higher shrink-swell potential and the potential for significant expansion. Expansive clay minerals include smectite, bentonite, montmorillonite, beidellite, vermiculite, attapulgite, nontronite, illite, and chlorite. When structures are located on expansive soils, foundations have the tendency to rise during the wet season and shrink during the dry season. This movement can create new stresses on various sections of the foundation and connected utilities and can lead to structural failure and damage to infrastructure. Swelling soils can typically cause cracked foundations, floors, and basement walls. Damage to the upper floors of a building can occur when motion in the structure is significant. A field investigation conducted by Geocon West indicates that the majority of soils on the project site have very low expansion potential (expansion index of 20 or less) (see [Appendix 3.5-1](#)). [Table 3.5-1, Expansion Classification Based on Expansion Index](#), illustrates the expansion index and expansion classification. The 2013 CBC considers an expansion index of 20 or less to be non-expansive and 21 or more to be expansive (Geocon West 2015).

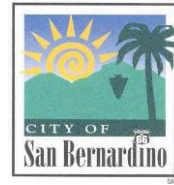


Table 3.5-1. Expansion Classification Based on Expansion Index

Expansion Index	Expansion Classification	2013 CBC Expansion Classification
0–20	Very Low	Non-Expansive
21–50	Low	Expansive
51–90	Medium	
91–130	High	
Greater Than 130	Very High	
Source: FAO 2006		

Subsidence refers to the sudden sinking or gradual downward settling and compaction of soil and other surface material with little or no horizontal motion. It may be caused by a variety of human and natural activities, including earthquakes. According to Figure S-6 in the City’s General Plan, the project site is not located in an area of potential subsidence.

FAULTS AND SEISMICITY

Ground Shaking

The strength of an earthquake is generally expressed in two ways: magnitude and intensity. The magnitude is a measure that depends on the seismic energy radiated by the earthquake as recorded on seismographs. The intensity at a specific location is a measure that depends on the effects of the earthquake on people or buildings and is used to express the severity of ground shaking.

The most commonly used scale to measure earthquake intensities (ground shaking and damage) is the Modified Mercalli Intensity Scale, which measures the intensity of an earthquake’s effects in a given locality and is based on observations of earthquake effects at specific places. On the Modified Mercalli Intensity Scale, values range from I to XII (see [Table 3.5-2, Modified Mercalli Intensity Scale for Earthquakes](#)). While an earthquake has only one magnitude, it can have various intensities, which decrease with distance from the epicenter (CGS 2002). [Table 3.5-2](#) describes the effects of ground shaking intensities along with a general range of magnitudes that are often associated with those intensities. Additionally, the table includes corresponding averages for peak ground velocity and peak acceleration. The city has been regionally designated as a high severity zone where major probable damage of maximum IX or X ([Table 3.5-2](#)), as defined by the Mercalli Intensity Scale, may occur from a maximum expectable earthquake (San Bernardino 2005b). However, no active or potentially active faults have been previously mapped across the project site (Geocon West 2015).

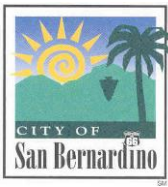


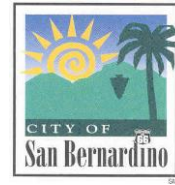
Table 3.5-2. Modified Mercalli Intensity Scale for Earthquakes

Richter Magnitude Scale	Modified Mercalli Scale	Effects of Intensity	Average Peak Ground Velocity (centimeters/second)	Average Peak Acceleration ¹
0.1–0.9	I	Not felt except by a very few under especially favorable circumstances.	—	—
1.0–2.9	II	Felt by only a few persons at rest, especially on upper floors of buildings.	—	—
3.0–3.9	III	Felt quite noticeably in doors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing cars may rock slightly. Vibration like passing a truck.	—	0.0035–0.007 g
4.0–4.5	IV	During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like heavy truck striking building. Standing cars rocked noticeably.	1–3	0.015–0.035 g
4.6–4.9	V	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.	3–7	0.035–0.07 g
5.0–5.5	VI	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.	7–20	0.07–0.15 g
5.6–6.4	VII	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.	20–60	0.15–0.35 g
6.5–6.9	VIII	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.	60–200	0.35–0.7 g
7.0–7.4	IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.	200–500	0.7–1.2 g
7.5–7.9	X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.	≥500	>1.2 g
8.0–8.4	XI	Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.	—	—
8.5+	XII	Damage total. Lines of sight and level are distorted. Objects thrown into the air.	—	—

Source: USGS 2015b
1. Peak acceleration is expressed in "g" (the acceleration due to earth's gravity, equivalent to g-force).

Active Faults

An active fault is defined by the State Mining and Geology Board as a fault that has had surface displacement within Holocene times (about the last 11,000 years) and therefore is considered



more likely to generate a future earthquake. The 1994 Alquist-Priolo Earthquake Fault Zoning Act requires the California State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults that pose a risk of surface ground rupture and to issue appropriate maps in order to mitigate the hazard of surface faulting to structures for human occupancy and to prevent the construction of buildings used for human occupancy on the surface trace of active faults (CGS 2016).

As noted before, the city is located between the San Andreas Fault and the San Jacinto fault (includes the Glen Helen and Loma Linda faults). Each of these faults is classified as an Earthquake Fault Zone under the Alquist-Priolo Earthquakes Fault Zoning Act; refer to [Figure 3.5-1, Alquist-Priolo Earthquake Fault Zones](#). However, according to Geocon West (2015; [Appendix 3.5-1](#)), no active, potentially active, or inactive faults underlie or trend toward the project site.

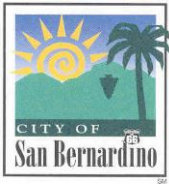
Table 3.5-3. Principal Active Faults

Fault	Maximum Credible Earthquake Magnitude (magnitude) ¹
San Andreas	8.5
San Jacinto (includes Glen Helen and Loma Linda)	7.5
Rialto-Colton	6.5
Source: San Bernardino 1988 Notes: 1. Maximum Credible Earthquake shows the earthquake magnitude each fault is capable of generating. 2. Peak ground acceleration is the measure of earthquake acceleration (intensity) on the ground (e.g., how hard the earth shakes in a given geographic area) and is expressed in "g" (the acceleration due to the earth's gravity, equivalent to g-force).	

LIQUEFACTION AND SEISMICALLY INDUCED SETTLEMENT

Liquefaction occurs when loose sand and silt that is saturated with water behaves like a liquid when shaken by an earthquake. Earthquake waves cause water pressures to increase in the sediment and the sand grains to lose contact with each other, leading the sediment to lose strength and behave like a liquid. The soil can lose its ability to support structures, flow down even very gentle slopes, and erupt to the ground surface to form sand boils. Many of these phenomena are accompanied by settlement of the ground surface, usually in uneven patterns that damage buildings, roads, and pipelines (USGS 2009).

Three factors are required for liquefaction to occur: (1) loose, granular sediment (typically "made" land and beach and stream deposits that are young enough (late Holocene) to be loose); (2) saturation of the sediment by shallow groundwater (water fills the spaces between sand and silt grains); and (3) strong shaking. Liquefaction causes three types of ground failure: lateral spreads, flow failures, and loss of bearing strength. In addition, liquefaction enhances ground settlement and sometimes generates sand boils (fountains of water and sediment emanating from the pressurized liquefied zone). Similar to liquefaction, settlement occurs primarily in loose to moderately dense, dry or saturated granular soil, typically below groundwater levels. Settlement caused by ground shaking is often non-uniformly distributed, which can result in differential settlement. Unlike liquefaction, which occurs above groundwater, settlement occurs below groundwater levels. According to the geotechnical study conducted by Geocon West (2015), there is a potential for seismically induced settlement on the project site. The geotechnical



analysis indicates that total settlements on the order of up to 2 inches are anticipated, with differential settlements on the order of 1 inch over a horizontal distance of 50 feet.

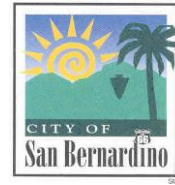
3.5.3 Significance Threshold Criteria

The project will create a significant environmental impact if it causes one or more of the following to occur:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42).
 - ii. Strong seismic ground shaking.
 - iii. Seismic-related ground failure, including liquefaction.
 - iv. Landslides.
- b) Result in substantial soil erosion or the loss of topsoil.
- c) 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.
- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

There is no potential for seiche or tsunami at the proposed project site because no large surface water bodies (lakes, reservoirs, etc.) are located nearby. As such, no impacts are associated with this issue area (Standard of Significance e). Therefore, this issue area will not be discussed further in this EIR.

Additionally, the project site and surrounding properties have relatively level terrain and therefore would not be subject to landslides associated with seismic activity. No impacts are associated with this issue area (Standard of Significance a.iv). As such, this issue area will not be discussed further in this EIR.



3.5.4 Project Impacts and Mitigation Measures

Impact 3.5-1

Would the project:

Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Impact Analysis

Although no active faults traverse the project site, the project site is situated in between and within proximity (less than two miles) to the San Andreas and San Jacinto fault systems, both of which are delineated as Alquist-Priolo Earthquake Fault Zones. Seismic activity poses two types of potential hazards for people and structures, categorized as either primary or secondary hazards. Primary hazards include ground rupture, ground shaking, ground displacement, subsidence, and uplift from earth movement. Secondary hazards include ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, water waves (seiches), movement on nearby faults (sympathetic fault movement), dam failure, and fires. Since the project site is in a seismically active area and within proximity to two faults capable of producing large magnitude earthquakes ([Table 3.5-3](#)), the project site is susceptible to primary and secondary hazards related to seismic activity.

All new development and redevelopment is required to comply with the CBC, which includes design criteria for seismic loading and other geologic hazards, including design criteria for geologically induced loading that govern sizing of structural members and provide calculation methods to assist in the design process. Thus, while shaking impacts could be potentially damaging, they would also tend to be reduced in their structural effects due to CBC criteria that recognize this potential. The CBC includes provisions for buildings to structurally survive an earthquake without collapsing and includes measures such as anchoring to the foundation and structural frame design. Additionally, the geotechnical study recommends that building structure and improvements be designed using Site Class D and includes seismic design parameters in accordance with the CBC (Geocon 2015). Table 7.1.1 in the geotechnical study (Geocon 2015) illustrates the 2013 CBC seismic design parameters. Further, the City's General Plan includes policies designed to prevent the loss of life, serious injuries, and major disruption caused by the collapse of or severe damage to vulnerable buildings in an earthquake. For example, Safety Element Policy 10.8.1 enforces the requirements of the California Seismic Hazards Mapping and Alquist-Priolo Earthquake Fault Zoning Acts when siting, evaluating, and constructing new projects in the city. Finally, the City of San Bernardino codifies the report and application of the Alquist-Priolo Earthquake Fault Zoning Act (Sections 15.04.120 of the City of San Bernardino Municipal Code). These requirements, along with adherence to the City's Municipal Code reduces impacts to less than significant.



Impact Conclusion

Less than Significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.5-2

Would the project:

Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

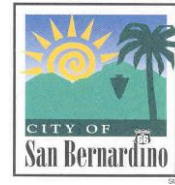
Impact Analysis

Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Liquefaction is characterized by a loss of shear strength in the affected soil layers, thereby causing the soils to behave as a viscous liquid. Susceptibility to liquefaction is based on geologic data. River channels and floodplains are considered most susceptible to liquefaction, while alluvial fans have a lower susceptibility. Depth to groundwater is another important element in the susceptibility to liquefaction. Groundwater shallower than 30 feet results in high to very high susceptibility to liquefaction, while deeper water results in lower susceptibility. According to the geotechnical study prepared by Geocon West (2015), no groundwater was encountered at exploratory depths of 15.5 feet. Previous geotechnical investigations conducted in 2005 did not encounter groundwater to a depth of 50.5 feet. According to Geocon's 2015 report, groundwater is estimated to be at approximately 200 feet below ground surface; however, it is anticipated that some of the alluvial soil layers below the level of the high historic groundwater could be prone to settlement during a seismic event. Based on the liquefaction analysis conducted by Geocon (2015). The potential total settlement resulting from seismic loading was estimated to be on the order of up to 2 inches. The potential seismically induced differential settlement was estimated to be 1 inch over a horizontal distance of 40 feet.

To minimize potential impacts associated with seismically induced liquefaction, future development would be designed in accordance with CBC requirements. In addition, a geotechnical study has been prepared for the project site by Geocon (2015; [Appendix 3.5-1](#)). The project applicant will have to demonstrate to planning and engineering staff that the recommendations of the geotechnical study have been incorporated into project design and also complies with all applicable requirements of the CBC. Therefore, with adherence to CBC requirements and the incorporation of recommendations outlined in the geotechnical report will reduce impacts to levels less than significant.

Impact Conclusion

Less than Significant.



Mitigation Measures

No mitigation measures are required.

Impact 3.5-3

Would the project:

Result in substantial soil erosion or the loss of topsoil?

Impact Analysis

Soil erosion may result during construction of the proposed project, as grading and construction can loosen surface soils and make soils susceptible to the effects of wind and water movement across the surface. However, all construction activities related to the proposed project would be subject to compliance with the California Building Code. Additionally, all allowed development associated with the proposed project would be subject to compliance with the requirements set forth in the National Pollutant Discharge Elimination System (NPDES) Storm Water General Construction Permit for construction activities (discussed in further detail in Section 3.9, Hydrology and Water Quality, of this EIR). Compliance with the CBC and the NPDES would minimize effects from erosion and ensure consistency with Santa Ana Regional Water Quality Control Board requirements, which establish water quality standards for the groundwater and surface water of the region.

Additionally, as part of the approval process, prior to grading plan approval, the project applicant will be required to comply with San Bernardino Municipal Code Chapter 8.80, Storm Water Drainage System, which establishes requirements for stormwater and non-stormwater quality discharge and control that requires new development or redevelopment projects to control stormwater runoff by implementing appropriate best management practices (BMPs) to prevent deterioration of water quality. The displacement of soil through cut and fill will be controlled by Chapter 33 of the 2013 California Building Code relating to grading and excavation, other applicable building regulations, and standard construction techniques; therefore, there will be no significant impact.

Further, a stormwater pollution prevention plan (SWPPP) will be required as part of the grading permit submittal package. The SWPPP provides a schedule for the implementation and maintenance of erosion control measures and a description of the erosion control practices, including appropriate design details and a time schedule. The SWPPP would consider the full range of erosion control best management practices including any additional site-specific and seasonal conditions. Erosion control best management practices include but are not limited to the application of straw mulch, hydroseeding, the use of geotextiles, plastic covers, silt fences, and erosion control blankets, as well as construction site entrance/outlet tire washing. The State General Permit also requires that those implementing SWPPPs meet prerequisite qualifications that would demonstrate the skills, knowledge, and experience necessary to implement those plans. NPDES requirements would significantly reduce the potential for substantial erosion or topsoil loss to occur in association with new development. Water quality features intended to reduce construction-related erosion impacts will be clearly noted on the grading plans for implementation by the construction contractor.



The City requires the submittal of detailed erosion control plans with any grading plans. Additionally, fugitive dust would be controlled in compliance with South Coast Air Quality Management District (SCAQMD) Rules 403 and 1166. The following erosion control features associated with SCAQMD rules used during remedial activities would be employed: covering stockpiles with plastic sheeting; covering loaded soils with secured tarps; prohibiting work during periods of high winds; and watering exposed soils during construction. Further, in accordance with Clean Water Act and NPDES requirements, water erosion during construction would be minimized by limiting certain construction activities to dry weather, covering exposed excavated dirt during periods of rain, and protecting excavated areas from flooding with temporary berms. As a result, impacts associated with soil erosion are considered less than significant after compliance with required erosion and runoff control measures included as part of the approval of a grading plan.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.5-4

Would the project:

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?

Impact Analysis

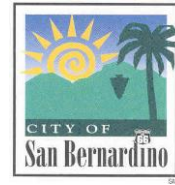
As discussed, the project site is not at risk for landslide, collapse, or rockfall because of the relatively level terrain of the site and surrounding developed properties. Additionally, as part of future development of Rancho Palma, the project site would be graded and the areas underlying the building pads would be soil engineered in accordance with the recommendations of a design-level geotechnical study and the requirements of the CBC. These practices would ensure that proposed structures are located on stable soils and geologic units and would not be susceptible to settlement or ground failure. Therefore, impacts would be less than significant.

Impact Conclusion

Less than Significant.

Mitigation Measures

No mitigation measures are required.



Impact 3.5-5

Would the project:

Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Impact Analysis

Soils tested on the project site are classified to have very low expansion potential (Expansion Index (EI) less than 20¹). However, soils used near finish grade may have a different Expansion Index. Therefore, soils with higher expansion potential could be present on the project site. As such, the geotechnical study (Geocon 2015) includes requirements for development consistent with the soil conditions found on the project site and are based on a very low expansion potential for the supporting material as determined by CBC Chapter 18. The City also requires that site-specific soils reports accompany parcel map and building permit application requests (Municipal Code Section 19.66.120), which ensures that the type of building proposed is consistent with the actual soils present on the proposed building location. Additionally, the City evaluates each foundation plan separately using information from the building permit and the site-specific soils analysis. Based on on-site conditions and development requirements outlined in the CBC, impacts associated with expansive soils are considered less than significant.

Impact Conclusion

Less than Significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.5-6

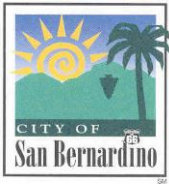
Would the project:

Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact Analysis

A search was performed by the National History Museum of Los Angeles County of the paleontology collection records for locality and specimen data for the proposed project. The records search did not identify any vertebrate fossil localities within the proposed project boundaries. However, localities were found nearby from the same deposits that occur in the proposed project area. The entire project area has exposures of younger Quaternary Alluvium. The closest known fossil vertebrate locality from similar older Quaternary deposits is located to the southwest of the project site west of Mira Loma along Sumner Avenue, which produced a fossil specimen of a whipsnake, *Masticophis*. Farther from the site, a deposit between Corona and Norco produced a specimen of deer, *Odocoileus*.

¹ An EI Expansion Potential of 0 to 20 is considered very low (FEMA 2011).



While shallow excavations in the younger Quaternary Alluvium are unlikely to encounter significant vertebrate fossils. Any substantial or deep excavations on the proposed project site should be monitored closely to quickly and professionally recover any fossil remains while not impeding development. Sediment samples must be collected and processed to determine the small fossil potential on the proposed project site. Any fossils recovered are to be deposited in an accredited scientific institution for the benefit of current and future generations. As impacts to unknown paleontological resources may occur, impacts would be considered potentially significant.

Impact Conclusion

Potentially significant.

Mitigation Measures

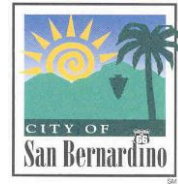
GEO-1 Prior to ground-disturbing activities, the project applicant shall retain a qualified paleontologist to monitor all initial ground-disturbing activities in native soils or sediments. If the paleontologist, upon observing initial earthwork, determines there is low potential for discovery, no further action shall be required and the paleontologist shall submit a memo to the City confirming a finding of low potential.

Should any paleontological resources (i.e., fossils) be uncovered during project construction activities, all work within a 100-foot radius of the discovery site shall be halted or diverted to other areas on the site and the City shall be immediately notified. The qualified paleontologist shall evaluate the finds and recommend appropriate next steps to ensure the resource is not substantially adversely impacted, including but not limited to avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Further ground disturbance shall not resume within a 100-foot radius of the discovery site until an agreement has been reached between the project applicant, the qualified paleontologist, and the City of San Bernardino as to the appropriate preservation or mitigation measures to ensure that the resource is not substantially adversely impacted.

Timing/Implementation: Prior to ground-disturbing activities

Enforcement/Monitoring: City of San Bernardino Planning Department

Level of Significance After Mitigation: Less than significant.



3.5.5 Cumulative Impacts and Mitigation Measures

Impact 3.5-7

Would the project:

Result in cumulative impacts related to geology and soils?

Impact Analysis

Geotechnical impacts are site-specific rather than cumulative in nature. For example, seismic events may damage or destroy a building on the project site, but the construction of a development project on one site would not cause any adjacent parcels to become more susceptible to seismic events, nor can a project affect local geology in such a manner as to increase risks regionally. Soils associated with the project site are similar to other soils in the area. The proposed project will grade parts of the property. However, the resulting project site would not be visually and topographically different from existing development surrounding the proposed project site. The proposed project will be graded to be similar to existing adjacent natural topography to avoid erosion. With compliance with existing codes and standards, including the California Building Code and implementation of the Mitigation Measures GEO-1 through GEO-4, the proposed project's contribution to cumulative impacts related to area geological conditions would be less than cumulatively considerable.

Impact Conclusion

Less than cumulatively considerable.

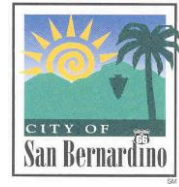
Mitigation Measures

No mitigation measures are required.

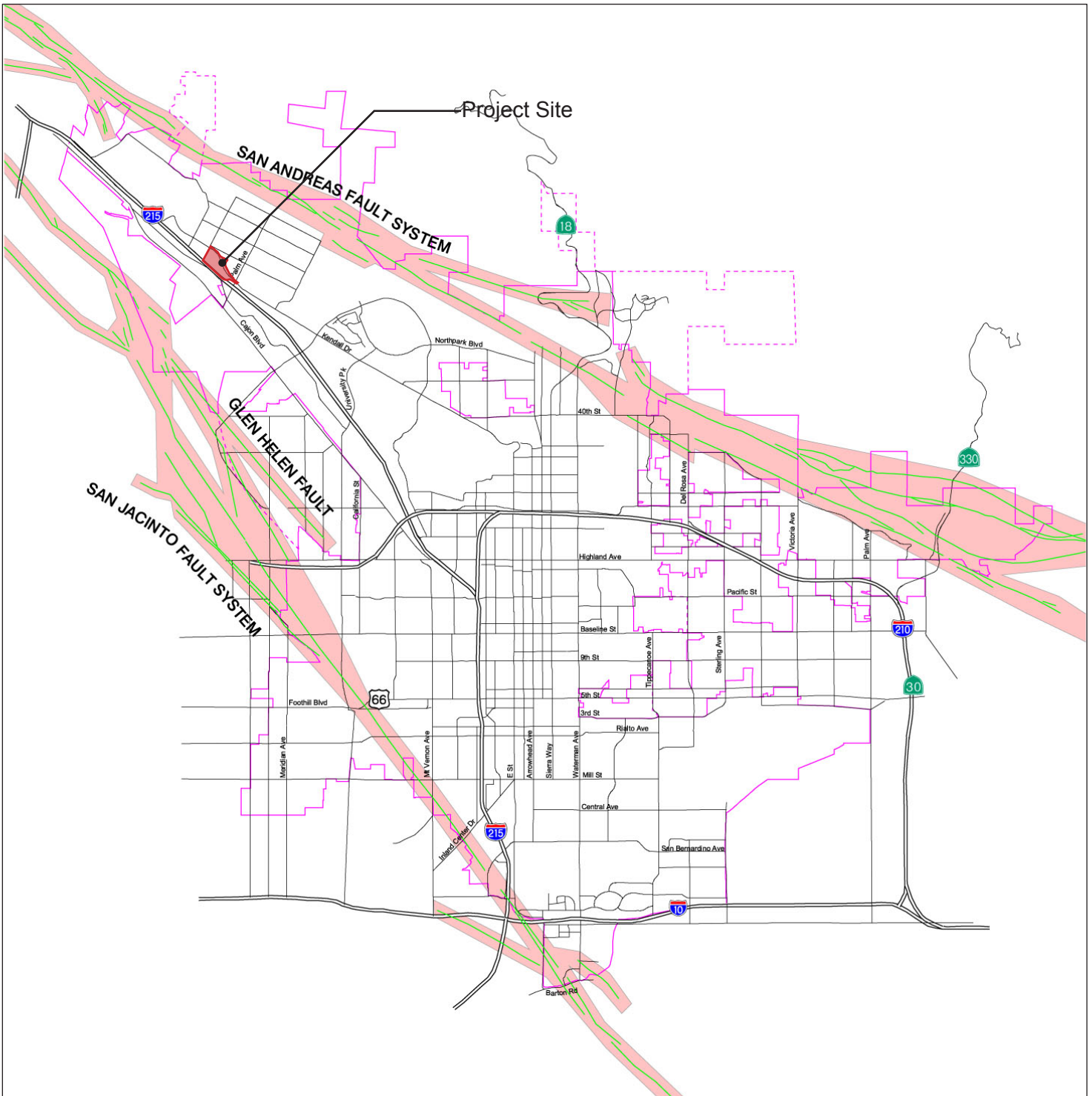





3.5.6 Sources Cited

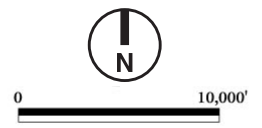
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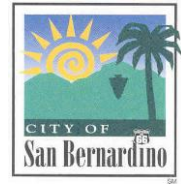
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-  Approximate Fault Location
-  Approximate Location of Alquist-Priolo Earthquake Fault Zones
-  City Boundary



Source: City of San Bernardino General Plan, 2005.



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3.6 Greenhouse Gas Emissions

This section discusses the project's effect on greenhouse gas (GHG) emissions and the associated effects of climate change. The reader is referred to [Section 3.2, Air Quality](#), for a discussion of project impacts associated with air quality. This GHG analysis is based on information provided in the Rancho Palma Greenhouse Gas Analysis completed by Urban Crossroads (2015a), which is included in [Appendix 3.6-1](#).

3.6.1 Regulatory Setting

STATE

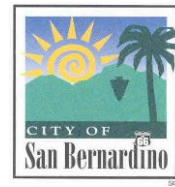
California Global Warming Solutions Act (Assembly Bill 32)

The primary act driving GHG regulation and analysis in California is the California Global Warming Solutions Act of 2006 (AB 32) (Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599), which instructs the California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The act directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. The heart of the bill is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020.

AB 32 Scoping Plan

CARB adopted the Scoping Plan to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business as usual"). The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction measures by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. Additional development of these measures and adoption of the appropriate regulations occurred through the end of year 2013. Key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent.
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions.
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.



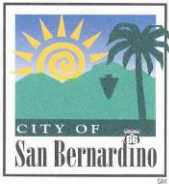
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, heavy-duty truck measures, and the Low Carbon Fuel Standard.
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation. (CARB 2008a)

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relies on emissions projections updated in light of current economic forecasts that account for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This analysis reduced the projected 2020 emissions from 596 million metric tons (MMT) carbon dioxide equivalents (CO₂e) to 545 MMTCO₂e. The reduction in projected 2020 emissions means that the revised business-as-usual (BAU) reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 21.7 percent. CARB also provided a lower 2020 inventory forecast that incorporated State-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from BAU needed to achieve the goals of AB 32 is approximately 16 percent.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The Scoping Plan update also looks beyond 2020 toward the 2050 goal established in Executive Order S-3-05, though not yet adopted as state law, and observes that "a mid-term statewide emission limit will ensure that the State stays on course to meet our long-term goal." The Scoping Plan update does not establish or propose any specific post-2020 goals, but identifies such goals adopted by other governments or recommended by various scientific and policy organizations. Executive Order B-30-15 (signed April 29, 2015) endorses the effort to set interim GHG reduction targets for year 2030 (40 percent below 1990 levels).

California Executive Orders

Two Executive Orders—California Executive Order S-03-05 (2005) and California Executive Order B-30-15 (2015)—highlight GHG emissions reduction targets, though such targets have not been adopted by the State and remain only a goal of the Executive Orders. Specifically, Executive Order S-03-05 seeks to achieve a reduction of GHG emissions of 80 percent below 1990 levels by 2050 and Executive Order B-30-15 seeks to achieve a reduction of GHG emissions of 40 percent below 1990 levels by 2030. Technically, a governor's Executive Order does not have the effect of new law but can only reinforce existing laws. For instance, as a result of the AB 32 legislation, the State's 2020 reduction target is backed by the adopted AB 32 Scoping Plan, which provides a specific regulatory framework of requirements for achieving the 2020 reduction target. The State-led GHG reduction measures identified in [Table 3.6-1, California State Climate Change Legislation](#), such as the Low Carbon Fuel Standard and the Renewables Portfolio Standard, are largely driven by the AB 32 Scoping Plan. Executive Orders S-03-05 and B-30-15 do not have any such framework and, therefore, provide no specific emissions reduction mechanisms.

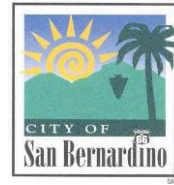


[Table 3.6-1](#) summarizes the other California legislation relating to climate change that may affect emissions associated with the proposed project.

Table 3.6-1. California State Climate Change Legislation

Legislation	Description
Assembly Bill 1493 and Advanced Clean Cars Program	Assembly Bill 1493 (the Pavley Standard) (Health and Safety Code Sections 42823 and 43018.5) aims to reduce GHG emissions from noncommercial passenger vehicles and light-duty trucks of model years 2009–2016. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer CO ₂ e emissions and 75 percent fewer smog-forming emissions.
Low Carbon Fuel Standard (LCFS)	Executive Order S-01-07 (2007) requires a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California. The regulation took effect in 2010 and is codified at Title 17, California Code of Regulations Sections 95480–95490. The LCFS will reduce greenhouse gas emissions by reducing the carbon intensity of transportation fuels used in California by at least 10 percent by 2020.
Renewables Portfolio Standard (Senate Bill X1-2 & Senate Bill 350)	California’s Renewables Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020. The 33 percent standard is consistent with the RPS goal established in the Scoping Plan. The passage of Senate Bill 350 in 2015 updates the RPS to require the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030. The bill would make other revisions to the RPS program and to certain other requirements on public utilities and publicly owned electric utilities.
Senate Bill 375*	Senate Bill (SB) 375 (codified in the Government Code and the Public Resources Code) took effect in 2008 and provides a new planning process to coordinate land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 requires metropolitan planning organizations (MPOs) to incorporate a Sustainable Communities Strategy in their Regional Transportation Plans that will achieve GHG emissions reduction targets by reducing vehicle miles traveled from light-duty vehicles through the development of more compact, complete, and efficient communities.
California Building Energy Efficiency Standards	In general, the California Building Energy Efficiency Standards require the design of building shells and building components to conserve energy. The California Energy Commission adopted changes to the 2013 Building Energy Efficiency Standards contained in the California Code of Regulations, Title 24, Part 6 (also known as the California Energy Code) and associated administrative regulations in Part 1. The amended standards took effect in the summer of 2014. The 2013 Building Energy Efficiency Standards are 25 percent more efficient than previous standards for residential construction and 30 percent better for nonresidential construction. The standards offer builders better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses. Energy-efficient buildings require less electricity, and increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions.
California Green Building Standards	The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code went into effect July 1, 2014.

* Senate Bill 375 is codified at Government Code Sections 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588, 14522.1, 14522.2, and 65080.01, as well as at Public Resources Code Sections 21061.3 and 21159.28 and Chapter 4.2.



LOCAL

South Coast Air Quality Management District

To provide guidance to local lead agencies on determining significance for greenhouse gas emissions in CEQA documents, South Coast Air Management District (SCAQMD) staff is convening an ongoing GHG CEQA Significance Threshold Working Group. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that provide input to SCAQMD staff on developing the significance thresholds. On October 8, 2008, the SCAQMD released the Draft AQMD Staff CEQA GHG Significance Thresholds. These thresholds have not been finalized and continue to be developed through the working group. On September 28, 2010, SCAQMD Working Group Meeting #15 provided further guidance, including an interim screening level threshold of 4.8 metric tons of CO₂e per service population (residents plus employees) per year in 2020 and 3.0 metric tons of CO₂e per service population per year in 2035. The SCAQMD has not announced when staff is expected to present a finalized version of these thresholds to the governing board.

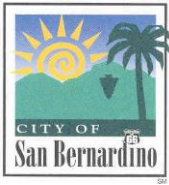
San Bernardino County Regional Greenhouse Gas Reduction Plan and City of San Bernardino Sustainability Master Plan

In March 2014, the San Bernardino Associated Governments and the Participating San Bernardino County Cities Partnership created a final draft of the San Bernardino County Regional Greenhouse Gas Reduction Plan (Partnership's Reduction Plan). This plan was created in accordance with AB 32, which established a GHG limit for California, and includes an inventory of GHG emissions and developed reduction measures that are jurisdiction-specific. The inventory of GHG, baseline information, and jurisdiction-specific GHG reduction measures can be used by the 21 Partnership Cities in San Bernardino County, which include the City of San Bernardino, to create community climate action plans (SCAQMD 2014). In the Partnership's Reduction Plan, the City of San Bernardino selected a goal to reduce community GHG emissions 15 percent below the city's 2008 GHG emissions levels by 2020.

In order to achieve this goal the City is in the process of establishing a Sustainability Master Plan (SMP). The draft SMP, prepared in 2012, follows the organization of the Partnership's Reduction Plan, with the SMP measures following its GHG reduction plan measures. The SMP is comprised of measures that, when implemented, will enable the City to reduce its GHG emissions from City operations and the community. The strategies within the SMP cover a variety of sectors: land use, transportation, waste, water, and green infrastructure.

3.6.2 Environmental Setting

Since the early 1990s, scientific consensus holds that the world's population is releasing GHGs faster than the earth's natural systems can absorb them. These gases are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O), creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural



levels. The overabundance of GHGs in the atmosphere has led to a warming of the earth and has the potential to severely impact the earth's climate system.

While often used interchangeably, there is a difference between the terms *climate change* and *global warming*. According to the National Academy of Sciences, climate change refers to any significant, measurable change of climate lasting for an extended period of time that can be caused by both natural factors and human activities. Global warming, on the other hand, is an average increase in the temperature of the atmosphere caused by increased GHG emissions. Use of the term *climate change* is becoming more prevalent because it encompasses all changes to the climate, not just temperature.

To fully understand global climate change, it is important to recognize the naturally occurring greenhouse effect and to define the GHGs that contribute to this phenomenon. Various gases in the earth's atmosphere, classified as atmospheric greenhouse gases, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that would have otherwise escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect.

Among the prominent GHGs contributing to the greenhouse effect are CO₂, CH₄, and N₂O. [Table 3.6-2, Greenhouse Gases](#), describes the primary GHGs attributed to global climate change, including a description of their physical properties, primary sources, and contribution to the greenhouse effect. Although other substances such as fluorinated gases also contribute to global climate change, sources of fluorinated gases are not well-defined and no accepted emissions factors or methodology exist to accurately calculate these gases (Urban Crossroads 2015a).

Table 3.6-2. Greenhouse Gases

Greenhouse Gas	Description
Carbon Dioxide (CO ₂)	Carbon dioxide is a colorless, odorless gas. CO ₂ is emitted in a number of ways, both naturally and through human activities. The largest source of CO ₂ emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO ₂ emissions. The atmospheric lifetime of CO ₂ is variable because it is so readily exchanged in the atmosphere. ¹
Methane (CH ₄)	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH ₄ to the atmosphere. Natural sources of CH ₄ include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH ₄ is about 12 years. ²

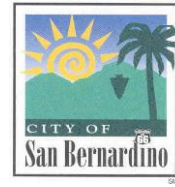


Table 3.6-2, continued

Greenhouse Gas	Description
Nitrous Oxide (N ₂ O)	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N ₂ O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. Nitrous oxide is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N ₂ O is approximately 120 years. ³
Sources: 1 EPA 2011a, 2 EPA 2011b, 3 EPA 2010	

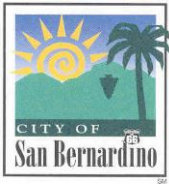
Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Methane traps over 25 times more heat per molecule than CO₂, and N₂O absorbs 298 times more heat per molecule than CO₂. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO₂e), which weigh each gas by its global warming potential (GWP). Expressing GHG emissions in CO₂e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO₂ were being emitted.

As the name implies, global climate change is a global problem. Greenhouse gases are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California is a significant emitter of CO₂e in the world and produced 459 million gross metric tons of CO₂e in 2012 (CARB 2014). Consumption of fossil fuels in the transportation sector was the single largest source of California’s GHG emissions in 2010, accounting for 36 percent of total GHG emissions in the State (CARB 2014). This category was followed by the electric power sector (including both in-state and out-of-state sources) (21 percent) and the industrial sector (19 percent) (CARB 2014).

EFFECTS OF GLOBAL CLIMATE CHANGE

The IPCC was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme to provide the world with a scientific view on climate change and its potential effects. According to the IPCC, global average temperature is expected to increase relative to the 1986–2005 period by 0.3 to 4.8 degrees Celsius (°C) (0.5–8.6 degrees Fahrenheit [°F]) by the end of the twenty-first century (2081–2100), depending on future GHG emission scenarios (IPCC 2014). According to the California Natural Resources Agency (2012, p. 2), temperatures in California are projected to increase 2.7°F above 2000 averages by 2050 and, depending on emission levels, 4.1–8.6°F by 2100.

Physical conditions beyond average temperatures could be indirectly affected by the accumulation of GHG emissions. For example, changes in weather patterns resulting from increases in global average temperature are expected to result in a decreased volume of precipitation falling as snow in California and an overall reduction in snowpack in the Sierra Nevada. Based on historical data and modeling, the California Department of Water Resources projects that the Sierra snowpack will experience a 25 to 40 percent reduction from its historic average by 2050 (DWR 2008, p. 4). An increase in precipitation falling as rain rather than snow also could lead to increased potential for floods because water that would normally be held in the Sierra Nevada until spring could flow into the Central Valley concurrently with winter storm events



(CNRA 2012, p. 5). This scenario would place more pressure on California's levee/flood control system.

Another outcome of global climate change is sea level rise. The sea level rose approximately 7 inches during the last century and, assuming that sea level changes along the California coast continue to track global trends, the sea level along the state's coastline in 2050 could be 10–18 inches higher than in 2000 and 31–55 inches higher by the end of this century (CNRA 2012, p. 9).

As the existing climate throughout California changes over time, the ranges of various plant and wildlife species could shift or be reduced, depending on the favored temperature and moisture regimes of each species. In the worst cases, some species would become extinct or be extirpated from the state if suitable conditions are no longer available (CNRA 2012, pp. 11 and 12).

Changes in precipitation patterns and increased temperatures are expected to alter the distribution and character of natural vegetation and the associated moisture content of plants and soils. An increase in the frequency of extreme heat events and drought is also expected. These changes are expected to lead to increased frequency and intensity of large wildfires (CNRA 2012, p. 11).

3.6.3 Significance Threshold Criteria

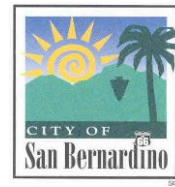
The California Natural Resources Agency (CNRA) has noted that impacts of GHG emissions should focus on the cumulative impact on climate change. The public notice states:

While the Proposed Amendments do not foreclose the possibility that a single project may result in greenhouse gas emissions with a direct impact on the environment, the evidence before [CNRA] indicates that in most cases, the impact will be cumulative. Therefore, the Proposed Amendments emphasize that the analysis of greenhouse gas emissions should center on whether a project's incremental contribution of greenhouse gas emissions is cumulatively considerable. (CNRA 2009)

Thus, the CEQA Amendments continue to make clear that the significance of GHG emissions is most appropriately considered on a cumulative level. According to Appendix G of the CEQA Guidelines, the project may create a significant environmental impact if it causes one or more of the following to occur:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Based on these significance standards, the effects of the proposed project have been categorized as either no impact, a less than cumulatively considerable impact, or a potentially cumulatively considerable impact. Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a cumulatively considerable and significant and unavoidable impact.



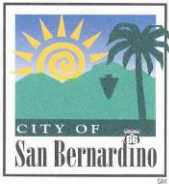
Addressing GHG generation impacts requires an agency to make a determination as to what constitutes a significant impact. The amendments to the CEQA Guidelines specifically allow lead agencies to determine thresholds of significance that illustrate the extent of an impact and are a basis from which to apply mitigation measures. This means that each agency is left to determine whether a project's GHG emissions will have a "significant" impact on the environment. The guidelines direct that agencies are to use "careful judgment" and "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" the project's GHG emissions (14 California Code of Regulations Section 15064.4(a)).

A number of expert agencies throughout the state have drafted or adopted varying threshold approaches and guidelines for analyzing 2020 operational GHG emissions in CEQA documents. The different thresholds include (1) compliance with a qualified GHG reduction strategy, (2) performance-based reductions, (3) numeric "bright-line" thresholds, and (4) efficiency-based thresholds. The California Supreme Court decision in the Centers for Biological Diversity et al. vs. California Department of Fish and Wildlife, the Newhall Land and Farming Company (November 30, 2015, Case No. S217763) (hereafter Newhall Ranch) confirmed that when an "agency chooses to rely completely on a single quantitative method to justify a no-significance finding, CEQA demands the agency research and document the quantitative parameters essential to that method."

The Court also opined in a footnote to its decision that an agency needs to "consider the project's effects on meeting longer term emissions reduction targets" (i.e., post-2020). The topic of whether a GHG emissions analysis must conform to the 2050 reduction target (40 percent of 1990 emissions by 2030 and 80 percent of 1990 emissions by 2050) expressed in Governor Brown's Executive Order (EO) B-30-15 and Governor Schwarzenegger's EO S-03-05 is currently before the Supreme Court in the Cleveland National Forest Foundation v. San Diego Association of Governments (hereafter SANDAG) case.

As noted earlier, AB 32 is a legal mandate requiring that statewide GHG emissions be reduced to 1990 levels by 2020 and efficiency-based thresholds represent the rate of emission reductions needed to achieve a fair share of California's GHG emissions reduction target established under AB 32. In adopting AB 32, the legislature determined the necessary GHG reductions for the state to make to sufficiently offset its contribution to the cumulative climate change problem to reach 1990 levels. AB 32 is the only legally mandated requirement for the reduction of greenhouse gases. As such, compliance with AB 32 is the current adopted basis upon which an agency can base its significance threshold for evaluating a project's GHG impacts. However, it is acknowledged that Executive Orders S-03-05 and B-30-15, SB 375, and proposed legislation will ultimately result in GHG emission reduction targets for 2030, 2040, and 2050.

As previously stated, the SCAQMD has not announced when staff is expecting to present a finalized version of its GHG thresholds to the governing board. On September 28, 2010, the SCAQMD recommended an efficiency-based threshold of 4.8 metric tons of CO₂e per service population (residents plus employees) per year in 2020 and 3.0 metric tons of CO₂e per service population per year in 2035. These efficiency-based thresholds were developed as part of the SCAQMD GHG CEQA Significance Threshold Working Group. The GHG Significance Threshold Working Group was formed to assist SCAQMD's efforts to develop a GHG significance threshold and is comprised of a wide variety of stakeholders including the State Office of Planning and



Research (OPR), CARB, the Attorney General's Office, a variety of city and county planning departments in the South Coast Air Basin, various utilities such as sanitation and power companies throughout the South Coast Air Basin, industry groups, and environmental and professional organizations. The efficiency-based thresholds were developed to be consistent with CEQA requirements for developing significance thresholds, are supported by substantial evidence, and provides guidance to CEQA practitioners with regard to determining whether GHG emissions from a proposed project are significant. For the purposes of this evaluation, the proposed project will be compared to the SCAQMD-recommended efficiency-based threshold of 4.8 metric tons of CO₂e per service population per year in 2020. The calculations behind this option are based on the same inventory calculated by CARB. The 4.8 metric ton per service population target is based on the same statewide 2020 GHG inventory in the CARB Scoping Plan, i.e., 295,530,000 metric tons of CO₂e/year. To derive the project level service population of 4.8 metric ton, SCAQMD took the 2020 statewide GHG reduction target for land use only (295,530,000 metric tons of CO₂e/year) and divided it by the total 2020 statewide population plus the total statewide employment for land use only (44,135,923 + 17,064,489) (i.e., (295,530,000 metric tons of CO₂e/year)/(44,135,923 + 17,064,489) = 4.8 metric tons CO₂e/year). Thus, SCAQMD's threshold is another metric for assessing compliance with AB 32, just based on using numbers attributable to certain sectors and trying to break down the analysis to a finer grain based on a per person methodology associated with land use-related sectors.

These SCAQMD thresholds were prepared with the purpose of complying with the requirements of AB 32 and achieving the goals of the AB 32 Scoping Plan. In addition, the SCAQMD-recommended threshold of 3.0 metric tons of CO₂e per service population per year in 2035 is used to assess the project's impacts to the post-2020 GHG reduction goals in California, identified in Governor's Executive Order B-30-15 (2015), which seeks to achieve a reduction of GHG emissions of 40 percent below 1990 levels by 2030, and Executive Order 5-03-05 (2005), which seeks to achieve a reduction of GHG emissions of 80 percent below 1990 levels by 2050. Compliance with the SCAQMD's 2035 significance threshold is an appropriate indicator as to whether a project would inhibit post-2020 GHG emissions reduction targets set by the State of California. Existing emissions modeling software is incapable of projecting emissions beyond the year 2035.

3.6.4 Project Impacts and Mitigation Measures

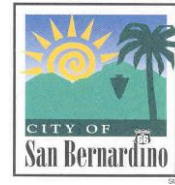
Impact 3.6-1

Would the project:

Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact Analysis

The proposed project's GHG emissions were calculated using CalEEMod version 2013.2.2 (see [Appendix 3.6-1](#)). CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for the use of government agencies, land use planners, and environmental professionals. This model was developed in coordination with the South Coast Air Quality Management District and is the most current emissions model approved for use in California by various other air districts.



Construction GHG Emissions

The proposed project would result in direct emissions of GHGs from construction. The approximate quantity of daily GHG emissions generated by construction equipment utilized to build the proposed project is depicted in [Table 3.6-3](#).

Table 3.6-3. Construction-Related Greenhouse Gas Emissions – Metric Tons per Year

Construction	CO ₂ e
Total Construction	1,733

Source: Urban Crossroads 2015a. See [Appendix 3.2-1](#).

As shown, project construction would result in the generation of approximately 1,733 metric tons of CO₂e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. In accordance with the SCAQMD guidance, projected GHGs from construction have been quantified and amortized over the life of the project (30 years). The amortized construction emissions are added to the annual average operational emissions.

Operational GHG Emissions

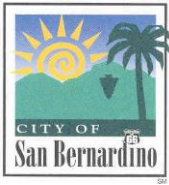
[Table 3.6-4](#) summarizes the GHG emissions associated with proposed project operations. As shown, the project would result in the generation of approximately 5,654 metric tons of CO₂e annually under year 2020 conditions and 5,428 metric tons of CO₂e annually under year 2035 conditions.

Table 3.6-4. Total Project Greenhouse Gas Emissions (Annually)

Emission Source	Emissions (metric tons per year)	
	Total CO ₂ e in the Year 2020 ¹	Total CO ₂ e in the Year 2035 ²
Annual construction-related emissions amortized over 30 years	58	58
Area	31	31
Energy	742	640
Mobile sources	4,629	4,518
Waste	111	111
Water	83	70
Total CO ₂ e	5,654	5,428

Source: ¹Urban Crossroads 2015a, Table 3-2. ²Michael Baker International 2016. See [Appendix 3.2-1](#).
 Note: Totals obtained from CalEEMod and may not total 100% due to rounding.
 Table results include scientific notation. *E* is used to represent *times ten raised to the power of* (which would be written as x 10ⁿⁿ) and is followed by the value of the exponent. Example: 3.07E-03 = 0.00307

The project is compared with the efficiency-based threshold of 4.8 metric tons of CO₂e per service population (residents plus employees) per year by the year 2020. In addition, the SCAQMD-recommended threshold of 3.0 metric tons of CO₂e per service population per year in 2035 is used to assess the project's impacts to the post-2020 GHG reduction goals in California, identified in Governor's Executive Order B-30-15 (2015) and Executive Order 5-03-05 (2005). The SCAQMD's approach is to identify the emissions level for which a project would not be expected to



substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. As previously stated, the service population is defined as the total residents and employees associated with a project. However, for a project proposing a commercial component like that of the proposed project, the employees may be only about two percent of the number of people that visit a site. The majority of people visiting a commercial land use are customers and a smaller number of vendors. When determining the service population for commercial uses, it is logical to not only consider the employees as part of the service population, yet also the primary users of commercial uses, which are the customers (who are being served by the project) and a small number of vendors. As such, for the purposes of this project, the service population for the commercial uses would be the employees, the customers, and the vendors. In order to estimate the number customers and vendors that visit the site in addition to the employees, the number of potential daily vehicle trips is divided by two to account for each service population member making one trip to the project site and one trip from the project site, therefore each project customer and vendor would count for two trips. This is a very conservative assumption since each vehicle is assumed to accommodate only one person, whereas, many of the vehicles would accommodate more than one person.

The proposed commercial uses would generate approximately 6,702 trips per day (Urban Crossroads 2015b). In order to provide a conservative analysis, an internal capture value of 505 and pass-by reduction value of 2,107 are subtracted from the commercial trip generation. As such, the proposed commercial uses would generate 4,090 trips per day. The total number of trips per day is divided by two to derive 2,045 employees, customers, and vendors.

According to the California Department of Finance (2015), the average people per household in the City of San Bernardino is 3.49; therefore, the proposed project would contain 419 residents (3.49 people/house x 120 houses). Based on these estimates, the proposed project service population would be 2,464 (419 residents + 2,045 employees).

As shown in [Table 3.6-5](#), dividing the GHG emissions for each time period yields a metric ton per service population ratio of 8.3 for year 2020 conditions and 8.0 for year 2035 conditions.

Table 3.6-5. Rancho Palma GHG Emissions per Service Population

Per Capita Emissions	Emissions	Employees, Customers, and Vendors	Population	Service Population Increase	MTCO _{2e} /SP/Year	SCAQMD Threshold
Rancho Palma in the Year 2020	5,654	2,045	419	2,464	2.3	4.8
Rancho Palma in the Year 2035	5,428	2,045	419	2,464	2.2	3.0

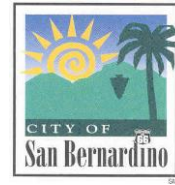
As shown in [Table 3.6-5](#), the proposed project would not surpass either the year 2020 or year 2035 significance thresholds. Therefore, this impact is less than cumulatively considerable.

Impact Conclusion

Less than Cumulatively Considerable.

Mitigation Measures

No mitigation measures are required.



Impact 3.6-2

Would the project:

Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact Analysis

Assembly Bill 32

AB 32 requires California to reduce its greenhouse gas emissions to 1990 levels by 2020. CARB (2006) identified reduction measures to achieve this goal as set forth in the CARB Scoping Plan. Thus, projects that are consistent with the CARB Scoping Plan are also consistent with the reduction targets required by AB 32.

The proposed project would generate GHG emissions from a variety of sources, all of which would emit CO₂, CH₄, and N₂O. Greenhouse gases could also be indirectly generated by incremental electricity consumption and waste generation from the proposed project.

As stated previously, the Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32. The Scoping Plan recommendations serve as statewide strategies to reduce the state’s existing GHG emissions and the proposed project’s contributions. [Table 3.6-6](#) highlights measures that have or will be developed under the Scoping Plan and that would be applicable to the project. The proposed project will not conflict with or obstruct the implementation of AB 32.

Table 3.6-6. Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measures	Measure Number	Project Consistency
Pavley Motor Vehicle Standards (AB 1493)	T-1	Employees and residents would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Limit High GWP Use in Consumer Products	H-4	Employees and residents would use consumer products that would comply with regulations in effect at the time of manufacture.
Motor Vehicle Air Conditioning Systems – Reduction from Non-Professional Servicing	H-1	Employees and residents would be prohibited from performing air conditioning repairs and required to use professional servicing.
Tire Pressure Program	T-4	Motor vehicles driven by employees and residents would maintain proper tire pressure when their vehicles are serviced.
Low Carbon Fuel Standard	T-2	Motor vehicles driven by employees and residents would use compliant fuels in the future.
Water Use Efficiency	W-1	The project includes measures to minimize water use and maximize efficiency.
Green Buildings	GB-1	The project will be required to be constructed in compliance with state or local green building standards in effect at the time of building construction.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	Motor vehicles driven by employees and residents would comply with the leak test requirements during smog checks.

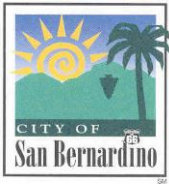


Table 3.6-6, continued

Scoping Plan Measures	Measure Number	Project Consistency
Renewable Portfolios Standard (33% by 2020)	E-3	The electricity used by employees and residents in the proposed project will benefit from reduced GHG emissions resulting from increased use of renewable energy sources.
Energy Efficiency Measures (Electricity)	E-1	The project will comply with energy efficiency standards for electrical appliances and other devices at the time of building construction.
Energy Efficiency (Natural Gas)	CR-1	The project will comply with energy efficiency standards for natural gas appliances and other devices at the time of building construction.
Greening New Residential and Commercial Construction	GB-1	The project's buildings would meet green building standards in effect at the time of design and construction.
Greening Existing Homes and Commercial Buildings	GB-1	The proposed project's buildings would meet retrofit standards when they become effective.

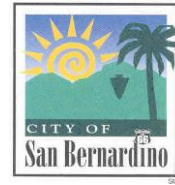
Source: Urban Crossroads 2015a, Table 4-2

Southern California Association of Governments 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments' (SCAG's) 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), adopted April 7, 2016, is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The RTP/SCS embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions (CTCs), tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. SCAG's 2016–2040 RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for 2020 and 2035, establishes an overall GHG target for the project region consistent with both the target date of AB 32 (2020) and the post-2020 GHG reduction goals of Executive Order 5-03-05 (2005) and Executive Order B-30-15 (2015).

The 2016 RTP/SCS contains over 4,000 transportation projects—ranging from highway improvements, railroad grade separations, bicycle lanes, new transit hubs and replacement bridges. These future investments were included in county plans developed by the six CTCs and seek to reduce traffic bottlenecks, improve the efficiency of the region's network and expand mobility choices for everyone. The RTP/SCS is an important planning document for the region, allowing project sponsors to qualify for federal funding. The plan takes into account operations and maintenance costs, to ensure reliability, longevity and cost effectiveness.

In addition, the RTP/SCS is supported by a combination of transportation and land use strategies that help the region achieve state greenhouse gas emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry and utilize resources more efficiently. As shown in Table 3.4-5, GHG emissions resulting from development-related mobile sources are the most potent source of emissions, and therefore project comparison to the RTP/SCS is an appropriate indicator of whether the proposed project would inhibit the post-2020 GHG reduction goals promulgated by the state.



The proposed project’s consistency with the RTP/SCS goals is analyzed in detail in [Table 3.6-7](#).

Table 3.6-7. Project Consistency with SCAG’s Regional Transportation Plan/Sustainable Communities Strategy Goals

SCAG Goals	Compliance with Goal
GOAL 1: Align the plan investments and policies with improving regional economic development and competitiveness.	Not Applicable: This is not a project-specific policy and is therefore not applicable.
GOAL 2: Maximize mobility and accessibility for all people and goods in the region.	<p>Consistent: Improvements to the transportation network in San Bernardino City are developed and maintained to meet the needs of local and regional transportation and to ensure efficient mobility. A number of regional and local plans and programs are used to guide development and maintenance of transportation networks, including but not limited to:</p> <ul style="list-style-type: none"> ▪ San Bernardino Associated Governments Congestion Management Program ▪ Caltrans Traffic Impact Studies Guidelines ▪ Caltrans Highway Capacity Manual ▪ SCAG RTP/SCS
GOAL 3: Ensure travel safety and reliability for all people and goods in the region.	Consistent: All modes of transit in the City of San Bernardino are required to follow safety standards set by corresponding regulatory documents. Pedestrian walkways and bicycle routes must follow safety precautions and standards established by local (e.g., City of San Bernardino, County of San Bernardino) and regional (e.g., SCAG, Caltrans) agencies. Roadways for motorists must follow safety standards established for the local and regional plans.
GOAL 4: Preserve and ensure a sustainable regional transportation system.	Consistent: All new roadway developments and improvements to the existing transportation network must be assessed with some level of traffic analysis (e.g., traffic assessments, traffic impact studies) to determine how the developments would impact existing traffic capacities and to determine the needs for improving future traffic capacities.
GOAL 5: Maximize the productivity of our transportation system.	Consistent: The local and regional transportation system would be improved and maintained to encourage efficiency and productivity. The City’s Public Works Department oversees the improvement and maintenance of all aspects of the public right-of-way on an as-needed basis. The City also strives to maximize productivity of the region’s public transportation system (i.e., bus, bicycle) for residents, visitors, and workers coming into and out of San Bernardino City.
GOAL 6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).	Consistent: The reduction of energy use, improvement of air quality, and promotion of more environmentally sustainable development are encouraged through the development of alternative transportation methods, green design techniques for buildings, and other energy-reducing techniques. For example, development projects are required to comply with the provisions of the California Building and Energy Efficiency Standards and the Green Building Standards Code (CALGreen). The City also strives to maximize the protection of the environment and improvement of air quality by encouraging and improving the use of the region’s public transportation system (i.e., bus, bicycle) for residents, visitors, and workers coming into and out of San Bernardino City.
GOAL 7: Actively encourage and create incentives for energy efficiency, where possible.	Not Applicable: This is not a project-specific policy and is therefore not applicable

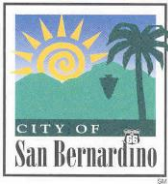


Table 3.6-7, continued

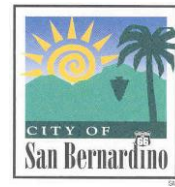
SCAG Goals	Compliance with Goal
GOAL 8: Encourage land use and growth patterns that facilitate transit and non-motorized transportation.	Consistent: See response to RTP/SCS Goal 6.
GOAL 9: Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	Consistent: The City of San Bernardino monitors existing and newly constructed roadways and transit routes to determine the adequacy and safety of these systems. Other local and regional agencies (i.e., Caltrans and SCAG) work with the City to manage these systems. Security situations involving roadways and evacuations would be addressed in the County of San Bernardino’s emergency management plans (e.g., San Bernardino County Emergency Operations Plan) developed in accordance with the state and federal mandated emergency management regulations.

As shown in [Table 3.6-7](#), the project does not conflict with the stated goals of the RTP/SCS. For these reasons, the proposed project would not interfere with SCAG’s ability to implement the regional strategies outlined in the 2016 RTP/SCS.

San Bernardino County Regional Greenhouse Gas Reduction Plan and City of San Bernardino Sustainability Master Plan

As previously described, the San Bernardino County Regional Greenhouse Gas Reduction Plan (Partnership’s Reduction Plan) was created in accordance with AB 32, which established a GHG limit for California, and includes an inventory of GHG emissions and developed reduction measures that are jurisdiction-specific. The inventory of GHG, baseline information, and jurisdiction-specific GHG reduction measures can be used by the 21 Partnership Cities in San Bernardino County, which include the City of San Bernardino, to create community climate action plans (SCAQMD 2014). In the Partnership’s Reduction Plan, the City of San Bernardino selected a goal to reduce community GHG emissions 15 percent below the city’s 2008 GHG emissions levels by 2020. In order to achieve this goal, the City is in the process of establishing a Sustainability Master Plan (SMP).

The draft SMP, prepared in 2012, is comprised of measures that, when implemented, will enable the City to reduce its GHG emissions from City operations and the community. The strategies within the SMP cover a variety of sectors: land use, transportation, waste, water, and green infrastructure. The SMP’s land use strategies will aim to promote infill development and reduce sprawl, as well as place services, transit, neighborhood commercial centers in close proximity to housing. The land use strategies will also tie very closely to the plan’s transportation strategies. The SMP’s energy strategies will aim to reduce energy use within the building stock of the City. Actions may include energy efficiency retrofits for existing buildings, enhancing the energy performance requirements for new construction, increasing the use of renewable energy, and improving community energy management. The SMP’s waste strategies will aim to increase waste diversion rates through recycling, reusing, and composting. The SMP’s green infrastructure strategies will aim to enhance the City’s urban ecosystem through increasing the urban forest, protecting natural areas, and promoting urban agriculture. The SMP’s water strategies will aim to protect the region’s water resources through a reduction in potable water consumption and wastewater production. As energy is required to pump, transport, and treat potable water and wastewater, as well as heat and cool it, water conservation is an important step towards reducing GHG emissions. The SMP’s transportation strategies will aim to identify ways to reduce



automobile emissions, improve bicycle and pedestrian infrastructure, enhance public transit service, discourage single-occupancy vehicle use, and improve the City' vehicle fleet.

While the SMP has not yet been finalized or adopted, no aspect of the proposed project would conflict with the draft SMP measures to reduce GHG emissions. The project represents infill development and consists of a mix of land uses, which reinforces a compact urban form and increases the viability of walking, biking, and transit. These smart growth strategies have well-documented benefits in terms of lower GHG emissions due to fewer and shorter vehicle trips since residents and employees of these areas have more home, work, and shopping opportunities within walking or biking distance. Transit is also a more viable form of transportation since these developments have a larger number of potential transit users and can support more frequent transit service to regional destinations. Additionally, the project would be required to implement energy efficiency design requirements consistent with the California Green Building Standards Code (California Code of Regulations, Title 24, Part 11) that came into effect in 2014, commonly referred to as the CALGreen Code, described above. These standards provide increased energy efficiency in buildings as well as a reduction in water consumption.

For the reasons stated above, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG emissions. This impact is less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

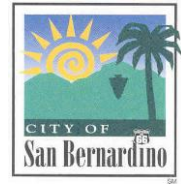
No mitigation measures are required.

3.6.5 Sources Cited

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3.7 Hazards and Hazardous Materials

This section describes the potential hazards (other than geologic hazards) associated with the project site, infrastructure, activities, and materials that could impact human health and the environment. The California Department of Forestry and Fire Protection (Cal Fire) maps and data sets regarding statewide fire hazard severity zones were used to determine wildfire risk in the vicinity of the project site. The California Department of Toxic Substances Control (DTSC) EnviroStor database was used to identify potentially hazardous materials present on or near the project site.

3.7.1 Regulatory Setting

STATE

California Environmental Protection Agency

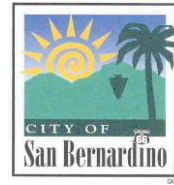
The California Environmental Protection Agency (CalEPA) was created in 1991 by Governor's Executive Order. The six boards, departments, and office were placed under the CalEPA "umbrella" to create a cabinet-level voice for the protection of human health and the environment and to ensure the coordinated deployment of state resources. CalEPA and the State Water Resources Control Board establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Also, as required by Government Code Section 65962.5, CalEPA develops an annual update to the Hazardous Waste and Substances Sites (Cortese) List, which is a planning document used by the state, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. The DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information for the Cortese List.

Accidental Release Prevention Law

The State's Accidental Release Prevention Law provides for consistency with federal laws (i.e., the Emergency Preparedness and Community Right-to-Know Act and the Clean Air Act) regarding accidental chemical releases and allows local oversight of both the state and federal programs. State and federal laws are similar in their requirements. However, the California threshold planning quantities for regulated substances are lower than the federal quantities. Local agencies may set lower reporting thresholds or add additional chemicals to the program.



The Accidental Release Prevention Law is implemented by the Certified Unified Program Agency (CUPA) and requires that any business where the maximum quantity of a regulated substance exceeds the specified threshold quantity register with the County as a manager of regulated substances and prepare a Risk Management Plan. A Risk Management Plan must contain an off-site consequence analysis, a five-year accident history, an accident prevention program, an emergency response program, and a certification of the truth and accuracy of the submitted information. Businesses submit their plans to the CUPA, which makes the plans available to emergency response personnel. The business plan must identify the type of business, location, emergency contacts, emergency procedures, mitigation plans, and chemical inventory at each location.

REGIONAL

San Bernardino County Fire Department

The purpose of the San Bernardino County Fire Department Hazardous Materials Division is to protect the health and safety of the public and the environment in the county by ensuring that hazardous materials are properly handled and stored. The division accomplishes this through inspection, emergency response, site remediation, and hazardous waste management services.

The division oversees the County's CUPA program, household hazardous waste disposal, and waste management alternatives for businesses through the Conditionally Exempt Small Quantity Generator program, and provides 24-hour response to emergency incidents involving hazardous materials or wastes. The division also oversees the investigation and remediation of environmental contamination due to releases from underground storage tanks, hazardous waste containers, chemical processes, or the transportation of hazardous materials. The division also conducts investigations and takes enforcement action, as necessary, against anyone who disposes of hazardous waste illegally or otherwise manages hazardous materials or wastes in violation of federal, state, or local laws and regulations.

Certified Unified Program Agency

The San Bernardino County Fire Department Hazardous Materials Division is designated by the California Secretary for Environmental Protection as the CUPA for the County of San Bernardino in order to focus the management of specific environmental programs at the local government level. As a CUPA, the San Bernardino County Fire Department manages six hazardous material and hazardous waste programs in the County. The CUPA program is designed to consolidate, coordinate, and uniformly and consistently administer permits, inspection activities, and enforcement activities throughout San Bernardino County (with the exception of Victorville) (SBC Fire 2016).

Hazardous Waste Management Plan

The California Department of Toxic Substances Control (DTSC) regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. The DTSC regulates hazardous waste in California, primarily under the authority of the federal Resource Conservation and Recovery Act of 1976 and the California Health and Safety Code. The US Environmental Protection Agency authorizes the DTSC to carry out the RCRA program in California. Permitting, inspection, compliance, and corrective action programs ensure



that people who manage hazardous waste follow state and federal requirements. (DTSC 2016). The County Hazardous Waste Management Plan (codified in the City of San Bernardino Municipal Code Chapter 17.05, Hazardous Waste Management Plan) is refining permit criteria and standards that will vest the permit process to the State. Several approved hazardous waste management companies offer managing services to other companies in the City for the treatment, disposal, or storage of hazardous materials. These companies have either received a permit or been granted interim status by the State of California pending review of the facilities for compliance with federal and state regulations.

LOCAL

City of San Bernardino Fire Department

The San Bernardino City Fire Department (SBFD) also has a hazardous materials response team specially trained and equipped to handle hazardous materials releases that have adverse effects on lives, the environment, and property in the City. However, it should be noted that the SBFD defers CUPA responsibilities to the San Bernardino County Fire Department Hazardous Materials Division.

City of San Bernardino General Plan

The City's General Plan Safety Element assesses natural and man-made hazards present in the community and includes policies to address those hazards. This element specifically addresses the way in which the City will prepare and respond to fire hazards, geologic and seismic hazards, and flood hazards. The Safety Element provides background information related to each issue and identifies hazard locations in the City, risk reduction strategies, and hazard abatement measures that can ultimately be used by decision-makers in their review of projects. Policies also address ways to minimize any economic disruption and accelerate the City's recovery following a disaster. Refer to [Section 3.5, Geology and Soils](#), for a discussion of earth resources and geology.

The City's goals and policies for hazardous materials and uses are designed to ensure the protection of the public health, safety, and welfare and of environmental resources in the City. Planning practices emphasize waste reduction, recycling, proper management of hazardous materials, siting of facilities, and effective emergency response.

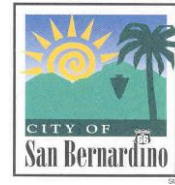
3.7.2 Environmental Setting

SITE VISIT

Aerial imagery using the City of San Bernardino Geographic Information Systems (GIS) and a site visit conducted on January 26, 2016, determined that the project site is largely vacant and heavily disturbed. No structures were visible on the project site using aerial imagery or during the site visit.

HAZARDOUS MATERIALS AND WASTE DEFINED

Under Title 22 of the California Code of Regulations (CCR), the term *hazardous substance* refers to both hazardous materials and hazardous wastes; both are classified according to four properties: toxicity, ignitability, corrosiveness, and reactivity (22 CCR Section 66261.30). A



hazardous material is defined as a substance or combination of substances that may cause or significantly contribute to an increase in serious, irreversible, or incapacitating illness or may pose a substantial presence or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of or otherwise managed.

Public health is potentially at risk whenever hazardous materials are or will be used. It is necessary to differentiate between the hazard of these materials and the acceptability of the risk they pose to human health and the environment. A hazard is any situation that has the potential to cause damage to human health and the environment. The risk to health and public safety is determined by the probability of exposure and to the inherent toxicity of a material (DTSC 2015a).

Factors that can influence health effects when human beings are exposed to hazardous materials include the dose to which the person is exposed, the frequency of exposure, the duration of exposure, the exposure pathway (route by which a chemical enters a person's body), and the individual's unique biological susceptibility.

Hazardous wastes are hazardous substances that no longer have practical use, such as materials that have been discarded, discharged, spilled, or contaminated or are being stored until they can be disposed of properly (CCR Title 22, Section 66261.10). Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific CCR Title 22 criteria. While hazardous substances are regulated by multiple agencies, cleanup requirements for hazardous wastes are determined on a case-by-case basis according to the agency with lead jurisdiction over a project.

HAZARDOUS AND CONTAMINATED SITES

Hazardous materials consist of substances that by their nature, lack of containment, and reactivity have the capability of inflicting harm. Hazardous materials can be toxic, corrosive, flammable, explosive, reactive, an irritant, or a strong sensitizer and include certain infectious agents, radiological materials, oxides, oil, used oil, petroleum products, and industrial solid waste substances. They are used in almost every manufacturing operation and by retailers, service industries, and homeowners. Hazardous material incidents are one of the most common technological threats to public health and the environment. Incidents may occur as the result of natural disasters, human error, or accident. Hazardous material incidents typically take three forms:

- **Fixed facility incidents** – It is reasonably possible to identify and prepare for a fixed site incident because laws require those facilities to notify state and local authorities about what is being used or produced there.
- **Transportation incidents** – Transportation incidents are more difficult to prepare for because it is impossible to know what materials could be involved until an accident actually happens.
- **Pipeline incidents** – Pipelines carry natural gas and petroleum. Breakages in pipelines carry differing amounts of danger, depending on where and how the break occurs and what is in the pipe.



Areas of Known Hazardous Contamination

Cortese List

The State of California Hazardous Waste and Substances Site List (also known as the Cortese List) is a planning document used by state and local agencies and by private developers to comply with CEQA requirements in providing information about the location of known hazardous materials sites. California Government Code Section 65962.5 requires the California Environmental Protection Agency to annually update the Cortese List. The California Department of Toxic Substances Control (DTSC) is responsible for preparing a portion of the information that comprises the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information that is part of the complete list.

The EnviroStor database provides the DTSC's component of Cortese List data by identifying state response sites, federal Superfund sites, school cleanup sites, and voluntary cleanup sites. The EnviroStor database identifies sites that have known contamination or sites for which further investigation is warranted. It also identifies facilities that are authorized to treat, store, dispose, or transfer hazardous waste (DTSC 2016).

The EnviroStor database does not identify any hazardous material sites on the Rancho Palma project site or within 1 mile of it (DTSC 2016).

Leaking Underground Storage Tanks

Leaking underground storage tanks (LUST) are a significant source of petroleum impacts to groundwater and can also result in the following potential threats to health and safety (SWRCB 2016):

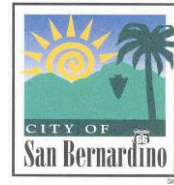
- Exposure from impacts to soil and/or groundwater
- Contamination of drinking water aquifers
- Contamination of public or private drinking water wells
- Inhalation of vapors

The State Water Resources Control Board (SWRCB) records soil and/or groundwater contamination caused by LUSTs in its GeoTracker database. An inquiry through the SWRCB's (2016) GeoTracker database indicates that there are no open LUST sites within the boundaries of the proposed project site. However, three open LUST sites are located in proximity to the project site (see [Table 3.7-1](#)).

Table 3.7-1. Open LUST Sites in Proximity to Proposed Project Site

Site/Facility Name	Address Description	Cleanup Status
Verdemont/Cajon Landfill (L10002331177)	Devore, CA – about 0.40 miles west of the project site	Open/Closed – With Monitoring
THG Lease Property (SLT8R1904111)	5518 Industrial Parkway	Completed – Case Closed
American National Can Company (T0607100240)	5715 North Industrial Parkway	Completed – Case Closed

Source: SWRCB 2016



In addition, the SWRCB is required to at least annually identify and conduct water quality assessment tests (through the Regional Water Quality Control Boards) of solid waste disposal sites to determine whether any hazardous waste has migrated into the water. The SWRCB administers the process of data collection and site testing through the Land Disposal Program. The program regulates waste discharge to land for treatment, storage, and disposal in waste management units, which include waste piles, surface impoundments, and landfills. The result of the current SWRCB collection and submittal of data does not include any solid waste sites on the project site (SWRCB 2016).

Finally, as a component of the Cortese List, the SWRCB is required to submit at least annually a list of all cease and desist orders issued after January 1, 1986, and of all cleanup or abatement orders (CAO) issued after January 1, 1986, that concern the discharge of wastes that are hazardous materials. As a component of compliance, the SWRCB publicizes available active CAOs and cease and desist orders. There are no actively enforced cleanup or abatement orders within the boundaries of the project site.

Household Hazardous Waste

Hazardous materials, used in many household products (such as drain cleaners, waste oil, cleaning fluids, insecticides, and car batteries), are often improperly disposed of as part of normal household trash. These hazardous materials can interact with other chemicals to create risks to people or cause soil and groundwater contamination. The California Department of Public Health define household hazardous waste as any substance that is characteristic of one of the following:

- **Ignitability** – flammable (e.g., lighter fluid, spot and paint removers)
- **Corrosivity** – eats away materials and can destroy human and animal tissue by chemical action (e.g., oven and toilet bowl cleaners)
- **Reactivity** – creates an explosion or produces deadly vapors (e.g., bleach mixed with ammonia-based cleaners)
- **Toxicity** – capable of producing injury, illness, or damage to humans, domestic livestock, or wildlife through ingestion, inhalation, or absorption through any body surface (e.g., rat poison, cleaning fluids, pesticides, bleach)

Currently, the closest household hazardous waste collection facility to the project site is located at the San Bernardino Collection Center located about 12 miles southeast of the project site at 2824 East W Street in San Bernardino. This facility is operated by the San Bernardino County Fire Department, Hazardous Materials Division (Household Hazardous Waste).

NATURALLY OCCURRING HAZARDOUS MATERIALS

Radon Potential

Radon isotope-222 is a colorless, odorless, tasteless radioactive gas that comes from the natural decay of uranium, which is found in nearly all soils. Current evidence indicates that increased lung cancer risk is directly related to radon-decay products. The amount of radon in the soil depends on soil chemistry, which varies depending on location. Radon levels in soil range from a few hundred to several thousand picocuries per liter (pCi/L). The amount of radon that escapes from



the soil to enter a building depends on the weather, soil porosity, soil moisture, and the suction within the building. The EPA (2016) recommends the use of radon control methods if the radon level is 4 pCi/L or higher. The EPA uses three zone designations in order to reflect the average short-term radon measurement that can be expected in a building without the implementation of radon control methods. The radon zone designation of the highest potential is Zone 1 while the lowest is Zone 3.

San Bernardino, including the project site, is in Zone 2, which indicates a predicted average indoor radon screening level between 2 pCi/L and 4 pCi/L, considered a low potential for radon (EPA 2015d). According to the California Department of Public Health (CDPH) (2016), the highest radon reading submitted for the project site zip code area (92407) was 1.6 pCi/L (CDPH 2016).

WILDLAND FIRES

A wildfire is an uncontrolled fire spreading through vegetative fuels, posing danger and causing destruction to life and property. Wildfires can occur in undeveloped areas and spread to urban areas where structures and other human development are more concentrated. A wildland-urban interface is an area where urban development has been located in proximity to open space or “wildland” areas. Fires that occur in the wildland-urban interface areas affect natural resources as well as life and property.

The California Department of Forestry and Fire Protection (Cal Fire) identifies the project site as a Local Responsibility Area (LRA). In a Local Responsibility Area, fire protection can be provided by a city fire department, fire protection district, or county, or by Cal Fire under contract to the local government. In addition to establishing local or state responsibility for wildfire protection in a specific area, Cal Fire designates areas as very high fire hazard severity (VHFHS) zones or non-VHFHS zones. Cal Fire assigns these designations based on a hazard scoring system using subjective criteria for fuels, fire history, terrain influences, housing density, and occurrence of severe fire weather where urban conflagration could result in catastrophic losses. Following designation, Cal Fire recommends the adoption of the fire hazard severity zones by local jurisdictions. The project site is designated as a VHFHS for the LRA.

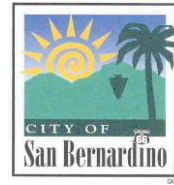
LANDFILLS

The Cajon Landfill within proximity of the project area, located approximately one mile south west of the project site on Cajon Avenue, ¼ mile north of Palm Avenue. However, according to CalRecycle, the Cajon Landfill is closed and unpermitted and is currently undergoing semiannual inspections. The most recent inspection was conducted June 25, 2015 and according to the inspection report, no violations or areas of concern were noted.

3.7.3 Significance Threshold Criteria

The issues presented in Appendix G of the California Environmental Quality Act (CEQA) Guidelines are used as thresholds of significance in this section. The project may create a significant environmental impact if it causes one or more of the following to occur:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.



- b) 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.
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.
- f) For a project in the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.
- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

A search of government hazardous materials databases determined that no reported hazardous materials sites are located on the project site (Threshold d, above). Thus, no impact would occur in this regard and this issue area will not be discussed further in this EIR.

San Bernardino International Airport is located at the southeastern edge of the City, approximately 10.6 miles from the project site. However, no land use compatibility plan currently exists for the airport. Additionally, the proposed project is not within 2 miles of a public airport or in the vicinity of a private airport. Therefore, these thresholds (Thresholds e and f, above) will not be discussed further in the EIR.

3.7.4 Project Impacts and Mitigation Measures

Impact 3.7-1

Would the project:

Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?



Impact Analysis

Short-Term Impacts

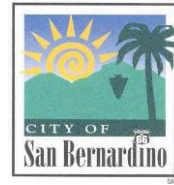
Construction activity could result in the transport, use, and disposal of hazardous materials such as gasoline fuels, asphalt, lubricants, toxic solvents, pesticides, and herbicides. Although care is used to transport, use, and dispose of these materials, there is a possibility that upset or accidental conditions may arise which could release hazardous materials into the environment. Accidental releases of hazardous materials are those releases that are unforeseen or that result from unforeseen circumstances, while reasonably foreseeable upset conditions are those release or exposure events that can be anticipated and planned for.

Construction activities associated with the proposed project could release hazardous materials into the environment through reasonably foreseeable upset and accident conditions. There is a possibility of accidental release of hazardous substances such as petroleum-based fuels or hydraulic fluid used for construction equipment. Incidents that result in an accidental release of hazardous substance into the environment can cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that might be generated. If not cleaned up immediately and completely, the hazardous substances can migrate into the soil or enter a local stream or channel, causing contamination of soil and water. Human exposure to contaminated soil or water can have potential health effects from a variety of factors, including the nature of the contaminant and the degree of exposure.

The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials used during construction for the project type proposed. Additionally, the construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, state, and federal law. If unknown wastes or suspect materials are discovered during construction by the contractor, which he/she believes may involve hazardous waste/materials, the contractor would be required to complete the following (HAZ-1):

- Immediately stop work in the vicinity of the suspected contaminant, removing workers and the public from the area;
- Notify the Project Engineer of the implementing agency;
- Secure the areas as directed by the Project Engineer; and
- Notify the implementing agency's Hazardous Waste/Materials Coordinator. The Hazardous Waste/Materials Coordinator would advise the responsible party of further actions that would be taken, if required.

With implementation of Mitigation Measure HAZ-1, potential accidental release during construction would be minimized to a less than significant level.



Long-Term Impacts

The project proposes a mix of residential and commercial development. Commercial or residential development is not generally expected to involve the routine transport, use, or disposal of hazardous materials in significant quantities. Generally, the exposure of persons to hazardous materials could occur through improper handling or use of hazardous materials or hazardous wastes during construction or operation of future developments, particularly by untrained personnel, an accident during transport, environmentally unsound disposal methods, or fire, explosion, or other emergencies. The City's street setback requirements minimize the direct damage that may occur from transportation-related hazardous waste spills. Also, Hazardous Material Release Response Plans and Inventories would be required. The HMDFD oversees the submittal of Business Emergency Plans, which are intended to mitigate potential release of hazardous substances and minimize potential harm or damage. Oversight by the appropriate agencies and compliance with applicable regulations are considered adequate to offset the negative effects related to the accidental release of hazardous materials on a future development site. Additionally, the proposed project would result in increased population on the project and thus could increase exposure of the public to accidental or reasonably foreseeable releases of hazardous materials off-site. However, there are no hazardous material sites within 1 mile of the project site.

The transport, storage, and use of hazardous materials by developers, contractors, business owners, and others would be required to be in compliance with local, state, and federal regulations designed to avoid hazardous waste releases. These regulations provide a comprehensive regulatory system for handling, using, and transporting hazardous materials in a manner that protects human health and the environment. As such, both accidental and reasonably foreseeable hazardous materials releases would be expected to occur infrequently and result in minimal hazard to the public or to the environment. Additionally, facilities that handle hazardous materials or generate hazardous wastes will require a CUPA permit that includes each applicable CUPA program element. In addition, the proposed project is required to submit a Risk Management Plan, to the CUPA identifying the type of business, location, emergency contacts, emergency procedures, mitigation plans, and chemical inventory at each location if the maximum quantity of a regulated substance exceeds a specific threshold. These plans are available to emergency response personnel and are used to prevent accidents and facilitate emergency response.

The project site is in proximity to Interstate 215, along which hazardous materials may be transported. The federal Hazardous Materials Regulations (HMR) address hazardous material transportation via classification, packaging, hazard communication, emergency response information, and training requirements. HMR emergency response requirements include initial emergency actions regarding evacuation isolation of the affected area, firefighting, leaking containers, spill containment, and first aid. These requirements would also reduce the number of persons exposed to any hazmat incidents. Furthermore, hazardous materials spills on state highways are the responsibility of Caltrans and the CHP. These agencies provide on-scene management of the spill site and coordinate with the California Environmental Health Department, the California Office of Emergency Services, and applicable local agencies.



Adherence to existing regulations would ensure compliance with safety standards related to the use and storage of hazardous materials and with the safety procedures mandated by applicable federal, state, and local laws and regulations. Compliance with these regulations includes filing of storage location, inspection of storage methods, regular updates to handling plans and emergency contact information. Compliance will ensure that risks resulting from the routine transport, use, storage, or disposal of hazardous materials or hazardous wastes are minimized and/or handled appropriately if there is an accidentally release during transport, use, storage, or disposal of hazardous materials. Therefore, implementation of the proposed project would be less than significant.

Impact Conclusion

Less than significant with mitigation incorporated.

Mitigation Measures

HAZ-1 If unknown wastes or suspect materials are discovered during construction by the contractor that are believed to involve hazardous waste or materials, the contractor shall comply with the following:

- Immediately cease work in the vicinity of the suspected contaminant, and remove workers and the public from the area;
- Notify the City's Engineer;
- Secure the area as directed by the Project Engineer; and
- Notify the implementing agency's Hazardous Waste/Materials Coordinator. The Hazardous Waste/Materials Coordinator shall advise the responsible party of further actions that shall be taken, if required.

Timing/Implementation: During Construction

Enforcement/Monitoring: City of San Bernardino Public Works and Planning Departments

Level of Significance After Mitigation: Less than significant.

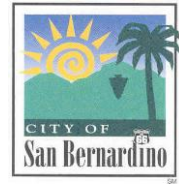
Impact 3.7-2

Would the project:

Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Impact Analysis

The project site is located approximately 0.17 miles from Cesar E. Chavez Middle School, which is located at 6650 North Magnolia Avenue. The project proposes residential and commercial uses, neither of which are hazardous waste generating or incompatible land uses near a school. Additionally, project related environmental and development documents have been, and will continue to be, circulated to San Bernardino City Unified School District (SBCUSD) for review and comment as required by local ordinance and state law. Communication with the school district,



and the fact that the residential and commercial development is not anticipated to emit any hazardous substances ensure that this impact is less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.7-3

Would the project:

Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impact Analysis

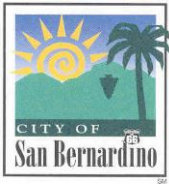
The City of San Bernardino Development Code Section 19.30.200 requires that a tentative tract or parcel map provide for at least two different standard routes for ingress and egress. The purpose of these routes is to permit accessibility to firefighting and other public equipment and to permit orderly evacuation in the event of flood, fire, or other emergency. The proposed project meets this requirement with access via the proposed driveways on (future) Magnolia Avenue and along West Little League Drive, as shown in [Figure 2-3, Conceptual Landscape Plan](#). Per the City's subdivision ordinance, all roadway improvements must be constructed prior to occupancy of the site. Further, Little League Drive will be improved as part of the proposed project, which will help with traffic during an emergency. The improvements will widen the pavement to allow for parking and resurfacing of the roadway as shown in [Figure 2-6, Streetscape Section](#). The City requires a traffic control plan as part of development plans for all land division. Any blockage of the roadway for construction purposes such as road reconstruction and pipeline connection or other utilities, will be noticed and advertised to all emergency responders. Once operational the roadway will be left unimpaired by the development. Through compliance with City regulations this impact is considered less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.



Impact 3.7-4

Would the project:

Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Impact Analysis

The proposed project site is located on Urban and Built-Up Land with residential and recreational uses surrounding the project site. However, according to the City of San Bernardino Hazard Mitigation Plan, based on the City's geographical location, topography, terrain, and climate, wildfires are a problem in the City. Historically, the area of chaparral-urban interface in the north and northeast sections of the City are the areas most at risk. Furthermore, Cal Fire's (2007) Fire Hazard Severity Zone Map database determined that the project site is located in a High Fire Hazard Severity Zone (HFHSZ), which is also a local responsibility area.

Fire season typically runs from early May through October. Compounding the problem are Santa Ana wind conditions frequently experienced during the autumn months. The proposed project would be subject to compliance with the 2013 California Building Code (or most current version) and 2013 California Fire Code, which would aid in reducing the demand on fire protection service by requiring fire protection detection systems, proper fire flow, and use of appropriate construction materials. In addition, the project design would be required to conform to conditions provided by the local Fire Department to ensure that potential hazards relative to exposure of people or structures to significant risk of loss, injury, or death involving wildland fires would be reduced to the extent feasible.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

3.7.5 Cumulative Impacts and Mitigation Measures

Impact 3.7-5

Would the project:

Result in cumulative impacts related to hazards and hazardous materials?

Impact Analysis

Implementation of the proposed project would result in potential short-term impacts during construction activities associated with exposure to hazards such as potentially contaminated soils. However, hazards and hazardous materials impacts associated with the project would be site-specific and would not contribute to cumulative hazardous impacts. Cumulative development in the region is not anticipated to result in significant hazards or hazardous materials impacts to the project site. In addition, any new development in areas at risk for wildland fire hazards would be required to comply with minimum standards for building materials and material assemblies to



provide a reasonable level of exterior wildfire exposure protection for buildings in wildland-urban interface areas as required by the 2013 California Fire Code. City standard for streets includes regularly spaced fire hydrants and ensures access for emergency vehicles. These standards would reduce any associated wildfire risks. As such, the proposed project would not combine with any planned growth in the area to form a hazard impact or wildland fire risk greater or more significant than the project impact alone. Therefore, cumulative impacts relative to hazards and hazardous materials and wildland fires are considered less than cumulatively considerable.

Impact Conclusion

Less than cumulatively considerable.

Mitigation Measures

No mitigation measures are required.

3.7.6 Sources Cited

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3.8 Hydrology and Water Quality

This section describes hydrology resources in the City of San Bernardino and evaluates potential impacts to hydrology and water quality associated with implementation of the proposed project. Allard Engineering prepared a *Water Quality Management Plan* (refer to [Appendix 3.8-1](#)) and a *Hydrology and Hydraulics Report* (refer to [Appendix 3.8-2](#)).

3.8.1 Regulatory Setting

FEDERAL

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) oversees floodplains and administers the National Flood Insurance Program (NFIP) adopted under the National Flood Insurance Act of 1968. The program makes federally subsidized flood insurance available to property owners in communities that participate in the program. Areas of special flood hazard (those subject to inundation by a 100-year flood) are identified by FEMA through regulatory flood maps titled Flood Insurance Rate Maps. The NFIP mandates that development cannot occur within the regulatory floodplain (typically the 100-year floodplain) if that development results in an increase of more than 1-foot elevation. In addition, development is not allowed in delineated floodways within the regulatory floodplain.

Clean Water Act

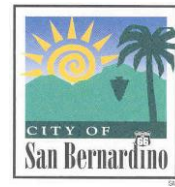
The Clean Water Act (CWA) gives states the primary responsibility for protecting and restoring water quality. In California, the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) are the agencies with the primary responsibility for implementing federal CWA requirements, including developing and implementing programs to achieve water quality standards. Water quality standards include designated beneficial uses of water bodies, criteria or objectives (numeric or narrative) which are protective of those beneficial uses, and policies to limit the degradation of water bodies. The proposed project is located in an area of the state regulated by the Santa Ana Regional Water Quality Control Board (Santa Ana RWQCB). Water quality standards for water bodies in the region are primarily contained in the Water Quality Control Plan for the Santa Ana River Basin (Santa Ana RWQCB, 1995), which is discussed in more detail below.

Sections 401 and 404 of the CWA

Sections 401 and 404 of the CWA are administered through the regulatory program of the US Army Corps of Engineers (USACE) and regulate the water quality of all discharges of fill or dredged material into waters of the United States, including wetlands and intermittent stream channels. Section 401 of the CWA sets forth water quality certification requirements for any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities that may result in any discharge into the navigable waters.

Section 404 of the CWA in part, authorizes the USACE to:

- Set requirements and standards pertaining to such discharges: subparagraph (e);



- Issue permits “for the discharge of dredged or fill material into the navigable waters at specified disposal sites:” subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if “the discharge of such materials into such area would have an unacceptable, adverse effect on municipal water supplies and fishery areas:” subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual state or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such state or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain federal or state projects from regulation under this section: subparagraph (r); and
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).

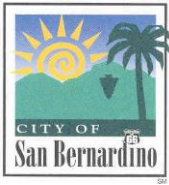
National Pollutant Discharge Elimination System

As authorized by CWA Section 402(p), the National Pollutant Discharge Elimination System (NPDES) Permit Program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The State Water Resources Control Board issues NPDES permits to cities and counties through the Regional Water Quality Control Boards. It is the responsibility of the RWQCBs to preserve and enhance the quality of the state’s waters through the development of water quality control plans and the issuance of waste discharge requirements. Waste discharge requirements for discharges to surface waters also serve as NPDES permits.

STATE

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, in cooperation with the CWA, established the State Water Resources Control Board. The SWRCB and the nine Regional Water Quality Control Boards are responsible for protecting California’s surface waters and groundwater supplies. The act establishes Water Quality Control Plans (Basin Plans) for each of the nine regions overseen by the Regional Water Quality Control Boards that designate the beneficial uses of California’s rivers and groundwater basins. The Water Quality Control Plan for the Santa Ana River Basin gives direction on the beneficial uses of state waters in Region 8, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the standards established in the Basin Plan. The Santa Ana RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges may affect water quality. These requirements are state Waste Discharge Requirements for discharge to land or federally delegated NPDES permits for discharges



to surface water. The Porter-Cologne Water Quality Control Act is also responsible for implementing CWA Sections 401–402 and Section 303(d).

State Regional Water Quality Control Board, Stormwater General Construction Permit

The five-member SWRCB allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine Regional Water Quality Control Boards in the major watersheds of the state. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection for California’s waters (SWRCB 2015).

In 1999, the SWRCB adopted Order No. 99-08-DWQ, NPDES General Permit No. CAS000002, Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit). This permit was subsequently amended to include smaller construction sites. The General Construction Permit requires that construction sites with 1 acre or greater of soil disturbance or less than 1 acre, but part of a greater common plan of development, apply for coverage for discharges under the General Construction Permit by submitting a Notice of Intent (NOI) for coverage, developing a stormwater pollution prevention plan (SWPPP), and implementing best management practices (BMPs) to address construction site pollutants. The SWRCB is responsible for implementing the Clean Water Act and issues NPDES permits to cities and counties through the individual Regional Water Quality Control Boards.

REGIONAL

Santa Ana Regional Water Quality Control Board

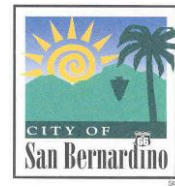
The Santa Ana RWQCB has the responsibility for controlling water quality in Los Angeles County, San Bernardino County, Orange County, and parts of Riverside County. The water quality standards for water bodies in the Santa Ana region are contained in the Water Quality Control Plan for the Santa Ana River Basin (Santa Ana RWQCB 1995).

Water Quality Control Plan for the Santa Ana River Basin (Basin Plan)

The Basin Plan is the basis for the Regional Board’s regulatory programs establishing water quality standards for the groundwater and surface waters of the region to protect beneficial uses of the receiving water bodies in the basin. [Table 3.8-1, Beneficial Uses for Cable Creek \(Valley Reach\)](#), lists beneficial uses of the receiving waters located in the Santa Ana River watershed.

Table 3.8-1. Beneficial Uses for Cable Creek (Valley Reach)

Water Body	Beneficial Uses					
	MUN	GWR	REC1	REC2	COLD	WILD
Cable Creek (Valley Reach)						
Source: Santa Ana RWQCB 1995 Notes: represents Intermittent Beneficial Use						



As listed in [Table 3.8-1](#), beneficial uses include the following:

- **Municipal and Domestic Supply (MUN)** – Uses of water for community, military, or individual water supply systems including but not limited to drinking water supply.
- **Groundwater Recharge (GWR)** – Uses of water for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting saltwater intrusion into freshwater aquifers.
- **Water Contact Recreation (REC-1)** – Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include but are not limited to swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, or use of natural hot springs.
- **Non-Contact Water Recreation (REC-2)** – Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include but are not limited to picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
- **Cold Freshwater Habitat (COLD)** – Uses of water supports cold-water ecosystems that may include, but are not limited to, preservations and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.
- **Wildlife Habitat (WILD)** – Uses of water that support terrestrial ecosystems including but not limited to preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

*Waste Discharge Requirements for San Bernardino County MS4s
(Order No. R8-2010-0036)*

The Santa Ana RWQCB adopted Order No. R8-2010-0036, NPDES No. CAS 618036, for discharges into the municipal separate storm sewer systems (MS4s) draining San Bernardino County. The Santa Ana MS4 Permit is for the portion of the Santa Ana River watershed in San Bernardino County. The City of San Bernardino is a co-permittee under the Santa Ana MS4 Permit. This permitting program includes inspections of construction sites, commercial facilities, and municipal stormwater inspections, development of BMPs for existing development, comprehensive water quality monitoring, and assessment of stormwater program effectiveness, among other measures to meet specific water quality standards. Additionally, any discharges into MS4s require the preparation of a water quality management plan (WQMP), which identifies specific best management practices to be incorporated into the design and typically includes design measures that will minimize urban runoff, minimize impervious footprint, conserve natural areas, and minimize directly connected impervious areas.



LOCAL

CITY OF SAN BERNARDINO MUNICIPAL CODE

Municipal Code Chapter 8.80

Municipal Code Chapter 8.80, Storm Water Drainage System, ensures the health, safety, and general welfare of city residents by administering regulations to effectively prevent non-stormwater discharges into the City's drainage system and to specifically achieve the following objectives:

1. Control discharges from spills, dumping or disposal of materials other than stormwater.
2. Reduce the discharge of pollutants in all stormwater discharges to the maximum extent practicable.
3. Protect and enhance the water quality of local, state, and federal watercourses, water bodies, groundwater and wetlands in a manner pursuant to and consistent with the Clean Water Act.
4. Establish penalties for violations of the provisions of Chapter 8.80.
5. Provide for the equitable distribution of the cost of the stormwater drainage system and stormwater pollution abatement.

3.8.2 Environmental Setting

REGIONAL HYDROLOGY

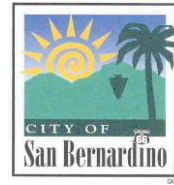
The project site is tributary to the Santa Ana Watershed (SAW).

Surface Water

Santa Ana Watershed

The Santa Ana Watershed (SAW) encompasses 2,840 square miles and covers parts of Orange, Riverside, San Bernardino, and Los Angeles Counties. The SAW is bounded on the south by the Santa Margarita Watershed, on the east by the Salton Sea Watershed, on the southwest by Orange County, and on the northwest by San Bernardino County. The SAW, including the San Jacinto River subwatershed, encompasses 1,603 square miles.

Because the SAW is arid, there is little natural perennial surface water. Surface waters start in the upper erosion zone of the watershed—primarily in the San Bernardino, Santa Ana, and San Jacinto mountains. This upper zone has the highest gradient and soils/geology that do not allow large quantities of percolation of surface water into the ground. Flows consist mainly of snowmelt and storm runoff from the lightly developed San Bernardino National Forest. From the City of San Bernardino to the City of Riverside, the Santa Ana River flows perennially, mostly due to treated discharges from wastewater treatment plants.



Groundwater

The San Bernardino region is composed of extensive groundwater basins that overlie the Upper Santa Ana Valley Groundwater Basin, Bunker Hill Sub-basin. Alluvial materials are found in the Bunker Hill Basin, which underlies the San Bernardino Valley. The limits of this basin are delineated by the consolidated rock of the San Gabriel Mountains, San Bernardino Mountains, and Crafton Hills and by several faults. The Santa Ana River, Mill Creek, and Lytle Creek are the primary watercourses in the basin.

Basin groundwater is supplied from rain and snowpack melt that filters down through the San Bernardino Mountain canyons. Historically, recharge of the Bunker Hill Basin has been the result of percolation of runoff from the San Gabriel and San Bernardino mountains. The region's three main watercourses supply more than 60 percent of the total recharge to the groundwater system. Additionally, smaller contributors such as Cajon Creek, San Timoteo Creek, and most of the creeks flowing southward out of the San Bernardino Mountains, including East Twin Creek, add recharge to the system. The basin's total groundwater storage is 5,976,000 acre-feet (DWR 2004), while in 1998 the total storage was 5,890,300 acre-feet.

The water-bearing material in the basin is classified as Holocene and Pleistocene-age alluvial deposits of sand, gravel, and boulders interspersed with deposits of silt and clay. The water-bearing material is divided into upper and lower aquifers. In the central portion of the basin, a clay layer exhibiting low permeability separates the two aquifers, creating confined groundwater in the lower aquifer under approximately 25 square miles of the valley. The upper aquifer has a maximum thickness of approximately 350 feet, while the maximum thickness of the lower aquifer is approximately 650 feet. Groundwater generally converges in the southwestern part of the basin as it approaches the Santa Ana River and discharges over the San Jacinto fault at Colton Narrows.

The Bunker Hill Basin provides San Bernardino with 100-percent of its water supply. The San Bernardino Municipal Water Department (SBMWD) owns a total of 60 wells in the basin, some of which are 1,200 feet deep and tap into the aquifer.

WATER QUALITY

Surface Water

Section 303(d) of the federal Clean Water Act requires states to identify the waters of the State that do not meet the designated beneficial uses and to develop total maximum daily loads (TMDLs) for such waters, with oversight by the EPA. These waters are commonly referred to as impaired. A TMDL is a quantifiable assessment of potential water quality issues, contributing sources, and load reductions or control actions needed to restore or protect bodies of water. The project site ultimately drains into Cable Creek, which is not listed as an impaired water body on the most recent 303(d) list of impaired water bodies. As such, a TMDL is currently not required.

Groundwater

Newmark Groundwater Contamination

The Newmark Groundwater Contamination site underlies approximately eight square miles of land in the northwestern and west-central portions of San Bernardino, California, which have



been developed for light industry and residential use. The site consists of two contaminated groundwater plumes at the base of the San Bernardino Mountains: the Newmark Plume area extends for 5 miles on the eastern side of Shandin Hills, while the 4-mile long Muscoy Plume area lies to the west of Shandin Hills. (EPA 2015)

Detection of the contamination occurred in 1980 with the institution of a water supply monitoring program, although the suspected disposal may have occurred as early as the 1940s. The discovery of the contaminants, including chlorinated solvents, tetrachloroethylene (PCE), and trichloroethylene (TCE), resulted in the closing of 20 water supply wells within a 6-mile radius of the site. Twelve of the wells resumed operation after the State installed air stripping towers on eight wells and carbon filtration systems on the other four. (EPA 2015)

The site covers part of an essential groundwater aquifer for the City of San Bernardino. The Bunker Hill Basin's primary groundwater supplies water to the City and its surrounding areas. More than 25 percent of the municipal water supply for the City of San Bernardino's 175,000 residents had been affected by the advancing contamination plumes. The City of Riverside, with a population of approximately 250,000, relies on wells down gradient from the Newmark plume for approximately 75 percent of its total water supply. Over 115,000 people in the rapidly growing communities of Colton, Loma Linda, Fontana, Rialto, and several unincorporated areas also used well water unprotected from the contamination. Newmark groundwater is a primary local source of public water for the City of San Bernardino. (EPA 2015)

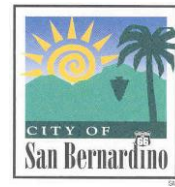
Cleanup

This site is being addressed in two stages: (1) an immediate action to inhibit further spread of the two contaminant plumes (Newmark Plume and the Muscoy Plume); and, (2) long-term remedial actions addressing the Newmark Plume Area, the Muscoy Plume Area, and the source of the contamination. After adding this site to the NPL, the EPA performed preliminary investigations and determined that no immediate actions were required at the Newmark Groundwater site while studies were performed and final cleanup activities were planned. The San Bernardino Municipal Water Department has constructed and operated four wellhead treatment systems to ensure the safety of the public water supply. Presently, both the Newmark and Muscoy treatment systems are operating. (EPA 2015)

The second Five-Year Review Report was completed in September 2013 and concluded that the remedy at the Newmark Site is protective of human health and the environment because exposure pathways that could result in unacceptable risks are being controlled. The third FYR is due September 2018. (EPA 2015)

FLOODING

According to FIRM Panel 06071C7930H, published by FEMA (2008), the project site is designated as Zone X (shaded). FEMA defines Zone X (shaded) as an area subject to inundation by the 0.2 percent annual chance (or 500-year) flood event ([Figure 3.8-1, FEMA Floodplains](#)).



3.8.3 Significance Threshold Criteria

The project may create a significant environmental impact if it causes one or more of the following to occur:

- a) Violate any water quality standards or waste discharge requirements.
- b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (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).
- c) 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.
- d) 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.
- e) 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.
- f) Otherwise substantially degrade water quality.
- g) 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.
- h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- i) 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.
- j) Inundation by seiche, tsunami, or mudflow.

The project site is not located near any large inland bodies of water or the Pacific Ocean so as to be inundated by seiches or tsunamis, nor is the project site located on or near steep slopes where rapid erosion could trigger mudflows. As such, the potential for inundation by seiche, tsunami, or mudflow is nonexistent (Threshold 10). Therefore, no impact would occur and this threshold will not be addressed further in this EIR. Additionally, [Figure 3.8-2, Seven Oaks Dam Inundation](#), identifies dam inundation areas in the City as a result of failure of the Seven Oaks Dam upstream. According to [Figure 3.8-2](#), the project site is not in any dam inundation hazard zones.



3.8.4 Project Impacts and Mitigation Measures

Impact 3.8-1

Would the project:

Violate any water quality standards or waste discharge requirements; 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; or otherwise substantially degrade water quality?

Impact Analysis

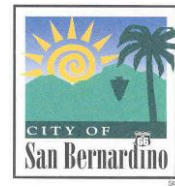
Urban runoff (both dry and wet weather) discharges into storm drains and, in most cases, flows directly to creeks, rivers, lakes, and the ocean. Polluted runoff can have harmful effects on drinking water, recreational water, and wildlife. Urban runoff pollution includes a wide array of environmental, chemical, and biological compounds from both point and nonpoint sources. In the urban environment, stormwater characteristics depend on site conditions (e.g., land use, impervious cover, pollution prevention, types and amounts of best management practices), rain events (duration, amount of rainfall, intensity, and time between events), soil type and particle sizes, multiple chemical conditions, the amount of vehicular traffic, and atmospheric deposition. Major pollutants typically found in runoff from urban areas include sediments, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogens, and bacteria.

Urban runoff can be divided into two categories: dry and wet weather urban runoff.

- Dry weather urban runoff occurs when there is no precipitation-generated runoff. Typical sources include landscape irrigation runoff, driveway and sidewalk washing, noncommercial vehicle washing, groundwater seepage, fire flow, potable water line operations and maintenance discharges, and permitted or illegal non-stormwater discharges.
- Wet weather urban runoff refers collectively to nonpoint source discharges that result from precipitation events. Wet weather runoff includes stormwater runoff. Stormwater discharges are generated by runoff from land and impervious areas such as building rooftops and paved streets and parking lots.

Wet and dry weather runoff typically contains similar pollutants of concern. However, except for the first flush concentrations following a long period between rainfall events, the concentration levels found in wet weather flows are typically lower than levels found in dry weather flows because the larger wet weather flows dilute the amount of pollution in runoff waters. Most urban stormwater discharges are considered nonpoint sources and are regulated by an NPDES Municipal General Permit or Construction General Permit.

A net effect of development can be to increase pollutant export over naturally occurring conditions to adjacent streams and also on the downstream receiving waters. However, an important consideration in evaluating stormwater quality from the project is to assess whether it impairs the beneficial use of the receiving waters. Receiving waters can assimilate a limited quantity of various constituent elements; however, there are thresholds beyond which the measured amount becomes a pollutant and results in an undesirable impact. For this evaluation,



impacts to stormwater quality would be considered significant if the project did not attempt to address stormwater pollution to the maximum extent practicable.

Short-Term Construction

Construction grading, excavation, and other construction activities associated with the proposed project could impact water quality due to sheet erosion resulting from exposed soils and subsequent deposition of particles and pollutants in drainage areas. Construction has the potential to produce typical pollutants such as nutrients, heavy metals, pesticides/herbicides, toxic chemicals, oils and fuels, lubricants, and solvents. Additionally, waste materials such as wash water, paints, wood, paper, concrete, food containers, and sanitary wastes may be transported from the project site to nearby drainages, watersheds, and groundwater in stormwater runoff, wash water, and dust control water. The significance of these water quality impacts would vary depending on the level of construction activity, weather conditions, soil conditions, and increased sedimentation of drainage systems in the area.

Construction controls to minimize water quality impacts are not necessarily the same measures used for long-term water quality management, since construction-related water quality control measures are temporary in nature and specific to the type of construction. Development would be subject to compliance with the City's Municipal Code, Chapter 8.80, Storm Water Drainage System, and NPDES requirements.

The purpose of Chapter 8.80 is to effectively prevent non-stormwater discharges into the City's stormwater drainage system and to specifically achieve five water quality objectives. Prior to grading or construction, a stormwater pollution prevention plan would be required for the construction activities on-site. The SWPPP will include a series of specific measures that will be included in the construction process to address erosion, accidental spills, and the quality of stormwater runoff. The best management practices that must be implemented as part of a SWPPP can be grouped into two major categories: erosion and sediment control BMPs, and non-stormwater management and materials management BMPs. Erosion and sediment control best management practices can be divided into four main subcategories:

- Erosion controls
- Sediment controls
- Wind erosion controls
- Tracking controls

Erosion controls include practices to stabilize soil, to protect the soil in its existing location, and to prevent soil particles from migrating. Examples of erosion control BMPs are preserving existing vegetation, mulching, and hydroseeding. Sediment controls are practices to collect soil particles after they have migrated, but before the sediment leaves the site. Examples of sediment control BMPs are street sweeping, fiber rolls, silt fencing, gravel bags, sand bags, storm drain inlet protection, sediment traps, and detention basins. Wind erosion controls prevent soil particles from leaving the site in the air. Examples of wind erosion control BMPs include applying water or other dust suppressants to exposed soils on the site. Tracking controls prevent sediment from being tracked off site via vehicles leaving the site to the extent practicable. A stabilized



construction entrance not only limits the access points to the construction site but also functions to partially remove sediment from vehicles prior to leaving the site.

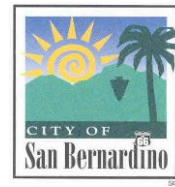
Non-stormwater management and material management controls reduce non-sediment-related pollutants from potentially leaving the construction site to the extent practicable. The Construction General Permit prohibits the discharge of materials other than stormwater and authorized non-stormwater discharges (such as irrigation and pipe flushing and testing). Non-stormwater BMPs tend to be management practices with the purpose of preventing stormwater from coming into contact with potential pollutants. Non-stormwater BMPs include preventing illicit discharges and implementing good practices for vehicle and equipment maintenance, cleaning, and fueling operations, such as using drip pans under vehicles. Waste and materials management BMPs include implementing practices and procedures to prevent pollution from materials used on construction sites. Examples of materials management BMPs include:

- Good housekeeping activities such as storing of materials covered and elevated off the ground, in a central location.
- Securely locating portable toilets away from the storm drainage system and performing routine maintenance.
- Providing a central location for concrete washout and performing routine maintenance.
- Providing several dumpsters and trash cans throughout the construction site for litter/floatable management.
- Covering and/or containing stockpiled materials and overall good housekeeping on the site.

In addition, construction sites with 1 acre or greater of soil disturbance or less than 1 acre, but part of a greater common plan of development, would be required to apply for coverage of discharges under the General Construction Permit (Order No. 2009-0009-DWQ). As part of its compliance, a Notice of Intent (NOI) would need to be prepared and submitted to the Santa Ana RWQCB providing notification and intent to comply with the General Permit. The Construction General Permit also requires that construction sites be inspected before and after storm events and every 24 hours during extended storm events. The purpose of the inspections is to identify maintenance requirements for the BMPs and to determine the effectiveness of the BMPs that are being implemented. The SWPPP is a “living document” and as such can be modified as construction activities progress. Additional requirements include compliance with post-construction standards focusing on low impact development (LID) and preparation of rain event action plans.

Project Operation

The proposed project would have long-term effects on runoff once development is complete. Runoff from disturbed areas would likely contain silt and debris, resulting in a long-term increase in the sediment load of the storm drain system serving the City. Substances such as oils, fuels, paints, and solvents may be transported to nearby drainages, watersheds, and groundwater in stormwater runoff and wash water. The significance of these water quality impacts would vary



depending on weather conditions, soil conditions, and increased sedimentation of drainage systems in the area.

The proposed project will install a water line in Little League Drive, which will connect to an existing 24-inch water line located just south of the Magnolia Avenue/Little League Drive intersection, to an existing 16-inch water line located adjacent to the proposed commercial development, north of Palm Avenue. A looped 8-inch water system in the proposed project streets will provide water to the residential units, while another looped water system will provide water to the commercial development (Forma Design 2015).

The project's on-site drainage system will direct stormwater from both residential and commercial sources to a storm drainage system that consists of five proposed catch basins and then into one of two infiltration basins (IB#1 and IB#2). Stormwater runoff from the residential areas will be collected by two pairs of catch basins and one sump pump and conveyed via the proposed streets into infiltration basin IB#1, located at the southeastern corner of the residential portion of the project site. The runoff from the residential area collected in IB#1 will be conveyed into a proposed pipe system outside the project site in Little League Drive that will carry flows into Cable Creek. The commercial area will direct stormwater runoff through the parking and circulation areas to the southern portion of the project site into infiltration basin IB#2. The collected flows from IB#2 will join the pipe system coming from the residential area in Little League Drive and will also be conveyed to Cable Creek.

A Water Quality Management Plan (WQMP) (Allard Engineering 2015b) was prepared for the proposed project (see [Appendix 3.8-1](#)). Based on the WQMP, the project site is tributary to Cable Creek. [Table 3.8-1](#) identifies the designated beneficial uses associated with Cable Creek. The WQMP identifies a series of specific non-structural and structural source control best management practices (BMPs) to be incorporated into project design. These BMPs can be found in Form 4.1-1 (Non-Structural Source Control BMPs) and Form 4.1-2 (Structural Source Control BMPs) in the WQMP prepared by Allard Engineering ([Appendix 3.8-1](#)). The following Non-Structural Source Control BMPs included in the project design include:

- Litter/Debris Control Program
- Employee Training
- Catch Basin Inspection Program
- Vacuum Sweeping of Private Streets and Parking Lots

The following Source Control BMPs included in the project design, include:

- Provide storm drain system stenciling and signage
- Design and construct outdoor material storage areas to reduce pollution introduction
- Design and construct trash and waste storage areas to reduce pollution introduction
- Use efficient irrigation systems and landscape design, water conservation, smart controllers, and sources control.



- Finish grade of landscaped areas at the minimum of 1-2 inches below top of curb, sidewalk, or pavement.
- Protect slopes and channels and provide energy dissipation.
- Covered dock areas.

Based on on-site conditions and project implementation, IB#1 will be required to accommodate 46,812 cubic feet of runoff and IB#2 will be required to accommodate 56,693 cubic feet of runoff. The actual capacity for IB#1 is 49,800 cubic feet and for IB#2 is 58,200 cubic feet which exceeds the requirement. The construction of these facilities will occur with the first phase of development and will be operational during construction of the buildings. Both of these facilities are designed to properly manage and retain on-site flows before those flows are transported off-site into Cable Creek.

Implementation of best management practices identified in the WQMP and compliance with existing federal, state, and local regulations as discussed above will protect water quality and ensure compliance with applicable water quality standards.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.8-2

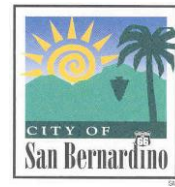
Would the project:

Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (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)?

Impact Analysis

The project will pave over a site that is likely not a significant recharge feature for the local area. Some of the storm water runoff will percolate into the soil from the basins, while the rest of it will be guided to the Cable Creek Channel. The Channel is unlined and along with downstream water channels, helps with area recharge. The zoning of the site was evaluated in the City's Urban Water Management Plan (UWMP) (City of San Bernardino 2010) and, as a commercial zone, was anticipated to have more pavement and coverage of impervious surfaces than is proposed with the project. Potable water to the site is provided by the City and discussed in [Section 3.13, Public Services and Utilities](#).

As the project will not result in a groundwater well, and will provide greater opportunity for recharge than is projected in the UWMP, this impact is less than significant.



Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.8-3

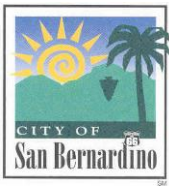
Would the project:

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; 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?

Impact Analysis

The site will be graded and parcel and open space improvements will be designed to drain to the existing and proposed streets, flood control channels, storm drains, and catch basins. The project's on-site drainage system will direct stormwater from both residential and commercial sources to a storm drainage system that consists of five proposed catch basins and then into one of two infiltration basins (IB#1 and IB#2). Stormwater runoff from the residential area will be collected by two pairs of catch basins and one sump pump, then conveyed via the proposed streets into infiltration basin IB#1, located at the southeastern corner of the residential portion of the project site. The runoff from the residential area collected in IB#1 will be conveyed into a proposed pipe system outside the site in Little League Drive that will carry flows into Cable Creek. The commercial area will direct stormwater runoff through the parking and circulation areas to the southern portion of the project site into infiltration basin IB#2. The collected flows from IB#2 will join the pipe system coming from the residential area and flow into the existing storm drainage line in Little League Drive. The current storm drain line in Little League Drive extends to an outfall at the crossing of Cable Creek by Palm Avenue. As part of the proposed project, the existing 36-inch outfall will be increased to accommodate a 48-inch outfall.

The proposed drainage on the site would not channel runoff on exposed soils, would not direct flows over unvegetated soils, and would not otherwise increase the erosion or siltation potential of the site or any downstream areas. The proposed project is subject to NPDES requirements and compliance with the Water Quality Management Plan. Additionally, the project applicant is required to submit a SWPPP to reduce erosion and sedimentation of downstream watercourses during project construction. Further, the applicant would be required to prepare and submit a detailed erosion control plan for City approval prior to obtaining a grading permit. This plan is expected to address any erosion issues associated with proposed grading and site preparation (per Section 19.15.040(5) of the City of San Bernardino Municipal Code). Although future development would create new impervious surface on the property, development associated with the proposed project would result in opportunities for landscaped areas to be used for stormwater retention.



The buildings and parking areas will channel the drainage into underground pipes, leading to retention areas before continuing to the existing drainage course to Little League Drive. The addition of impervious surfaces to the project site would increase flow rates, potentially increasing erosion. However, runoff is proposed to be routed to the infiltration basins and ultimately Cable Creek. This proposed drainage system would slow runoff velocities, allow sediment to settle out of the water, and capture trash and debris collected in the system. Furthermore, the required SWPPP for the project would include best management practices designed to prevent erosion both during and after construction (see Impact 3.8-1). While the proposed project will alter the existing drainage pattern, the alterations are specifically designed to meet state and federal water quality standards (see Impact 3.8-1) and designed to ensure that the stormwater flow does not result in substantial erosion or siltation.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.8-4

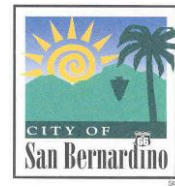
Would the project:

Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map; or place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Impact Analysis

The proposed project is outside of the 100-year flood zone, and will not impede any future construction that may be required to ensure flood protection for the site.

According to Flood Insurance Rate Map (FIRM) Panel 06071C7930H, published by FEMA (2008), the project site is designated as Zone X, indicating that the site is in an area identified by FEMA as X Other Flood Areas. The designation shown in [Figure 3.8-1](#), estimates a 0.2 percent potential for flooding during a 100-year storm event. The project site is west of the Cable Creek Channel that is provisionally accredited by the United States Army Corps of Engineers. The provisional accreditation means that the levee could be 'decertified' at a later date resulting in the area being mapped in a different flood zone. It is unknown at this time what the resulting flood classification would be if the levee is decertified. Chapter 19.16 of the City of San Bernardino Municipal Code regulates construction in Flood Insurance Rate Map (FIRM) flood zones. The property is not in a mapped flood zone. However, if the levee were to be decertified the map would be revised to indicate the appropriate flood zone. Generally, the Municipal Code prohibits construction in a floodway, and requires that floor elevations be raised above the calculated flood level in a floodplain. This can be accomplished through import of soil, grading of the site, or different building techniques.



If the levee is decertified after buildings have been constructed, a method of protection from flooding will be needed to avoid the need to raise the finished floor elevations of existing buildings. The design engineer for the project has stated that options could include reconstruction of the levee to meet certification standards, widening of the levee or construction of a floodwall. All of these solutions can occur within the footprint of the existing levee, and with access provided to the levee. The proposed project would not preclude work necessary to re-certify the levee that would subsequently ensure the Zone X flood classification as shown on the FIRM.

The proposed project will construct homes and buildings adjacent to the Cable Creek Channel, but will not result in any in-channel construction that could impede or redirect flood flows. The proposed project is outside of the 100-year flood zone, and will not impede any future construction that may be required to ensure flood protection for the site.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

3.8.5 Cumulative Impacts and Mitigation Measures

Impact 3.8-5

Would the project:

Result in cumulative impacts related to hydrology and water quality?

Impact Analysis

The proposed project, when considered in combination with existing, approved, proposed, and reasonably foreseeable development in the Santa Ana River watershed, would alter cumulative drainage conditions, rates, volumes, and water quality, which could result in potential flooding and stormwater quality impacts in the overall watershed. However, as discussed previously, the proposed project's storm drain system and implementation of a Water Quality Management Plan would reduce the project's contributions to cumulative runoff, water quality, and flooding impacts. As demonstrated by the hydrology and hydraulics report completed for the project, the proposed project is designed to convey stormwater runoff in a safe manner for the post-project condition (Allard Engineering 2015a). As such, the project would not contribute to cumulative hydrology impacts. The proposed project includes drainage basins that both reduce the velocity of runoff and serve to remove debris and contaminants from stormwater runoff. Stormwater can only enter the storm drainage system after passing through these basins. The proposed project's contribution to cumulative water quality, runoff, and flooding impacts is considered to be less than cumulatively considerable.

Impact Conclusion

Less than cumulatively considerable.



Mitigation Measures

No mitigation measures are required.

3.8.6 Sources Cited

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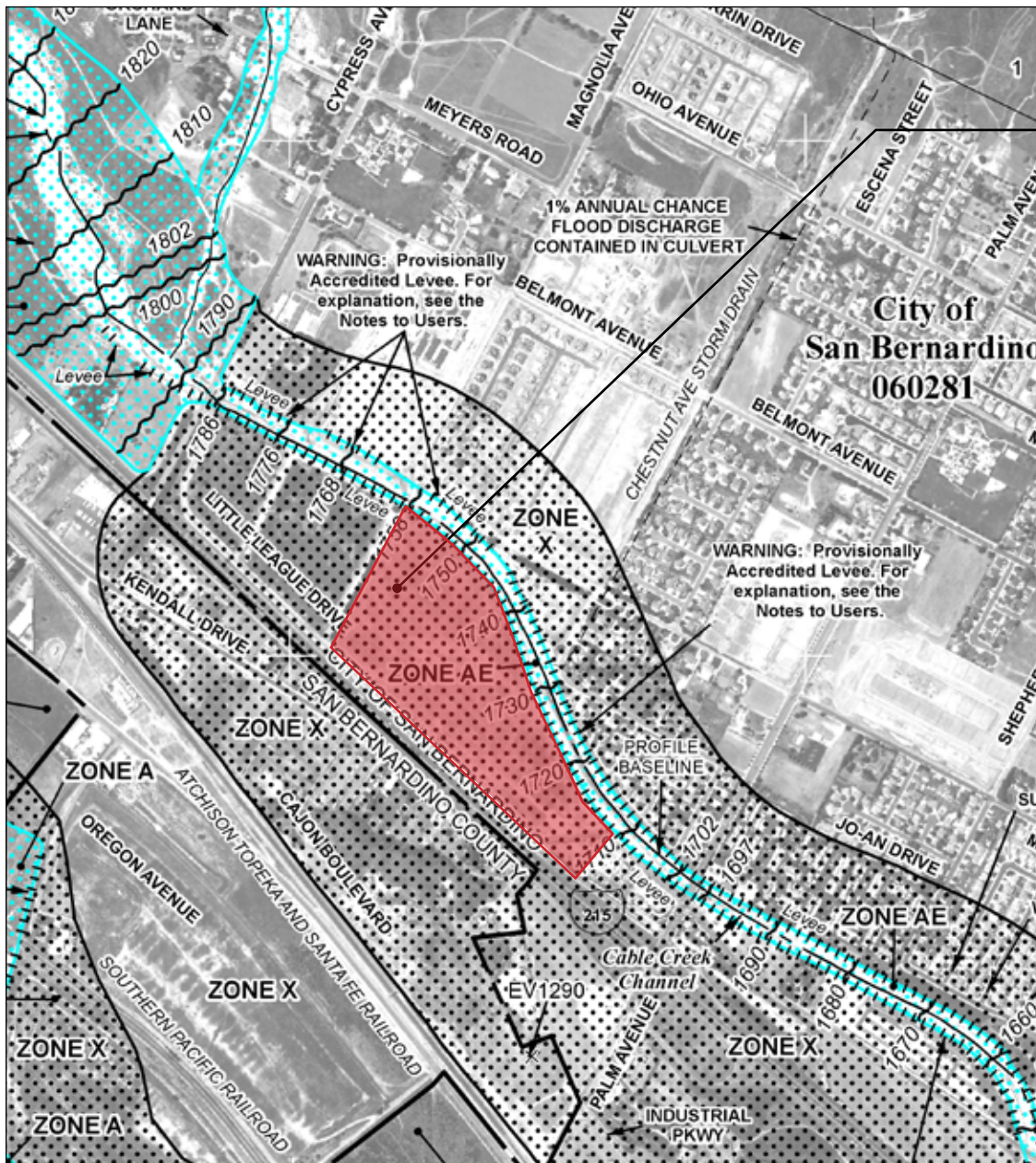
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SWRCB (State Water Resources Control Board). 2015.



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Project Site

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE AE Base Flood Elevations determined.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

Source: FEMA, 2016.

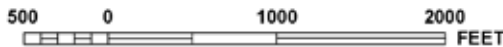
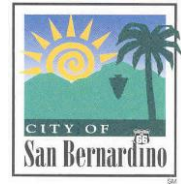
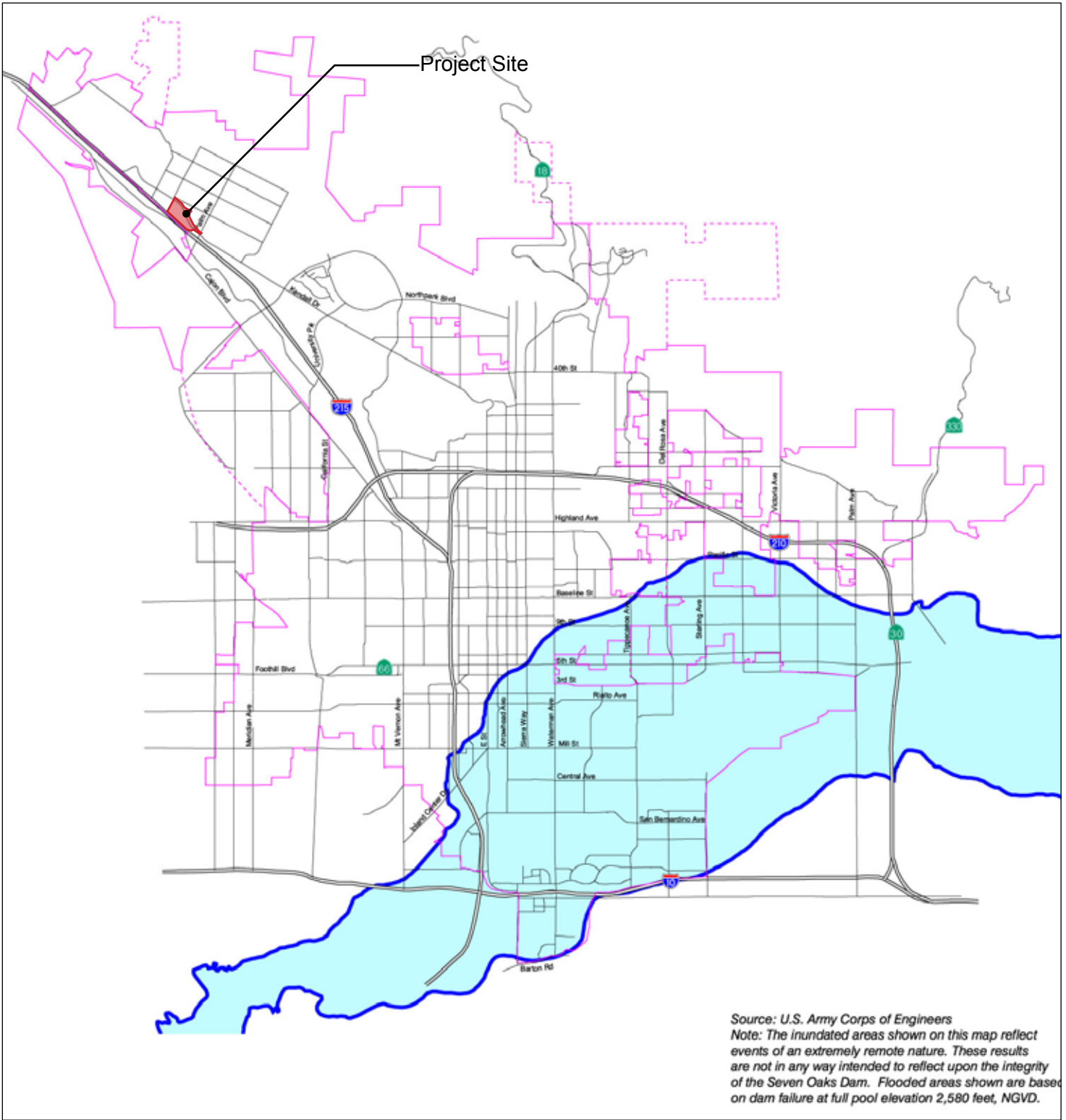


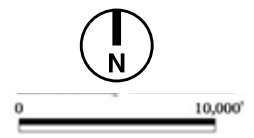
FIGURE 3.8-1
FEMA Floodplains
RANCHO PALMA



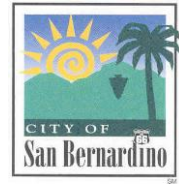
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- Limit of Flooded Area with Dam Failure
- City Boundary



Source: City of San Bernardino General Plan, 2005.



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3.9 Land Use and Planning

Land use refers to the use of land for various activities, such as commerce, industry, recreation, and residences. Land use patterns influence the character and function of a community; therefore, land use planning is a fundamental component of a city's general plan. The land use element of a general plan identifies a land use plan and sets forth policies for the permitted types, intensities, and location of land uses.

This section identifies existing land use conditions in the project area, describes the amount of growth permitted currently and under the proposed project, analyzes the project's compatibility with existing land uses and consistency with relevant planning policies. Information in this section is largely based on the City of San Bernardino General Plan and the City's Development Code (Title 19 of the City of San Bernardino Municipal Code).

3.9.1 Regulatory Setting

REGIONAL

In addition to locally adopted plans, ordinances, and regulations, a number of regional plans influence land use planning in San Bernardino. Regional plans and policies created by planning agencies such as the Southern California Association of Governments (SCAG) and the South Coast Air Quality Management District (SCAQMD) are discussed below.

SCAG Regional Comprehensive Plan and Guide

Regional planning agencies such as SCAG recognize that planning issues extend beyond the boundaries of individual cities. As the designated Metropolitan Planning Organization (MPO), SCAG is mandated by the federal government to research and draw up plans for transportation, growth management, hazardous waste management, and air quality.

SCAG is responsible for the Regional Transportation Plan (RTP) and a Regional Transportation Improvement Program (RTIP). SCAG is also responsible for the development of demographic projections and of the integrated land use, housing, employment, transportation programs, measures, and strategies portions of the SCAQMD Air Quality Management Plan.

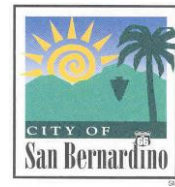
Regional Transportation Plan

The 2008 Regional Transportation Plan (RTP) presents the transportation vision for the SCAG region through the year 2035 and provides a long-term investment framework for addressing the region's transportation and related challenges.

LOCAL

City of San Bernardino General Plan

The General Plan Land Use Element addresses the City's physical development pattern, including general site development standards and the distribution, location, and extent of land uses, such as housing, business, industry, open space, natural resources, recreation, and public/quasi-public uses. This element also designates the standards for residential density and nonresidential



intensity for the various land use designations. Figure LU-2, General Plan Land Use Map, of the General Plan depicts the designated land uses in the City.

Community Design Element

The Community Design Element is an optional part of the General Plan. However, the City, in an effort to recognize the importance of community appearance and design to its vitality and future, seeks to unify the City through carefully crafted design policies.

City of San Bernardino Development Code

Zoning is the means by which cities implement their general plan and is required to be consistent with a city's general plan. A zoning code translates the long-term goals and policies of a general plan into the guidelines used for decision-making on future developments. While a general plan includes long-range and broad categories of land use, zoning provides specific development requirements, such as density, height, size, and development character. Similar to the general plan, a zoning map accompanies the ordinance, which is primarily text, to define the boundaries of each zoning district.

The purpose of the City of San Bernardino's Development Code (Title 19 of the Municipal Code) is to promote the public health, safety, and general welfare and to preserve and enhance the aesthetic quality of the City by providing regulations to ensure an appropriate mix of land uses in an orderly manner.

The Development Code establishes several zoning categories in order to classify, regulate, restrict, and segregate the uses of land and buildings, to regulate and restrict the height and bulk of buildings, to regulate the area of yards and other open spaces around buildings, and to regulate population density. For each zoning category, permitted land uses are identified, as well as development standards such as setbacks, building heights, and lot coverage. The code also presents design guidelines according to zoning category.

3.9.2 Environmental Setting

CURRENT GENERAL PLAN LAND USE DESIGNATIONS AND ZONING

The existing General Plan land use designation for the project site is Commercial General (CG-1). This designation is intended for local- and regional-serving retail, personal service, entertainment, office, and related commercial uses. Limited residential uses are also allowed with approval of a Conditional Use Permit (CUP).

Existing zoning for the site is Commercial General (CG-1). Varying uses are allowed with approval of a Development Permit and include convenience or administrative and professional offices and services, drugstores, medical offices, banks, restaurants, general merchandising, liquor stores, car sales, nurseries, dry cleaners, health/athletic clubs, and mixed-use commercial and residential, among other uses. Residential housing is allowed with approval of a CUP.



3.9.3 Significance Threshold Criteria

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the California Environmental Quality Act (CEQA) Guidelines, as amended, and used by the City of San Bernardino in its environmental review process. The issues presented in the Initial Study Checklist have been used as thresholds of significance in this section. Accordingly, the project may create a significant environmental impact if it causes one or more of the following to occur:

- a) Physically divide an established community.
- b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- c) Conflict with any applicable habitat conservation plan or natural community conservation plan.

As the site is vacant and is surrounded by City development and will not obstruct traffic or trails, the proposed project will not physically divide an established community therefore threshold a will not be discussed in this EIR. There is no habitat conservation plan or natural community conservation plan that affects or is adjacent to the project site, therefore threshold c will not be discussed in the EIR.

3.9.4 Project Impacts and Mitigation Measures

Impact 3.9-1

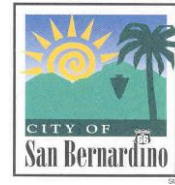
Would the project:

Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Impact Analysis

By assigning land use designations to parcels throughout the City, the City's General Plan seeks to avoid physical environmental effects that may otherwise result due to incompatible neighboring uses, such as the construction of residential development next to heavy industrial uses. The existing General Plan land use designation for the site is Commercial General (CG-1). This land use category is intended for local- and regional-serving retail, personal service, entertainment, office, and related commercial uses. Limited residential uses are also allowed with approval of a CUP.

The proposed project would be consistent with other key provisions of the City's General Plan Land Use Element, including Land Use Policy 2.1.3, which seeks to encourage future development to provide public spaces that foster social interaction, and Land Use Policy 2.2.1, which requires compatibility between land uses and quality design through adherence to the standards and



regulations in the Development Code and policies and guidelines in the Community Design Element. The proposed project serves to further each of these key policies by providing a compatible balance of different residential and commercial uses, respecting the existing character of the community, and including new commercial uses specifically designed to serve neighboring residential uses. Therefore, the proposed project would be consistent with the General Plan upon City approval of the CUP.

Existing zoning for the site is Commercial General (CG-1). Varying land uses are allowed with approval of a Development Permit and include convenience or administrative and professional offices and services, drugstores, medical offices, banks, restaurants, general merchandising, liquor stores, car sales, nurseries, dry cleaners, health/athletic clubs, and mixed-use commercial and residential, among other uses. Residential housing is allowed with approval of a CUP. City approval of the proposed CUP would ensure that the project remains consistent with the Development Code. Because the proposed uses are currently allowed under existing conditions with approval of a CUP, a zone reclassification to change the underlying land use or zoning from CG-1 is not required or proposed. Therefore, the proposed project is consistent with the existing zone district.

There are no adopted habitat conservation plans or natural community conservation plans in San Bernardino. There are also no approved local, regional, or state habitat conservation plans within the City. As noted in [Section 3.1, Aesthetics](#), the City has a tree ordinance that will require a tree permit prior to construction. As a result, no impacts would occur to any applicable habitat conservation plans or natural community conservation plans.

Additionally, the proposed Rancho Palma Specific Plan is intended to allow for and guide future development of a mixed-use neighborhood providing additional shopping and commercial services within walking distance to residents of Rancho Palma and the larger Verdemon Heights Community. The need for commercial uses was brought up by neighbors of the project during the EIR scoping meeting.

The Specific Plan establishes Four Cornerstones guiding the design philosophy of the project which include: the *City's Heritage* (i.e. establish a California-focused theme and character; create a landscape palette that is "California friendly" incorporating native species and drought tolerant plants; and, provide for a compatible and quality development); *Neighborhood Centered* (i.e. provide parks as gathering places for neighborhood residents; create a walkable environment that allows access to parks and commercial uses; and, incorporate a variety of home sizes and architectural styles); *Green and Healthy Lifestyle* (promote a healthy lifestyle with walkable park and shopping opportunities; include a commercial center near the freeway for local goods, services, and job creation, and to reduce traffic; and, promote energy and water conservation); and, *Fiscally Responsible* (i.e. self-sufficient; provide additional tax revenue for the City's General Fund; and, provide for the operation and maintenance of associated roadways and parks).

All future development onsite would be required to occur consistent with the development guidelines provided in the Specific Plan with regard to proposed land use types and densities, architectural design, phasing, infrastructure and utility improvements, and maintenance requirements. Future development on the project site would occur consistent with the Rancho



Palma Specific Plan and would therefore not conflict with such a plan adopted for the purpose of avoiding or mitigating an environmental effect.

Based on the above discussion, the project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur.

Impact Conclusion

No impact.

Mitigation Measures

No mitigation measures are required.

3.9.5 Cumulative Impacts and Mitigation Measures

Impact 3.9-2

Would the project:

Result in cumulative impacts related to land use and planning?

Impact Analysis

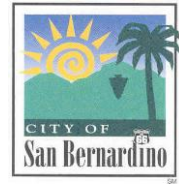
Generally, land use conflicts are site-specific and do not result in cumulative impacts. Site-specific incompatibility issues are addressed and mitigated on a project-by-project basis through implementation of the City's General Plan policies, zoning regulations, and development standards, as well as through the environmental review process. The proposed project would result in development on land that is currently vacant. The subject land has been designated for development since adoption of the City's General Plan. As previously stated, the proposed project consists of residential land uses and commercial uses; thus, the proposed land use mix is compatible with the existing and anticipated development in the project vicinity, which generally consists of residential and commercial uses. Because development of the site is consistent with the City's expectations in this area, impacts are considered less than cumulatively considerable.

Impact Conclusion

Less than cumulatively considerable.

Mitigation Measures

No mitigation measures are required.

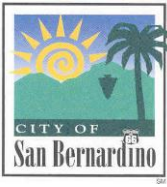


3.9.6 Sources Cited

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———. 2005b. *San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report* (SCH #2004111132).



3.10 Noise

This section discusses the existing noise setting, identifies potential noise impacts associated with implementation of the proposed project, and recommends mitigation measures to address potential impacts. Specifically, this section analyzes potential noise impacts due to development of the project area relative to the existing ambient noise environment and applicable noise criteria. Noise mitigation measures are recommended where the predicted noise levels would exceed applicable noise standards. Urban Crossroads conducted a noise analysis and the associated modeling in December 2015; refer to [Appendix 3.10-1, Noise Impact Analysis](#).

FUNDAMENTALS OF NOISE

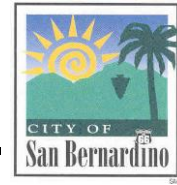
Noise is generally defined as sound that is loud, disagreeable, or unexpected. Sound is mechanical energy transmitted in the form of a wave because of a disturbance or vibration. Sound levels are described in terms of both amplitude and frequency. Amplitude is defined as the difference between ambient air pressure and the peak pressure of the sound wave. Amplitude is measured in decibels (dB) on a logarithmic scale.

The frequency of a sound is defined as the number of fluctuations of the pressure wave per second. The unit of frequency is the Hertz (Hz). One Hz equals one cycle per second. The human ear is not equally sensitive to sound of different frequencies. For instance, the human ear is more sensitive to sound in the higher portion of this range than in the lower, and sound waves below 16 Hz or above 20,000 Hz cannot be heard at all. To approximate the sensitivity of the human ear to changes in frequency, environmental sound is usually measured in what is referred to as A-weighted decibels (dBA). On this scale, the normal range of human hearing extends from about 10 dBA to about 140 dBA (EPA 1971). The most common sounds vary between 40 dBA (very quiet) and 100 dBA (very loud). Normal conversation at 3 feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA, which can cause serious discomfort.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases. The acceptability of noise and the threat to public well-being are the basis for land use planning policies preventing exposure to excessive community noise levels.

There is no completely satisfactory way to measure the subjective effects of noise or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and habituation to noise over differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the



so-called “ambient” environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged. Regarding increases in A-weighted noise levels, knowledge of the following relationships will be helpful in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans.
- Outside of the laboratory, a 3 dB change is considered a just-perceivable difference.
- A change in level of at least 5 dB is required before any noticeable change in community response would be expected. An increase of 5 dB is typically considered substantial.
- A 10 dB change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

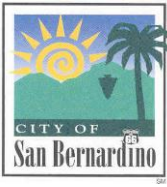
A limitation of using a single noise-level increase value to evaluate noise impacts is that it fails to account for pre-development noise conditions. With this in mind, the Federal Interagency Committee on Noise (FICON) developed guidance to be used for the assessment of project-generated increases in noise levels that take into account the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (i.e., CNEL, Ldn).

If the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur even though the noise criteria might not be exceeded. Therefore, for the purpose of this analysis, FICON identifies a readily perceptible 5 dBA or greater project related noise level increase is considered a significant impact when nearby noise-sensitive receivers are affected. According to FICON, in areas where the without-project noise levels range from 60 to 65 dBA, a 3 dBA barely perceptible noise level increase appears to be appropriate for most people. When the without-project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if noise-sensitive receivers are affected, since it likely contributes to an existing noise exposure exceedance. [Table 3.10-1, FICON-Recommended Criteria for Evaluation of Increases in Ambient Noise Levels](#), summarize the potential noise impact significance criteria, based on guidance from FICON.

Table 3.10-1. FICON-Recommended Criteria for Evaluation of Increases in Ambient Noise Levels

Ambient Noise Level Without Project	Potential Significant Impact
<60 dB	5 dBA or greater
60–65 dB	3 dBA or greater
>65 dB	1.5 dBA or greater

Source: FICON 2000



SOUND ATTENUATION

Noise Attenuation

A large object or barrier in the path between a noise source and a receiver can substantially attenuate (reduce) noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in minimum 5 decibels of noise reduction. However, effective noise barriers can reduce noise levels by 10 to 15 dBA, thereby cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receptor (Urban Crossroads 2015a).

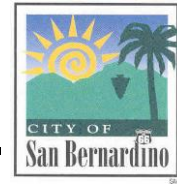
Noise reductions afforded by building construction can vary depending on construction materials and techniques. Typical building construction will provide a noise reduction of approximately 12 dBA with windows open and a minimum 25 dBA noise reduction with windows closed. However, sound leaks, cracks, and openings in the window assembly can greatly diminish its effectiveness in reducing noise. Several methods are used to improve interior noise reduction, such as (1) weather-stripped solid core exterior doors; (2) upgraded dual-glazed windows; (3) mechanical ventilation/air conditioning; and (4) exterior wall/roof assemblies free of cutouts or openings. The absorptive characteristics of interior rooms, such as carpeted floors, draperies, and furniture, can result in further reductions in interior noise.

3.10.1 Regulatory Setting

This section summarizes relevant federal, state, and/or local laws, ordinances, regulations, and standards that are applicable to the proposed project. Regulatory requirements related to environmental noise are generally implemented at the local level. However, federal and state agencies provide standards and guidelines to the local jurisdictions. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is generally the responsibility of local agencies.

STATE

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in the state for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.



LOCAL

City of San Bernardino General Plan

The City's General Plan Noise Element includes several policies to minimize the impacts of excessive noise levels throughout the community. The Noise Element provides policy guidance addressing the generation, mitigation, avoidance, and control of excessive noise. To protect city residents from excessive noise levels, the Noise Element contains the following three goals:

14.1 Ensure that residents are protected from excessive noise through careful land planning.

14.2 Encourage the reduction of noise from transportation-related noise sources such as motor vehicles, aircraft operations, and railroad movements.

14.3 Protect residents from the negative effects of "spill over" or nuisance noise.

The policies specified in the Noise Element provide the guidelines necessary to satisfy these goals. To ensure that residents are not exposed to excessive noise levels (Goal 14.1), Policies 14.1.1 through 14.1.4 indicate that sensitive land uses such as housing, healthcare facilities, schools, libraries, and religious facilities should not experience exterior noise levels greater than 65 dBA Ldn for exterior areas and 45 dBA Ldn for interior areas. Policies 14.2.1 through 14.2.19 outline the transportation-related guidelines and mitigation strategies the City uses to satisfy Goal 14.2. To protect residents from sources of operational and construction noise (Goal 14.3), the Noise Element includes Policies 14.3.1 through 14.3.8 to adopt a Noise Ordinance and ensure noise issues between land uses are reduced.

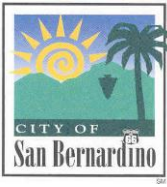
City of San Bernardino Municipal Code

Development Code Section 19.20.030.15 specifies the maximum acceptable levels of noise for residential uses in the city excluding construction. In residential areas, exterior noise levels are not permitted to exceed 65 dBA and interior noise levels may not exceed 45 dBA.

The City's Municipal Code also contains noise level regulations. The City has adopted a number of policies directed at controlling or mitigating environmental noise effects. Municipal Code Chapter 8.54, Noise Control, specifies hours of operation for multiple sources of excessive noise. Excessive noise is not permitted between the hours of 8:00 p.m. and 8:00 a.m. in residential zones and between 8:00 p.m. and 7:00 a.m. in all other zones. Unreasonably loud noise is determined by multiple factors including but not limited to level of noise; level of background noise; proximity to sensitive receptors; zoning of the noise source area; density of inhabitation of the noise source area; time of day or night the noise occurs; duration; whether the noise is recurrent, intermittent, or constant; and whether the noise is produced by a commercial or noncommercial activity.

Construction Noise Standards

The City of San Bernardino has set restrictions to control noise impacts associated with the construction of development projects. Municipal Code Section 8.54.070 states, "No person shall be engaged or employed, or cause any other person to be engaged or employed, in any work of



construction, erection, alteration, repair, addition, movement, demolition, or improvement to any building or structure except within the hours of 7:00 a.m. and 8:00 p.m.”

Construction noise is a short-term temporary event, occurs mostly during daytime hours (such as 6:00 a.m. to 3:00 p.m.), and is considered a common necessity for new development. Construction activities necessary for the immediate preservation of life or property, related to facilities of park and recreation departments, public work projects, or essential public services and facilities are exempt from the provisions of the Noise Control Ordinance. Construction performed pursuant to a valid written agreement with the City, which provides for noise mitigation measures, are also exempt from the ordinance. However, the City does not have a significance threshold to assess noise impacts during construction for California Environmental Quality Act (CEQA) determinations of noise impacts. Section 8.54.060(I), Exemptions, indicates that construction noise levels are considered exempt from the provisions of the ordinance. Therefore, if project construction occurs during the hours permitted in the Noise Control Ordinance, construction noise levels are exempt from the ordinance.

Operational Noise Standards

The City maintains policies in the Noise Control Ordinance to control the potential negative effects of nuisance noise (i.e., loudspeaker, bells, gongs, buzzers, mechanical equipment or other sounds, attention-attracting, or communication device associated with any use).

Further, Title 19, Land Use/Subdivision Regulations, provides measures to guide future development projects within the city’s boundaries. Specifically, Chapter 19.20, Property Development Standards, includes exterior and interior noise level standards for residential land uses. Stationary noise sources such as rooftop air conditioning units, shopping cart corrals, parking lot vehicle movements, and loading dock activities originating from a designated fixed location or private property (such as the commercial retail use on the proposed project site) are evaluated against the policies adopted in the City’s Development Code.

Municipal Code Chapter 8.54 provides guidance for operational noise impacts. Specifically, Section 8.54.060 states when “such noises are an accompaniment and effect of a lawful business, commercial, or industrial enterprise carried on in an area zoned for that purpose...these activities shall be exempt.” However, due to the proximity of the project site to existing residential land uses (adjacent to the northern property boundary), Development Code Section 19.20.030.15(A) limits operational stationary source noise to an exterior noise level of 65 dBA and interior noise level of 45 dBA for residential land uses.

Transportation Noise Standards

The City’s General Plan Noise Element identifies a maximum allowable exterior noise level of 65 dBA CNEL and an interior noise level limit of 45 dBA CNEL for new residential developments; refer to [Table 3.10-2, Interior and Exterior Noise Standards](#). While the City specifies an exterior noise level limit for noise-sensitive residential land uses such as hotels, hospitals, schools, and parks, the City does not maintain exterior noise standards for non-noise-sensitive land uses such as office, retail, manufacturing, utilities, agriculture, and industrial.

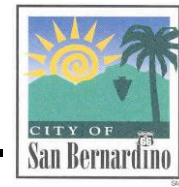


Table 3.10-2. Interior and Exterior Noise Standards

Land Use		CNEL (dBA)	
Categories	Uses	Interior ¹	Exterior ²
Residential	Single- and multi-family, duplex	45 ³	65
	Mobile homes	—	65 ⁴
Commercial	Hotel, motel, transient housing	45	—
	Commercial retail, bank, restaurant	55	—
	Office building, research and development, professional offices	50	—
	Amphitheater, concert hall, auditorium, movie theater	45	—
	Gymnasium (multipurpose)	50	—
	Sports club	55	—
	Manufacturing, warehousing, wholesale, utilities	65	—
	Movie theaters	45	—
Institutional/Public	Hospital, school classrooms/playgrounds	45	65
	Church, library	45	—
Open Space	Parks	—	65

Source: San Bernardino 2005a

1. Indoor environment excluding bathrooms, kitchens, toilets, closets, and corridors
2. Outdoor environment limited to private yard of single-family dwellings; multi-family private patios or balconies accessed from within the dwelling (balconies 6 feet deep or less are exempt); mobile home parks; park picnic areas; school playgrounds; hospital patios.
3. Noise level requirement with closed windows, mechanical ventilation, or other means of natural ventilation shall be provided as per Chapter 12, Section 1205, of the Uniform Building Code.
4. Exterior noise levels should be such that interior noise levels will not exceed 45 dBA CNEL.

Groundborne Vibration

Groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Construction activity can result in varying degrees of groundborne vibration, depending on the equipment and methods used, distance to the affected structures, and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment, such as air compressors, light trucks, and/or hydraulic loaders, may generate little or no ground vibration. Occasionally, large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity.

The City of San Bernardino Development Code (Section 19.20.030.28) states, “No vibration associated with any use shall be permitted which is discernible beyond the boundary line of the property.” However, the FTA (2006) establishes specific thresholds for maximum-acceptable vibration criteria for different types of land uses; these guidelines allow 80 VdB for residential uses and buildings where people normally sleep. Refer to [Table 3.10-3, Vibration Source Levels for Construction Equipment](#).

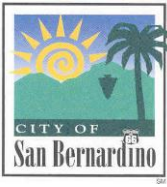


Table 3.10-3. Vibration Source Levels for Construction Equipment

Equipment	Vibration Decibels (VdB) at 25 feet
Small Bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large Bulldozer	87

Source: FTA 2006

3.10.2 Environmental Setting

EXISTING NOISE ENVIRONMENT

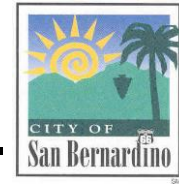
Existing Noise Environment

The project site is located in an urbanized environment and is surrounded on all sides by developed lands. The Platinum Soccer Complex lies immediately adjacent to the west of the project site. To the northwest is the Little League Baseball Western Region Headquarters and to the north are Al Guhin Park, Cesar E. Chavez Middle School, and North Verdmont Elementary School. To the northeast are the Cable Creek Channel, Ronald Reagan Park, and the Verdmont Heights neighborhood. To the east is Palm Avenue, along which a number of small-scale commercial uses (i.e., convenience store/gas station, restaurants) are present. To the southeast are existing commercial businesses, Palm Avenue and the Palm Avenue/I-215 interchange, the Verdmont Heights neighborhood, and industrial uses. To the south is an existing commercial center at the intersection of Palm Avenue and West Little League Drive. To the southwest of the site is West Little League Drive, which is located adjacent to the Barstow Freeway (Interstate 215).

Ambient Noise Conditions

To assess the existing noise level environment, four 24-hour noise level measurements were taken at sensitive receiver locations in the project area. The receiver locations were selected to describe and document the existing noise environment in the area. The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the project site. To describe the existing noise environment, it is not necessary to collect measurements at each individual building or residence because each receiver measurement represents a group of buildings that share acoustical equivalence. The area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise-sensitive areas and are used to estimate future noise level impacts.

The noise measurements presented below focus on the average or equivalent sound levels (Leq). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. [Table 3.10-4, 4-Hour Ambient Noise Level Measurements](#), identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each measurement location.



[Table 3.10-4](#) shows the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. The background ambient noise levels in the project area are dominated by the transportation-related noise associated with the arterial roadway network. This includes the auto and heavy truck activities on Interstates 215 (I-215) near the noise level measurement locations. The 24-hour existing noise level measurements shown in [Table 3.10-4](#) present the worst-case existing unmitigated ambient noise conditions. Refer also to [Figure 3.10-1, Noise Measurement/Sensitive Receptor Locations](#).

Table 3.10-4. 4-Hour Ambient Noise Level Measurements

Location ¹	Distance to Project Boundary	Description	Energy Average Hourly Noise Level (dBA Leq) ²		CNEL
			Daytime	Nighttime	
L1	386 ft.	Located north of the project site adjacent to an existing barrier for residential homes and across Magnolia Avenue from Cesar E. Chavez Middle School.	58.8	61.5	67.7
L2	254 ft.	Located north of the project site on Chestnut Avenue near existing residential homes and Ronald Reagan Park.	53.0	54.6	60.9
L3	0 ft.	Located south of Guhin Park at the project site boundary on Little League Drive north of Interstate 215.	69.8	68.9	75.7
L4	0 ft.	Located at the project site boundary on Little League Drive north of Interstate 215.	70.5	69.4	76.3

Source: Urban Crossroads 2015a
¹ See [Figure 3.10-1](#) for the noise level measurement locations.
² Energy (logarithmic) average hourly levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2 of [Appendix 3.10-1](#).
¹ Daytime = 7:00 a.m. to 10:00 p.m.; Nighttime = 10:00 p.m. to 7:00 a.m.

Noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. Noise contours do not take into account the potential effect of any existing noise barriers or topography that may influence ambient noise levels. Further, as the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contribution from any surrounding stationary noise sources in a project study area.

To assess the current ambient noise levels both within and around the proposed project site, the surrounding roadways were evaluated. The evaluation included establishing noise level contour boundaries for 60, 65, and 70 dBA CNEL on 32 roadway segments surrounding the project site. [Table 3.10-5, Existing without Project Conditions Noise Contours](#), presents the existing CNEL noise contour boundaries with existing traffic volumes for these 32 roadway segments.

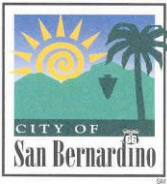


Table 3.10-5. Existing without Project Conditions Noise Contours

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)	Distance to Contour from Centerline (feet) ²		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	N. Little League Dr.	n/o W. Little League Dr.	Public/Comm. Rec.	58.0	RW	RW	RW
2	N. Little League Dr.	s/o W. Little League Dr.	Public Park	58.8	RW	RW	RW
3	Palm Ave.	n/o Belmont Ave.	Residential	57.5	RW	RW	RW
4	Palm Ave.	s/o Belmont Ave.	Residential	66.2	RW	53	114
5	Palm Ave.	s/o Irvington Ave.	Residential	68.9	RW	80	173
6	Palm Ave.	n/o Kendall Dr.	Residential	69.7	RW	91	196
7	Palm Ave.	n/o I-215 NB Ramps	Commercial	71.5	56	120	258
8	Palm Ave.	s/o I-215 NB Ramps	Commercial	70.4	47	101	218
9	Palm Ave.	n/o Hallmark Pkwy.	Commercial	67.4	RW	63	136
10	Palm Ave.	s/o Hallmark Pkwy.	Industrial	64.8	RW	RW	91
11	Pine Ave.	n/o Belmont Ave.	Residential	62.2	RW	RW	61
12	Pine Ave.	s/o Belmont Ave.	Residential	64.0	RW	RW	81
13	Pine Ave.	n/o Kendall Dr.	Residential	67.0	RW	60	129
14	Campus Pkwy.	n/o Kendall Dr.	Residential	64.8	RW	RW	93
15	University Pkwy.	n/o Kendall Dr.	Residential	72.6	74	160	345
16	University Pkwy.	s/o Kendall Dr.	Residential	73.6	87	187	402
17	Belmont Ave.	w/o Palm Ave.	Residential	57.9	RW	RW	RW
18	Belmont Ave.	e/o Palm Ave.	Residential	57.8	RW	RW	RW
19	Belmont Ave.	w/o Pine Ave.	Residential	55.1	RW	RW	RW
20	Irvington Ave.	w/o Palm Ave.	Residential	59.6	RW	RW	RW
21	Irvington Ave.	e/o Palm Ave.	Residential	59.3	RW	RW	RW
22	W. Little League Dr.	w/o Magnolia Ave.	Public Park	57.4	RW	RW	RW
23	Kendall Dr.	w/o N. Little League Dr.	Industrial	67.3	RW	62	134
24	Kendall Dr.	e/o N. Little League Dr.	Industrial	66.4	RW	55	118
25	W. Little League Dr.	w/o Palm Ave.	Commercial	63.3	RW	RW	50
26	Kendall Dr.	e/o Palm Ave.	Commercial	69.8	RW	105	226
27	Kendall Dr.	w/o Pine Ave.	Residential	69.4	RW	98	211
28	Kendall Dr.	w/o Campus Pkwy.	Residential	70.8	57	122	263
29	Kendall Dr.	w/o University Pkwy.	Residential	70.7	56	120	259
30	Kendall Dr.	e/o University Pkwy.	Residential	70.4	53	115	247

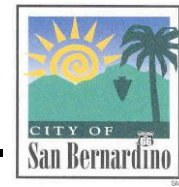


Table 3.10-5, continued

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)	Distance to Contour from Centerline (feet) ²		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
31	I-215	w/o Palm Ave.	Commercial	80.0	286	616	1,328
32	I-215	e/o Palm Ave.	Industrial	80.7	322	693	1,494

Source: Urban Crossroads 2015a
¹ Source: San Bernardino 2005a; Land Use Element, Figure LU-2
² RW = Location of the respective noise contour falls within the right-of-way of the road.

Table 3.10-6, Sensitive Receptor Locations, lists the sensitive receptor locations in the project vicinity that may potentially be affected by excess noise levels generated during project construction and/or operation. Sensitive receptor locations are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. To assess the potential for short-term construction noise impacts, the nine receiver locations shown on *Figure 3.10-1, Noise Measurement/Sensitive Receptor Locations*, were identified as representative locations for analysis. Sensitive receptor locations in the vicinity of the project site include the single-family residences located at receiver locations R2, R3, R4, R5, R6, R7, and R8. The closest sensitive receptor location is represented by location R5 at a distance of approximately 151 feet east of the project site; refer to *Figure 3.10-1, Noise Measurement/Sensitive Receptor Locations*.

Table 3.10-6. Sensitive Receptor Locations

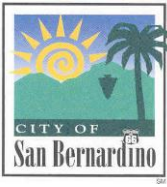
Sensitive Receptor Reference Number ¹	Sensitive Receptor	Location	Distance and Relative Location to Project Site
R1	Cesar E. Chavez Middle School	Magnolia Avenue	878 feet north
R2	Single-Family Residential Use	Irvington Avenue	280 feet north
R3	Single-Family Residential Use	Irvington Avenue	355 feet northeast
R4	Single-Family Residential Use	Washington Street	250 feet east
R5	Single-Family Residential Use	Red Sky Avenue	151 feet east
R6	Single-Family Residential Use	Red Sky Avenue	208 feet east
R7	Single-Family Residential Use	Red Sky Avenue	240 feet east
R8	Single-Family Residential Use	Kendall Drive	346 feet west

Source: Urban Crossroads 2015a
¹ Refers to *Figure 3.10-1, Noise Measurement/Sensitive Receptor Locations*.

MOBILE NOISE SOURCES

Roadway Noise

San Bernardino’s noise environment is generally dominated by vehicular traffic, including vehicle-generated noise along I-215 and Interstate 10 (I-10), as well as on major and primary



arterials. Primary roadways in the project area include State Route 66 (SR 66, or Cajon Boulevard), Kendall Drive, Palm Avenue, Pine Avenue N., Magnolia Avenue, N. Little League Drive, Belmont Avenue W., and Irvington Avenue. During peak travel hours, heavy traffic on these roadways causes higher noise levels compared to noise levels during non-peak hours. Although several of these roadways are designed to carry larger traffic volumes, long-established land use patterns have resulted in siting of residential uses along some segments.

Railroad Noise

The Burlington Northern Santa Fe Railroad (BNSF), Union Pacific Railroad (UP), and Metrolink railroads traverse the city, which create additional mobile source noises in the area. The UP line is located along I-10 from Los Angeles to Colton, where it splits into the westward Palmdale line and the Yuma eastward line. The UP line is used by both commuter and freight trains. The BNSF trends east and southward from the city of Los Angeles and traverses the city of San Bernardino (Cajon Line). The San Bernardino Metrolink line extends from San Bernardino to Los Angeles Union Station. The Inland Empire Orange County Metrolink line extends from San Bernardino to San Juan Capistrano. Freight and commuter rail traffic passing through San Bernardino and can generate substantial noise impacts (i.e., from whistles and horns) to residents located along the railroad corridors. The nearest railroad tracks to the project site are approximately 0.2 mile southwest of the site and run generally parallel to I-215; refer to [Figure 2-1, Regional/Local Vicinity Map](#).

Aircraft Noise

San Bernardino International Airport (SBIA) is located in the southeastern portion of the City and is approximately 10 miles south and east of the nearest portion of the project area. According to the San Bernardino County Land Use Plan Hazard Overlay map, the project site is located outside of the SBIA noise contours.

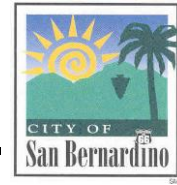
STATIONARY NOISE SOURCES

Commercial and industrial land uses located near residential areas currently generate occasional noise impacts. The primary noise sources associated with these facilities are delivery trucks, heavy machinery, air compressors, generators, outdoor loudspeakers, and gas venting. Fire and police department operations, park facilities, school sites, and residential uses can also contribute to the ambient noise environment. Ongoing noise from construction activities throughout San Bernardino also adds to the city's ambient noise environment. These types of stationary noise sources have the potential to affect noise-sensitive receptors such as residences, schools, and hospitals.

3.10.3 Significance Threshold Criteria

The issues presented in Appendix G of the CEQA Guidelines are used as thresholds of significance in this section. The project may create a significant environmental impact if it causes one or more of the following to occur:

- a) 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.



- b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels.
- f) For a project in the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels.

Because the site is more than two miles from a public airport or within the vicinity of a private airstrip, there is no potential to expose residents or workers in the project area to excessive noise levels. Therefore, thresholds (e) and (f) will not be discussed further in this EIR.

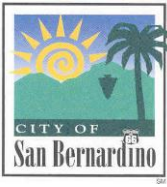
METHODOLOGY

Long-Term Off-Site Transportation Noise Impacts

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model-FHWA-RD-77-108. The FHWA model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California, the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. Adjustments are then made to the REMEL to account for the roadway classification (e.g., collector, secondary, major, or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway); the total average daily traffic (ADT); the travel speed; the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume; the roadway grade; the angle of view (e.g., whether the roadway view is blocked); the site conditions (hard or soft relates to the absorption of the ground, pavement, or landscaping); and the percentage of total ADT that flows each hour throughout a 24-hour period.

To assess the off-site transportation noise level impacts associated with development of the proposed project, noise contours were developed based on the traffic impact analysis prepared by Urban Crossroads (2015a). Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Traffic noise contour boundaries are typically calculated at distances of 100 feet from a roadway centerline. A significant off-site traffic noise level impact would occur when the without-project noise levels:

- Are less than 60 dBA and the project creates a readily perceptible 5 dBA or greater project-related noise level increase;



- Range from 60 to 65 dBA and the project creates a barely perceptible 3 dBA or greater project noise level increase; or
- Already exceed 65 dBA, and the project creates a community noise level impact of greater than 1.5 dBA.

Predicted noise levels at nearby noise-sensitive land uses were calculated utilizing typical noise levels and usage rates associated with construction equipment, derived from the FHWA Roadway Construction Noise Model (version 1.1). Construction noise levels were predicted assuming an average noise attenuation rate of 6 dB per doubling of distance from the source, in conformance with the stationary source attenuation rate estimated by the US Environmental Protection Agency (EPA).

Transportation Noise

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the FHWA Traffic Noise Prediction Model-FHWA-RD-77-108. The FHWA model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California, the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. Adjustments are then made to the REMEL to account for the roadway classification (e.g., collector, secondary, major, or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway); the total average daily traffic (ADT); the travel speed; the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume; the roadway grade; the angle of view (e.g., whether the roadway view is blocked); the site conditions (hard or soft relates to the absorption of the ground, pavement, or landscaping); and the percentage of total ADT that flows each hour throughout a 24-hour period. [Table 3.10-7](#) shows the results of the model run and compares the projected noise levels to the above thresholds.

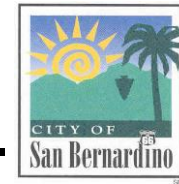


Table 3.10-7. Traffic Noise Impacts Phase 1 and Buildout (Phase 1 + Phase 2)

ID	Road	Segment	Adjacent Land Use ¹	Exterior Noise Standard (dBA)	CNEL at Nearest Adjacent Land Use (dBA)	Phase 1	Buildout	Significance Threshold (dBA)	Change at Buildout from Existing (dBA)	Significant?
						CNEL at Nearest Adjacent Land Use (dBA)	CNEL at Nearest Adjacent Land Use (dBA)			
1	N. Little League Dr.	n/o W. Little League Dr.	Public/Comm. Rec.	65	58	58	58.4	5	0.4	no
2	N. Little League Dr.	s/o W. Little League Dr.	Public Park	65	58.8	59.1	59.9	5	1.1	no
3	Palm Ave.	n/o Belmont Ave.	Residential	65	57.5	57.5	57.7	5	0.2	no
4	Palm Ave.	s/o Belmont Ave.	Residential	65	66.2	66.2	66.6	1.5	0.4	no
5	Palm Ave.	s/o Irvington Ave.	Residential	65	68.9	69	69.2	1.5	0.3	no
6	Palm Ave.	n/o Kendall Dr.	Residential	65	69.7	69.7	70	1.5	0.3	no
7	Palm Ave.	n/o I-215 NB Ramps	Commercial	N/A	71.5	71.6	71.8	N/A	N/A	N/A
8	Palm Ave.	s/o I-215 NB Ramps	Commercial	N/A	70.4	70.5	70.6	N/A	N/A	N/A
9	Palm Ave.	n/o Hallmark Pkwy.	Commercial	N/A	67.4	67.4	67.5	N/A	N/A	N/A
10	Palm Ave.	s/o Hallmark Pkwy.	Industrial	N/A	64.8	64.8	65	N/A	N/A	N/A
11	Pine Ave.	n/o Belmont Ave.	Residential	65	62.2	62.2	62.5	3	0.3	no
12	Pine Ave.	s/o Belmont Ave.	Residential	65	64	64	64.6	3	0.6	no
13	Pine Ave.	n/o Kendall Dr.	Residential	65	67	67	67.3	1.5	0.3	no
14	Campus Pkwy.	n/o Kendall Dr.	Residential	65	64.8	64.9	64.9	3	0.1	no
15	University Pkwy.	n/o Kendall Dr.	Residential	65	72.6	72.6	72.6	1.5	0	no
16	University Pkwy.	s/o Kendall Dr.	Residential	65	73.6	73.6	73.6	1.5	0	no
17	Belmont Ave.	w/o Palm Ave.	Residential	65	57.9	57.9	58.3	5	0.4	no
18	Belmont Ave.	e/o Palm Ave.	Residential	65	57.8	57.8	58.1	5	0.3	no

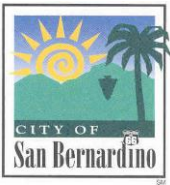
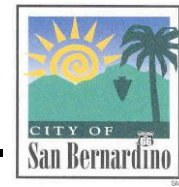


Table 3.10-7, continued

ID	Road	Segment	Adjacent Land Use ¹	Exterior Noise Standard (dBA)	CNEL at Nearest Adjacent Land Use (dBA)	Phase 1	Buildout	Significance Threshold (dBA)	Change at Buildout from Existing (dBA)	Significant?
						CNEL at Nearest Adjacent Land Use (dBA)	CNEL at Nearest Adjacent Land Use (dBA)			
19	Belmont Ave.	w/o Pine Ave.	Residential	65	55.1	55.1	56.3	5	1.2	no
20	Irvington Ave.	w/o Palm Ave.	Residential	65	59.6	59.6	59.8	5	0.2	no
21	Irvington Ave.	e/o Palm Ave.	Residential	65	59.3	59.3	59.4	5	0.1	no
22	W. Little League Dr.	w/o Magnolia Ave.	Public Park	65	57.4	57.8	58.9	5	1.5	no
23	Kendall Dr.	w/o N. Little League Dr.	Industrial	N/A	67.3	67.3	67.4	N/A	N/A	N/A
24	Kendall Dr.	e/o N. Little League Dr.	Industrial	N/A	66.4	66.5	66.6	N/A	N/A	N/A
25	W. Little League Dr.	w/o Palm Ave.	Commercial	N/A	63.3	64.9	67.9	N/A	N/A	N/A
26	Kendall Dr.	e/o Palm Ave.	Commercial	N/A	69.8	69.9	70.2	N/A	N/A	N/A
27	Kendall Dr.	w/o Pine Ave.	Residential	65	69.4	69.4	69.8	1.5	0.4	no
28	Kendall Dr.	w/o Campus Pkwy.	Residential	65	70.8	70.9	71	1.5	0.2	no
29	Kendall Dr.	w/o University Pkwy.	Residential	65	70.7	70.7	70.9	1.5	0.2	no
30	Kendall Dr.	e/o University Pkwy.	Residential	65	70.4	70.4	70.5	1.5	0.1	no
31	I-215	w/o Palm Ave.	Commercial	N/A	80	80	80	N/A	N/A	N/A
32	I-215	e/o Palm Ave.	Industrial	N/A	80.7	80.8	80.8	N/A	N/A	N/A



3.10.4 Project Impacts and Mitigation Measures

Impact 3.10-1

Would the project cause:

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?

Impact Analysis

Construction

Construction noise represents a short-term impact on ambient noise levels. Noise generated by construction equipment, including trucks, power tools, concrete mixers, and portable generators, can reach high levels. Project construction is expected to occur in the following five stages: site preparation, grading, building construction, architectural coating, and paving. [Table 3.10-8, Construction Equipment Noise Level Summary](#), indicates construction noise levels for each of these stages at the eight identified receiver locations.

Table 3.10-8. Construction Equipment Noise Level Summary

Receiver Location ¹	Construction Phase Hourly Noise Level (dBA Leq)					
	Site Preparation	Grading	Building Construction	Architectural Coating	Paving	Peak Activity ²
R1	54.7	54.7	43.3	37.4	46.7	54.7
R2	64.6	64.6	53.2	47.3	56.6	64.6
R3	63.0	63.0	51.6	45.7	55.1	63.0
R4	65.6	65.6	54.2	48.3	57.6	65.6
R5	70.0	70.0	58.6	52.7	62.0	70.0
R6	67.2	67.2	55.8	49.9	59.2	67.2
R7	60.9	60.9	49.5	43.6	53.0	60.9
R8	57.8	57.8	46.4	40.5	49.8	57.8

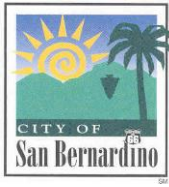
Source: Urban Crossroads 2015a

¹ Noise receiver locations are shown on [Figure 3.10-2](#).

² Estimated construction noise levels during peak operating conditions.

Noise levels generated by heavy construction equipment can range from approximately 62 dBA to in excess of 80 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. As shown in [Table 3.10-8](#), the nearest sensitive receptors are located between 150 and 878 feet from the project site. [Table 3.10-8](#) shows the projected noise level at the sensitive receptor locations with three locations (R4, R5 and R6) exceeding the exterior noise limit of 65 dBA during construction. The highest level of 70.0 dBA is at receiver R5.

The City of San Bernardino Municipal Code Section 8.54.070 states, “No person shall be engaged or employed, or cause any other person to be engaged or employed, in any work of construction,



erection, alteration, repair, addition, movement, demolition, or improvement to any building or structure except within the hours of 7:00 a.m. and 8:00 p.m.” While the City establishes limits on the hours during which construction activity may take place, it does not identify specific limits for construction noise levels. Section 8.54.060(I), Exemptions, of the Noise Control Ordinance indicates that project construction noise levels are considered exempt from the provisions of the ordinance. Therefore, if project construction only occurs during the hours permitted in the Noise Control Ordinance, project construction noise levels would be exempt from the ordinance. Additionally, construction-related noise would tend to diminish as the use of heavy equipment in the early construction stages concludes and would dissipate entirely at the end of construction activities. Impacts would be less than significant in this regard.

However, it should be noted that the noise levels depicted in [Table 3.10-8](#) are maximum noise levels (peak activity), which would occur sporadically when construction equipment is operated in proximity to sensitive receptors. Given the sporadic and variable nature of project construction and the implementation of noise limits specified in the Municipal Code, noise impacts would be reduced to a less than significant level. Additionally, to further reduce the potential for noise impacts and nuisances, Mitigation Measure NOI-1 would be implemented to incorporate best management practices during construction. Implementation of Mitigation Measure NOI-1 would further minimize impacts from construction noise as it requires construction equipment to be equipped with properly operating and maintained mufflers and other state required noise attenuation devices. Thus, with mitigation, a less than significant noise impact would result from construction activities.

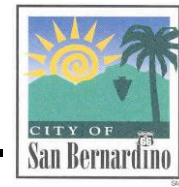
Operation

Traffic-Related Noise Affecting the Project Site

It is expected that the primary source of noise impacts to the project site will be traffic noise from Interstate 215, West Little League Drive, and Magnolia Avenue. The project would also experience some background traffic noise impacts from the project’s internal streets. However, due to distance, topography, and low traffic volume/speed, traffic noise from these roads will not make a significant contribution to the noise environment.

Using the FHWA traffic noise prediction model, the expected future unmitigated exterior noise levels for the single-family residential lots were calculated. [Table 3.10-9, Exterior Noise Levels](#), presents a summary of future exterior noise level impacts in the outdoor living areas (backyards) of lots facing I-215, West Little League Drive, and Magnolia Avenue. The on-site traffic noise level impacts indicate that the lots facing I-215, West Little League Drive, and Magnolia Avenue will experience unmitigated exterior noise levels ranging from 54.6 to 74.6 dBA CNEL, thereby exceeding the City’s 65 dBA CNEL threshold for exterior noise levels. Therefore, impacts would be considered significant. The on-site traffic noise analysis calculations are provided in [Appendix 3.10-1](#).

To satisfy the City’s 65 dBA CNEL exterior noise level standards for residential land use, Mitigation Measures NOI-1a and NOI-1b require the construction of a minimum effective 9-foot-high noise barrier for the outdoor living areas (backyards) of lots 47 to 55 and lots 75 to 81 facing I-215 and West Little League Drive. The planned noise barrier is expected to consist of a combination 1-foot-high berm with an 8-foot-high block wall. In addition, the construction of a minimum



effective 7-foot-high noise barrier is required for lot 82 facing West Little League Drive. Further, 6-foot-high noise barriers are recommended for all other lots adjacent to Magnolia Avenue and the commercial retail land use on the project site. With the recommended noise barriers the mitigated future exterior noise levels will range from 48.8 to 65.0 dBA CNEL which is below the City's 65 dBA CNEL exterior noise level standards, and this impact would be reduced to less than significant.

Table 3.10-9. Exterior Noise Levels (CNEL)

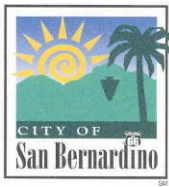
Lot Number	Roadway	Unmitigated Noise Level (dBA CNEL)	Mitigated Noise Level (dBA CNEL)	Combined Mitigated Noise Level (dBA CNEL)	Barrier Height (feet)	Top of Barrier Elevation (feet)
50	I-215	74.6	64.7	64.9	9.0	1,758.0
	W. Little League Dr. e/o Magnolia Ave.	62.8	51.5		9.0	1,758.0
55	I-215	74.6	64.9	65.0	9.0	1,749.5
	W. Little League Dr. e/o Magnolia Ave.	62.9	52.0		9.0	1,749.5
79	I-215	74.6	65.0	65.0	9.0	1,742.6
	W. Little League Dr. e/o Driveway 2	63.3	51.8		9.0	1,743.6
82	I-215	70.9	64.0	64.1	7.0	1,738.6
	W. Little League Dr. e/o Driveway 2	54.6	47.3		7.0	1,738.6
3	Magnolia Ave. n/o Driveway 1	55.0	49.0	49.0	6.0	1,763.8
44	Magnolia Ave. n/o W. Little League Dr.	55.2	48.8	48.8	6.0	1,760.7

Source: Urban Crossroads 2015a

On-Site Interior Noise Levels

The interior noise level is the difference between the predicted exterior noise level at the building facade and the noise reduction provided by the structure. Typical building construction will provide a noise reduction of approximately 12 dBA with windows open and a minimum 25 dBA noise reduction with windows closed. However, sound leaks, cracks, and openings in the window assembly can greatly diminish its effectiveness in reducing noise. Several methods are used to improve interior noise reduction, including (1) weather-stripped solid core exterior doors; (2) upgraded dual glazed windows; (3) mechanical ventilation/air conditioning; and (4) exterior wall/roof assemblies free of cutouts or openings.

To ensure that the interior noise levels comply with the City's 45 dBA CNEL interior noise standards, future noise levels were calculated at the first- and second-floor building facades. To provide the necessary interior noise level reduction, [Table 3.10-10, First-Floor Interior Noise Impacts \(CNEL\)](#), and [Table 3.10-11, Second-Floor Interior Noise Impacts \(CNEL\)](#), indicate that residences facing Interstate 215, West Little League Drive, and Magnolia Avenue will require a



windows closed condition and a means of mechanical ventilation (e.g., air conditioning). [Table 3.10-10](#) shows that the future unmitigated noise levels at the first-floor building façade are expected to range from 47.5 to 66.3 dBA CNEL. The first-floor interior noise level analysis shows that the City’s 45 dBA CNEL interior noise level standards can be satisfied using standard windows with a minimum sound transmission class (STC) rating of 27. [Table 3.10-11](#) shows that the future noise levels at the second-floor building facade are expected to range from 53.6 to 74.3 dBA CNEL, and upgraded windows with a minimum STC rating of 34 are required to satisfy the City’s 45 dBA CNEL interior noise level standards. Because noise levels would exceed the City’s interior noise threshold of 45 dBA, impacts would be considered potentially significant.

Table 3.10-10. First-Floor Interior Noise Impacts (CNEL)

Lot Number	Noise Level at Facade ¹	Required Interior Noise Reduction ²	Estimated Interior Noise Reduction ³	Upgraded Windows ⁴	Interior Noise Level ⁵
50	65.8	20.8	25.0	No	40.8
55	66.1	21.1	25.0	No	41.1
79	66.3	21.3	25.0	No	41.3
82	64.5	19.5	25.0	No	39.5
3	47.7	2.7	27.0	No	20.7
44	47.5	2.5	28.0	No	19.5

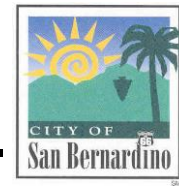
Source: Urban Crossroads 2015a
 1 Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g., air conditioning).
 2 Noise reduction required to satisfy the 45 dBA CNEL interior noise standards.
 3 A minimum of 25 dBA noise reduction is assumed with standard building construction.
 4 Does the required interior noise reduction trigger upgraded with a minimum STC rating of greater than 27?
 5 Estimated interior noise level with minimum STC rating for all windows.

Table 3.10-11. Second-Floor Interior Noise Impacts (CNEL)

Lot Number	Noise Level at Facade ¹	Required Interior Noise Reduction ²	Estimated Interior Noise Reduction ³	Upgraded Windows ⁴	Interior Noise Level ⁵
50	74.3	29.3	32.0	Yes	42.3
55	74.2	29.2	32.0	Yes	42.2
79	74.3	29.3	32.0	Yes	42.3
82	70.8	25.8	32.0	Yes	38.8
3	53.6	8.6	27.0	No	26.6
44	53.8	8.8	28.0	No	25.8

Source: Urban Crossroads 2015a
 1 Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g., air conditioning).
 2 Noise reduction required to satisfy the 45 dBA CNEL interior noise standards.
 3 Estimated interior noise reduction with the recommended windows.
 4 Does the required interior noise reduction trigger upgraded with a minimum STC rating of greater than 27?
 5 Estimated interior noise level with minimum STC rating for all windows.

To satisfy the City’s 45 dBA CNEL interior noise level criteria, lots facing I-215, West Little League Drive, and Magnolia Avenue will require a noise reduction of up to 29.3 dBA and a windows closed condition requiring a means of mechanical ventilation (e.g., air conditioning). Implementation of Mitigation Measure NOI-2 would satisfy the City’s 45 dBA CNEL interior noise



standards for residential development and would reduce potential impacts to less than significant.

Operational Noise (Commercial Uses)

The project’s operational noise impacts are governed by the City of San Bernardino Municipal Code, Chapter 8.54; refer to [Appendix 3.10-1](#). Section 8.54.060 states when such noises are an accompaniment and effect of a lawful business, commercial, or industrial enterprise carried on in an area zoned for that purpose...these activities shall be exempt (Section 8.54.060(B)). However, because of the project’s close proximity to residential land uses, located north of the project site boundary, Development Code Section 19.20.030.15(A) limits the operational stationary source noise from the project to an exterior noise level of 65 dBA for residential land uses.

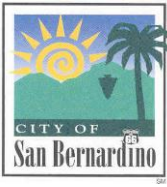
Potential project-related stationary noise sources include rooftop air conditioning units, shopping cart corrals, parking lot vehicle movements, and loading dock activities. [Figure 3.10-2, Operational Noise Source and Receiver Locations](#), shows the noise source and the distance to each of the sensitive receiver locations. The projected noise levels shown in [Table 3.10-12, Reference Noise Level Measurements](#), assume the worst-case noise environment with the rooftop air conditioning units, shopping cart corrals, parking lot vehicle movements, and loading dock activities all operating simultaneously. In reality, these noise level impacts would vary throughout the day.

Table 3.10-12. Reference Noise Level Measurements

Noise Source	Duration (hh:mm:ss)	Distance From Source (feet)	Noise Source Height (feet)	Hourly Activity (minutes) ⁴	Noise Level (dBA Leq)
Rooftop Air Conditioning Unit ¹	96:00:00	5	25	39	77.2
Shopping Cart Corrals ²	0:16:00	5	3	20	72.9
Parking Lot Vehicle Movements ²	0:15:00	5	5	60	60.1
Loading Dock Activities ³	0:01:00	20	8	18	77.3

Source: Urban Crossroads 2015a
¹ As measured by Urban Crossroads on 7/27/2015 at the Santee Walmart located at 170 Town Center Parkway.
² As measured by Urban Crossroads on 5/30/2012 at the Laguna Niguel Walmart located at 27470 Alicia Parkway.
³ As measured at the Huntington Beach Walmart by Urban Crossroads on 4/14/2011.
⁴ Anticipated duration (minutes within the hour) of noise activity during peak hourly conditions expected at the project site.

Based on the reference noise levels, project-generated operational stationary source noise levels at each of the sensitive receiver locations were estimated. The operational noise level calculations accounted for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. With geometric spreading, sound levels attenuate (or decrease) at a rate of 6 dB for each doubling of distance from a point source (rooftop air conditioning units, shopping cart corrals, loading dock activities) and 4.5 dB for each doubling of distance from a line source (parking lot vehicle movements). Hourly noise levels associated with the rooftop air conditioning units, shopping cart corrals, parking lot vehicle movements, and loading dock activities at the commercial retail uses on the project site are expected to range from 18.6 to 50.8 dBA Leq at the sensitive receiver locations; refer to [Appendix 3.10-1](#).



To demonstrate compliance with local noise standards, the project-only operational noise levels were evaluated against the City’s 65 dBA Leq exterior noise level standard. [Table 3.10-13, Operational Noise Level Compliance](#), shows that the operational noise levels associated with the proposed commercial retail land use would not exceed the noise level standard at the sensitive residential receivers in the city. Therefore, as the project would satisfy the City’s noise level standards at the nearby sensitive receiver locations, project-related operational noise levels would be less than significant.

Table 3.10-13. Operational Noise Level Compliance

Receiver Location ¹	Noise Level At Receiver Locations (dBA Leq) ²	Noise Level Standard (dBA Leq) ³	Threshold Exceeded? ⁴
R1	NA	65	No
R2	NA	65	No
R3	37.4	65	No
R4	46.3	65	No
R5	50.8	65	No
R6	45.8	65	No
R7	35.5	65	No
R8	18.6	65	No

Source: Urban Crossroads 2015a
¹ See [Figure 3.10-2](#) for the noise receiver and noise source locations.
² Refer to estimated project stationary source noise levels as shown on Table 10-2 of [Appendix 3.10-1](#).
³ Noise standards as shown on Table 3-1 of [Appendix 3.10-1](#).
⁴ Do the estimated project stationary source noise levels exceed the noise standards on the affected land uses?
 NA = Receiver locations R1 and R2 do not have line of sight to the noise sources and are therefore excluded from the operational noise analysis.

To describe the project operational noise level contributions, the project’s operational noise levels were combined with the existing ambient noise levels measurements for the eight receiver locations potentially impacted by project operational noise sources. The difference between the combined project and ambient noise levels describe the project noise level contributions. Noise levels that would be experienced at receiver locations when project source noise is added to the ambient daytime and nighttime conditions are presented in [Table 3.10-14, Daytime Operational Noise Level Contributions \(dBA Leq\)](#), and [Table 3.10-15 Nighttime Operational Noise Level Contributions \(dBA Leq\)](#), respectively.

As indicated in [Table 3.10-14](#), the project would contribute operational noise level increases approaching 2.0 dBA Leq during the daytime hours. [Table 3.10-15](#) shows that the project-related noise level increases during the nighttime hours would approach 1.5 dBA Leq. Project-related operational noise level contributions would not exceed the significance criteria. As such, project-related operational stationary-source noise levels would not result in a substantial temporary/periodic or permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Therefore, impacts would be less than significant.

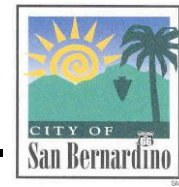


Table 3.10-14 Daytime Operational Noise Level Contributions (dBA Leq)

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Contribution ⁶	Threshold Exceeded?
R1	NA	L1	58.8	58.8	0.0	No
R2	NA	L1	58.8	58.8	0.0	No
R3	37.4	L2	53.0	53.1	0.1	No
R4	46.3	L2	53.0	53.8	0.8	No
R5	50.8	L2	53.0	55.0	2.0	No
R6	45.8	L2	53.0	53.8	0.8	No
R7	35.5	L2	53.0	53.1	0.1	No
R8	18.6	L3	69.8	69.8	0.0	No

Source: Urban Crossroads 2015a

1 See Exhibit 10-A for the sensitive receiver locations.

2 Total project operational noise levels as shown on Table 10-3 of [Appendix 3.10-1](#).

3 Reference noise level measurement locations as shown on [Figure 3.10-1](#).

4 Observed daytime ambient noise levels as shown in Table 3.10-4.

5 Represents the combined ambient conditions plus the project activities.

6 The noise level increase expected with the addition of the proposed project activities.

Table 3.10-15 Nighttime Operational Noise Level Contributions (dBA Leq)

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Contribution ⁶	Threshold Exceeded?
R1	NA	L1	61.5	61.5	0.0	No
R2	NA	L1	61.5	61.5	0.0	No
R3	37.4	L2	54.6	54.7	0.1	No
R4	46.3	L2	54.6	55.2	0.6	No
R5	50.8	L2	54.6	56.1	1.5	No
R6	45.8	L2	54.6	55.1	0.5	No
R7	35.5	L2	54.6	54.7	0.1	No
R8	18.6	L3	68.9	68.9	0.0	No

Source: Urban Crossroads 2015a

1 See Exhibit 10-A for the sensitive receiver locations.

2 Total project operational noise levels as shown on Table 10-3 of [Appendix 3.10-1](#).

3 Reference noise level measurement locations as shown on [Figure 3.10-1](#).

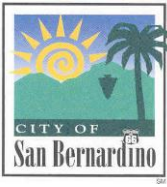
4 Observed nighttime ambient noise levels as shown in Table 3.10-4.

5 Represents the combined ambient conditions plus the project activities.

6 The noise level increase expected with the addition of the proposed project activities.

Impact Conclusion

Potentially significant.

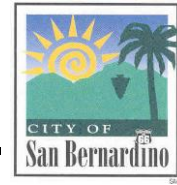


Mitigation Measures

Construction Noise

NOI-1 Prior to commencement of and/or during construction, as appropriate, the Project Applicant shall demonstrate, to the satisfaction of the City of San Bernardino Planning Department that the project complies with the following:

- Construction contracts specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state required noise attenuation devices.
- Property owners and occupants located within 200 feet of the project boundary shall be sent a notice, at least 15 days prior to commencement of construction of each phase, regarding the construction schedule of the proposed project. A sign, legible at a distance of approximately 50 feet shall be posted at the project construction site. All notices and signs shall be reviewed and approved by the City of San Bernardino Planning Department, prior to mailing or posting, and shall indicate the dates and duration of construction activities, as well as provide a contact name and a telephone number where residents can inquire about the construction process and register complaints.
- The Contractor shall provide evidence that a construction staff member will be designated as a Noise Disturbance Coordinator and will be present on-site during all construction activities. The Noise Disturbance Coordinator shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the Contractor shall notify the City within 24 hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall implement reasonable measures to resolve the complaint, as deemed acceptable by the Planning Department. All notices that are sent to residential units immediately surrounding the construction site and all signs posted at the construction site shall include the contact name and the telephone number for the Noise Disturbance Coordinator.
- Construction noise reduction methods shall be used where feasible. These reduction methods include shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and electric air compressors and similar power tools.
- Construction haul routes shall be designed to avoid noise sensitive uses (e.g., residences, convalescent homes, schools, churches, etc.), to the extent feasible.
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receptors.



Timing/Implementation: Prior to Commencement of and During Construction.

Enforcement/Monitoring: City of San Bernardino Planning Department

Operational Noise

NOI-2A

Prior to issuance of a building permit, and prior to final occupancy, the project applicant shall demonstrate that proper sound wall design has been incorporated into the proposed residential and commercial development areas, consistent with Exhibit ES-A of the final approved traffic impact analysis, to reduce potential sound levels to below the City's established noise thresholds. The project design shall include construction of a minimum effective 9-foot-high noise barrier for the outdoor living areas (backyards) of lots 47 to 55 and lots 75 to 81 facing Interstate 215 and West Little League Drive. The planned noise barrier shall consist of a combination 1-foot-high berm with an 8-foot-high block wall. In addition, the construction of a minimum effective 7-foot-high noise barrier shall be constructed for lot 82 facing West Little League Drive. Additionally, 6-foot-high noise barriers shall be constructed for all other lots adjacent to Magnolia Avenue and the commercial retail land use on the project site. All walls shall be constructed on-site consistent with the final improvement plans as approved by the City of San Bernardino.

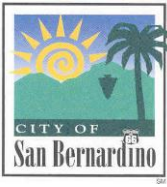
Timing/Implementation: Prior to Issuance of Building Permit and Prior to Final Occupancy.

Enforcement/Monitoring: City of San Bernardino Planning Department

NOI-2B

During construction, and prior to final occupancy, the recommended noise control barriers shall be constructed consistent with that shown on the approved Tentative Tract Map so that the top of each wall and/or berm combination extends to the recommended height (as indicated in NOI-2A) above the pad elevation of the lot it is shielding. When the road is elevated above the pad elevation, the barrier shall extend to the recommended height (as indicated in NOI-2A) above the highest point between the residence and the road. The barrier shall provide a weight of at least 4 pounds per square foot of face area with no decorative cutouts or line-of-sight openings between shielded areas and the roadways. The noise barrier shall be constructed using the following materials:

- Masonry block
- Stucco veneer over wood framing (or foam core), or 1-inch-thick tongue and groove wood of sufficient weight per square foot
- Glass (0.25 inch thick) or other transparent material with sufficient weight per square foot
- Earthen berm



- Any combination of these construction materials

The barrier shall consist of a solid face from top to bottom. Unnecessary openings or decorative cutouts shall not be made. All gaps (except for weep holes) should be filled with grout or caulking.

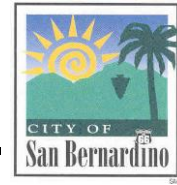
Timing/Implementation: During Construction and Prior to Final Occupancy

Enforcement/Monitoring: City of San Bernardino Planning Department

NOI-3

During construction, and prior to final occupancy, to satisfy the City of San Bernardino's 45 dBA CNEL interior noise level criteria, lots facing Interstate 215, West Little League Drive, and Magnolia Avenue shall require a noise reduction of up to 29.3 dBA and a windows closed condition requiring a means of mechanical ventilation (e.g., air conditioning). To ensure that the City's 45 dBA CNEL interior noise level is met, the following measures shall be implemented:

- Exterior walls: If wood construction is used, exterior walls shall be furnished on the outside with siding-on-sheathing, stucco, or brick veneer. The interior surface shall be at least 0.5-inch gypsum board. Insulation having a minimum of R-11 shall be placed between the studs. Masonry walls, if used, shall have at least one surface of the wall plastered, painted, or covered with gypsum wallboard or approved materials. At least R-11 insulation shall be placed between the studs. There shall be no direct openings such as mail slots or ventilation units.
- Windows:
 - Lots 47 to 55 and lots 75 to 82 facing I-215 require upgraded second-floor windows with a minimum sound transmission class (STC) rating of 34.
 - All other windows and sliding glass doors shall be well-fitted, well-weather-stripped assemblies and shall have a minimum STC rating of 27.
- Doors: All exterior hinged and sliding glass doors to habitable rooms that are directly exposed to transportation noise and are facing the source of the noise shall be a door and edge seal assembly with a minimum STC rating of 27.
- Roof: Roof sheathing of wood construction shall be well-fitted or caulked plywood of at least 0.5 inch thick. Ceilings shall be well-fitted, well-sealed gypsum board of at least 0.5 inch thick. Insulation with at least a rating of R-19 shall be used in the attic space. Skylights shall have a minimum STC of 34.
- Attic: Attic ventilation shall be oriented away from Interstate 215. If such an orientation cannot be avoided, an acoustical baffle shall be placed in the attic space behind the vents.



- **Ventilation:** A ventilation system shall be provided that will provide at least the minimum air circulation and fresh air supply requirements of the Building Code in each habitable room without opening any window, door, or other opening to the exterior. All concealed ductwork shall be insulated flexible glass fiber ducting that is at least 10 feet long between any two points of connection. Kitchen cooktop vent hoods shall be the non-ducted recirculating type with no ducted connection to the exterior.
- **Wall and ceiling openings:** Openings in the shell of the residence that degrade its ability to achieve an interior CNEL rating of 45 dBA or less when all doors and windows are closed are prohibited unless access panels, pet doors, mail delivery drops, air conditioning, or other openings are designed to maintain the 45 dBA CNEL (or less) standard in the room to which they provide access.

Timing/Implementation: During Construction and Prior to Final Occupancy

Enforcement/Monitoring: City of San Bernardino Planning Department

Level of Significance After Mitigation: Less than significant.

Impact 3.10-2

Would the project cause:

Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

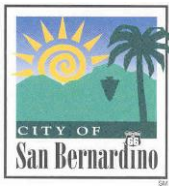
Impact Analysis

Construction

Data published by the FTA was used to estimate groundborne vibration levels resulting from project construction activities. Construction activities with the potential to generate low levels of groundborne vibration on the project site include those activities associated with site grading (use of bulldozers, dump trucks, etc.). Using the vibration source level of construction equipment listed in [Table 3.10-16, Construction Equipment Vibration Levels](#), and the construction vibration assessment methodology published by the FTA, project vibration impacts were estimated. [Table 3.10-16](#) shows anticipated project-related vibration levels at each of the sensitive receptor locations.

As shown, a large bulldozer represents the peak source of vibration with a reference level of 87 VdB at a distance of 25 feet. At distances ranging from 151 to 878 feet from the project site, construction vibration levels are expected to range from 40.6 to 63.6 VdB. Using the FTA's construction vibration assessment methods, the project site would not include or require equipment, facilities, or activities that would result in a perceptible human response (annoyance).

Project construction is therefore not expected to generate vibration levels exceeding the FTA's maximum acceptable vibration standard of 80 VdB. Further, impacts at the site of the closest sensitive receptor are unlikely to be sustained during the entire construction period, but would



rather be limited to times that heavy construction equipment is operating adjacent to the project site boundary. Therefore, the potential for the project to result in exposure of persons to, or generation of, excessive groundborne vibration would be less than significant.

Table 3.10-16. Construction Equipment Vibration Levels

Receiver ¹	Distance to Construction Activity (feet)	Receiver Vibration Levels (VdB) ²					Threshold Exceeded? ³
		Small Bulldozer	Jackhammer	Loaded Trucks	Large Bulldozer	Peak Vibration	
R1	878	11.6	32.6	39.6	40.6	40.6	No
R2	280	26.5	47.5	54.5	55.5	55.5	No
R3	335	24.2	45.2	52.2	53.2	53.2	No
R4	250	28.0	49.0	56.0	57.0	57.0	No
R5	151	34.6	55.6	62.6	63.6	63.6	No
R6	208	30.4	51.4	58.4	59.4	59.4	No
R7	240	28.5	49.5	56.5	57.5	57.5	No
R8	346	23.8	44.8	51.8	52.8	52.8	No

Source: Urban Crossroads 2015a

¹ Receiver locations are shown on [Figure 3.10-2](#).

² Based on the vibration source levels of construction equipment included in [Table 3.10-3](#).

³ Does the peak vibration exceed the FTA maximum acceptable vibration standard of 80 VdB?

Operation

Although the operation of large delivery vehicles and loading docks, or other similar activities that may occur with the commercial uses, may result in limited vibrations, such occurrences would be sporadic and intermittent. Further, such activities would generally be distanced from residential land uses. Although such activities may generate noise, they would not be expected to result in the generation of excessive groundborne vibration or groundborne noise levels.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

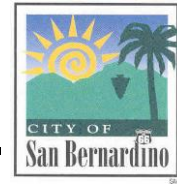
Impact 3.10-3

Would the project cause:

A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Impact Analysis

To quantify the project's traffic noise impacts on the surrounding areas, the changes in traffic noise levels on 32 roadway segments surrounding the project were calculated based on the changes in the average daily traffic volumes. The noise contours were used to assess the project's



incremental traffic-related noise impacts at land uses adjacent to roadways conveying project traffic. A significant off-site traffic noise level impact would occur if the “without project” noise levels at nearby noise-sensitive receivers:

- Are less than 60 dBA and the project creates a readily perceptible 5 dBA or greater project-related noise level increase; or
- Range from 60 to 65 dBA and the project creates a barely perceptible 3 dBA or greater Project- related noise level increase; or
- Already exceed 65 dBA, and the project creates a community noise level impact of greater than 1.5 dBA.

Noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels. In addition, since the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contribution from any surrounding stationary noise sources within the project study area.

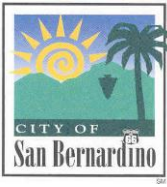
[Tables 3.10-17 to 3.10-22](#) present a summary of the unmitigated exterior traffic noise levels for the 32 study area roadway segments analyzed for the without-project and the with-project conditions in each of the six time frames: Existing, Existing plus Ambient (2018), Existing plus Ambient (2019), Opening Year Cumulative (2018), Opening Year Cumulative (2019), and Year 2035 conditions. The discussion below briefly summarizes the findings of the off-site traffic noise impacts for each scenario considered. Refer to [Appendix 3.10-1](#) for a more detailed analysis and supporting data.

With Phase 1 Project Conditions

As shown in [Table 3.10-17, Existing with Phase 1 Project Conditions Noise Impacts](#), for the Existing without Phase 1 Project conditions, existing exterior noise levels range from 55.1 to 80.7 dBA CNEL for existing without project conditions. With addition of the project, the maximum exterior noise level increase along the roadway segments considered would be 1.6 dBA CNEL on West Little League Drive west of Palm Avenue. As existing ambient conditions range from 60 to 65 dBA CNEL for this roadway segment, an increase of 3 dBA or greater would result in a significant impact. As the noise level increase resulting with the project would be below the established noise level threshold, impacts would be less than significant for this scenario.

With Project Buildout Conditions

As shown in [Table 3.10-18, Existing with Project Buildout Conditions Noise Impacts](#), for the Existing with Project Buildout conditions, existing exterior noise levels range from 55.1 to 80.7 dBA CNEL for existing without project conditions. With addition of the project, the maximum exterior noise level increase along the roadway segments considered would be 4.6 dBA CNEL on West Little League Drive west of Palm Avenue. As existing ambient conditions range from 60 to 65 dBA CNEL for this roadway segment, an increase of 3 dBA or greater would result in a significant impact. However, the land use adjacent to this roadway segment is commercial, and this land use type is not considered to be noise-sensitive. As noted above, sensitive receptor



locations are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of noise, such as children. Examples of sensitive receptors include residences, schools, hospitals, and daycare centers. Although the increase in noise levels would exceed the established noise level threshold under this scenario, such land uses would not be adversely affected by project-generated noise. Therefore, noise level increases for this scenario are considered to be less than significant.

For the noise-sensitive residential uses, under the Existing with Project Buildout conditions, existing exterior noise levels range from 56.3 to 72.6 dBA CNEL. The project is expected to generate an exterior noise level increase of 1.2 dBA CNEL on Belmont Avenue west of Pine Avenue. As existing ambient conditions are below 60 dBA CNEL for this roadway segment, an increase in 5 dBA or greater would result in a significant impact. As the noise level increase resulting with the project would be below the established noise level threshold, impacts would be less than significant for this scenario.

Existing Plus Ambient 2018 with Phase 1 Project Traffic Noise Levels

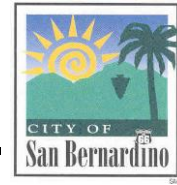
As shown in [Table 3.10-19, Existing Plus Ambient 2018 with Phase 1 Project Conditions Noise Impacts](#), for the Existing Plus Ambient 2018 with Phase 1 conditions, existing exterior noise levels range from 55.4 to 81.0 dBA CNEL. With addition of the project, the maximum exterior noise level increase along the roadway segments considered would be 1.5 dBA CNEL on West Little League Drive west of Palm Avenue. As existing ambient conditions range from 60 to 65 dBA CNEL for this roadway segment, an increase of 3 dBA or greater would result in a significant impact. As the noise level increase resulting with the project would be below the established noise level threshold, impacts would be less than significant for this scenario.

Existing Plus Ambient 2019 with Project Buildout Traffic Noise Levels

As shown in [Table 3.10-20, Existing Plus Ambient 2019 with Project Buildout Conditions Noise Impacts](#), for the Existing Plus Ambient with Project Buildout conditions, existing exterior noise levels range from 55.4 to 81.1 dBA CNEL. With addition of the project, the maximum exterior noise level increase along the roadway segments considered would be 4.3 dBA CNEL on West Little League Drive west of Palm Avenue. As existing ambient conditions range from 60 to 65 dBA CNEL for this roadway segment, an increase of 3 dBA or greater would result in a significant impact. As such, the noise level increase resulting with the project would exceed the significance threshold. Although the increase in noise levels would exceed the established noise level threshold, adjacent land uses are commercial and are not considered to be noise-sensitive and would not be adversely affected by project-generated noise. Therefore, noise level increases for this scenario are considered to be less than significant.

Opening Year Cumulative 2018 with Phase 1 Project Traffic Noise Levels

As shown in [Table 3.10-21, Opening Year 2018 with Phase 1 Project Conditions Noise Impacts](#), for the Opening Year Cumulative 2018 with Phase 1 conditions, existing exterior noise levels range from 55.4 to 81.0 dBA CNEL. With addition of the project, the maximum exterior noise level increase along the roadway segments considered would be 1.5 dBA CNEL on West Little League Drive west of Palm Avenue. As existing ambient conditions range from 60 to 65 dBA CNEL for this



roadway segment, an increase of 3 dBA or greater would result in a significant impact. As the noise level increase resulting with the project would be below the established noise level threshold, impacts would be less than significant for this scenario.

Opening Year Cumulative 2019 with Project Buildout Traffic Noise Levels

As shown in [Table 3.10-22, Opening Year 2019 with Project Buildout Noise Impacts](#), for the Opening Year Cumulative 2019 with Project conditions, existing exterior noise levels range from 55.7 to 81.1 dBA CNEL. With addition of the project, the maximum exterior noise level increase along the roadway segments considered would be 4.3 dBA CNEL on West Little League Drive west of Palm Avenue. As existing ambient conditions range from 60 to 65 dBA CNEL for this roadway segment, an increase of 3 dBA or greater would result in a significant impact. As such, the noise level increase resulting with the project would exceed the significance threshold. Although the increase in noise levels would exceed the established noise level threshold, adjacent land uses are commercial and are not considered to be noise-sensitive and would not be adversely affected by project-generated noise. Therefore, noise level increases for this scenario are considered to be less than significant.

Therefore, the off-site traffic noise analysis shows that the project noise level contributions would be less than significant under with-project conditions in each of the six time frames: Existing, Existing plus Ambient (2018), Existing plus Ambient (2019), Opening Year Cumulative (2018), Opening Year Cumulative (2019), and Year 2035 conditions. Further, the project's incremental traffic-related noise level at land uses adjacent to roadways conveying project traffic will diminish over time. This decrease occurs as the background traffic on the study area roadway segments increases and the project represents a smaller percentage of the overall traffic volume. Therefore, the project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Impacts would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

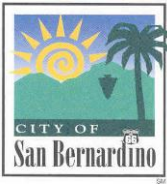


Table 3.10-17. Existing with Phase 1 Project Conditions Noise Impacts

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
1	N. Little League Dr.	n/o W. Little League Dr.	Public/Comm. Rec.	58.0	58.0	RW	RW	RW	0.0	No
2	N. Little League Dr.	s/o W. Little League Dr.	Public Park	58.8	59.1	RW	RW	RW	0.3	No
3	Palm Ave.	n/o Belmont Ave.	Residential	57.5	57.5	RW	RW	RW	0.0	No
4	Palm Ave.	s/o Belmont Ave.	Residential	66.2	66.2	RW	53	115	0.0	No
5	Palm Ave.	s/o Irvington Ave.	Residential	68.9	69.0	RW	81	174	0.1	No
6	Palm Ave.	n/o Kendall Dr.	Residential	69.7	69.7	RW	91	196	0.0	No
7	Palm Ave.	n/o I-215 NB Ramps	Commercial	71.5	71.6	57	122	263	0.1	No
8	Palm Ave.	s/o I-215 NB Ramps	Commercial	70.4	70.5	47	102	220	0.1	No
9	Palm Ave.	n/o Hallmark Pkwy.	Commercial	67.4	67.4	RW	63	136	0.0	No
10	Palm Ave.	s/o Hallmark Pkwy.	Industrial	64.8	64.8	RW	RW	93	0.0	No
11	Pine Ave.	n/o Belmont Ave.	Residential	62.2	62.2	RW	RW	61	0.0	No
12	Pine Ave.	s/o Belmont Ave.	Residential	64.0	64.0	RW	RW	81	0.0	No
13	Pine Ave.	n/o Kendall Dr.	Residential	67.0	67.0	RW	60	129	0.0	No
14	Campus Pkwy.	n/o Kendall Dr.	Residential	64.8	64.9	RW	44	94	0.1	No
15	University Pkwy.	n/o Kendall Dr.	Residential	72.6	72.6	74	160	345	0.0	No
16	University Pkwy.	s/o Kendall Dr.	Residential	73.6	73.6	87	187	403	0.0	No
17	Belmont Ave.	w/o Palm Ave.	Residential	57.9	57.9	RW	RW	RW	0.0	No
18	Belmont Ave.	e/o Palm Ave.	Residential	57.8	57.8	RW	RW	RW	0.0	No
19	Belmont Ave.	w/o Pine Ave.	Residential	55.1	55.1	RW	RW	RW	0.0	No
20	Irvington Ave.	w/o Palm Ave.	Residential	59.6	59.6	RW	RW	RW	0.0	No
21	Irvington Ave.	e/o Palm Ave.	Residential	59.3	59.3	RW	RW	RW	0.0	No
22	W. Little League Dr.	w/o Magnolia Ave.	Public Park	57.4	57.8	RW	RW	RW	0.4	No
23	Kendall Dr.	w/o N. Little League Dr.	Industrial	67.3	67.3	RW	62	134	0.0	No

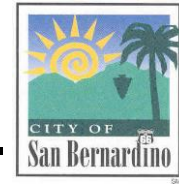


Table 3.10-17, continued

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
24	Kendall Dr.	e/o N. Little League Dr.	Industrial	66.4	66.5	RW	55	119	0.1	No
25	W. Little League Dr.	w/o Palm Ave.	Commercial	63.3	64.9	RW	RW	63	1.6	No
26	Kendall Dr.	e/o Palm Ave.	Commercial	69.8	69.9	RW	106	228	0.1	No
27	Kendall Dr.	w/o Pine Ave.	Residential	69.4	69.4	RW	99	213	0.0	No
28	Kendall Dr.	w/o Campus Pkwy.	Residential	70.8	70.9	57	123	264	0.1	No
29	Kendall Dr.	w/o University Pkwy.	Residential	70.7	70.7	56	121	260	0.0	No
30	Kendall Dr.	e/o University Pkwy.	Residential	70.4	70.4	53	115	247	0.0	No
31	I-215	w/o Palm Ave.	Commercial	80.0	80.0	288	620	1,335	0.0	No
32	I-215	e/o Palm Ave.	Industrial	80.7	80.8	323	697	1,501	0.1	No

Source: Urban Crossroads 2015a
¹ Source: San Bernardino 2005a; Land Use Element, Figure LU-2.
² RW = Location of the respective noise contour falls within the right-of-way of the road.

Table 3.10-18. Existing with Project Buildout Conditions Noise Impacts

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
1	N. Little League Dr.	n/o W. Little League Dr.	Public/Comm. Rec.	58.0	58.4	RW	RW	RW	0.4	No
2	N. Little League Dr.	s/o W. Little League Dr.	Public Park	58.8	59.9	RW	RW	44	1.1	No
3	Palm Ave.	n/o Belmont Ave.	Residential	57.5	57.7	RW	RW	RW	0.2	No
4	Palm Ave.	s/o Belmont Ave.	Residential	66.2	66.6	RW	56	121	0.4	No
5	Palm Ave.	s/o Irvington Ave.	Residential	68.9	69.2	RW	84	181	0.3	No
6	Palm Ave.	n/o Kendall Dr.	Residential	69.7	70.0	44	95	204	0.3	No
7	Palm Ave.	n/o I-215 NB Ramps	Commercial	71.5	71.8	58	125	269	0.3	No
8	Palm Ave.	s/o I-215 NB Ramps	Commercial	70.4	70.6	49	105	226	0.2	No
9	Palm Ave.	n/o Hallmark Pkwy.	Commercial	67.4	67.5	RW	65	140	0.1	No
10	Palm Ave.	s/o Hallmark Pkwy.	Industrial	64.8	65.0	RW	44	95	0.2	No
11	Pine Ave.	n/o Belmont Ave.	Residential	62.2	62.5	RW	RW	64	0.3	No
12	Pine Ave.	s/o Belmont Ave.	Residential	64.0	64.6	RW	RW	89	0.6	No

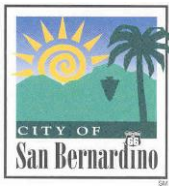


Table 3.10-18, continued

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
13	Pine Ave.	n/o Kendall Dr.	Residential	67.0	67.3	RW	63	135	0.3	No
14	Campus Pkwy.	n/o Kendall Dr.	Residential	64.8	64.9	RW	44	94	0.1	No
15	University Pkwy.	n/o Kendall Dr.	Residential	72.6	72.6	74	160	346	0.0	No
16	University Pkwy.	s/o Kendall Dr.	Residential	73.6	73.6	87	188	404	0.0	No
17	Belmont Ave.	w/o Palm Ave.	Residential	57.9	58.3	RW	RW	RW	0.4	No
18	Belmont Ave.	e/o Palm Ave.	Residential	57.8	58.1	RW	RW	RW	0.3	No
19	Belmont Ave.	w/o Pine Ave.	Residential	55.1	56.3	RW	RW	RW	1.2	No
20	Irvington Ave.	w/o Palm Ave.	Residential	59.6	59.8	RW	RW	RW	0.2	No
21	Irvington Ave.	e/o Palm Ave.	Residential	59.3	59.4	RW	RW	RW	0.1	No
22	W. Little League Dr.	w/o Magnolia Ave.	Public Park	57.4	58.9	RW	RW	RW	1.5	No
23	Kendall Dr.	w/o N. Little League Dr.	Industrial	67.3	67.4	RW	64	137	0.1	No
24	Kendall Dr.	e/o N. Little League Dr.	Industrial	66.4	66.6	RW	56	121	0.2	No
25	W. Little League Dr.	w/o Palm Ave.	Commercial	63.3	67.9	RW	47	101	4.6	Yes
26	Kendall Dr.	e/o Palm Ave.	Commercial	69.8	70.2	51	111	239	0.4	No
27	Kendall Dr.	w/o Pine Ave.	Residential	69.4	69.8	RW	104	225	0.4	No
28	Kendall Dr.	w/o Campus Pkwy.	Residential	70.8	71.0	58	125	270	0.2	No
29	Kendall Dr.	w/o University Pkwy.	Residential	70.7	70.9	57	123	264	0.2	No
30	Kendall Dr.	e/o University Pkwy.	Residential	70.4	70.5	54	116	249	0.1	No
31	I-215	w/o Palm Ave.	Commercial	80.0	80.0	289	622	1,340	0.0	No
32	I-215	e/o Palm Ave.	Industrial	80.7	80.8	324	699	1,505	0.1	No

Source: Urban Crossroads 2015a

¹ Source: San Bernardino 2005a; Land Use Element, Figure LU-2.

² RW = Location of the respective noise contour falls within the right-of-way of the road.

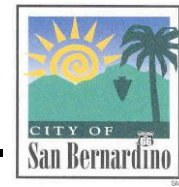


Table 3.10-19. Existing Plus Ambient 2018 with Phase I Project Conditions Noise Impacts

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
1	N. Little League Dr.	n/o W. Little League Dr.	Public/Comm. Rec.	58.2	58.4	RW	RW	RW	0.2	No
2	N. Little League Dr.	s/o W. Little League Dr.	Public Park	59.1	59.5	RW	RW	RW	0.4	No
3	Palm Ave.	n/o Belmont Ave.	Residential	57.7	57.8	RW	RW	RW	0.1	No
4	Palm Ave.	s/o Belmont Ave.	Residential	66.4	66.5	RW	55	119	0.1	No
5	Palm Ave.	s/o Irvington Ave.	Residential	69.2	69.2	RW	84	181	0.0	No
6	Palm Ave.	n/o Kendall Dr.	Residential	70.0	70.0	44	95	204	0.0	No
7	Palm Ave.	n/o I-215 NB Ramps	Commercial	71.8	71.9	59	127	273	0.1	No
8	Palm Ave.	s/o I-215 NB Ramps	Commercial	70.7	70.7	49	106	229	0.0	No
9	Palm Ave.	n/o Hallmark Pkwy.	Commercial	67.6	67.6	RW	66	142	0.0	No
10	Palm Ave.	s/o Hallmark Pkwy.	Industrial	65.1	65.1	RW	45	96	0.0	No
11	Pine Ave.	n/o Belmont Ave.	Residential	62.5	62.5	RW	RW	64	0.0	No
12	Pine Ave.	s/o Belmont Ave.	Residential	64.2	64.2	RW	RW	84	0.0	No
13	Pine Ave.	n/o Kendall Dr.	Residential	67.3	67.3	RW	62	134	0.0	No
14	Campus Pkwy.	n/o Kendall Dr.	Residential	65.1	65.2	RW	45	98	0.1	No
15	University Pkwy.	n/o Kendall Dr.	Residential	72.8	72.8	77	167	359	0.0	No
16	University Pkwy.	s/o Kendall Dr.	Residential	73.8	73.9	90	195	419	0.1	No
17	Belmont Ave.	w/o Palm Ave.	Residential	58.1	58.1	RW	RW	RW	0.0	No
18	Belmont Ave.	e/o Palm Ave.	Residential	57.9	57.9	RW	RW	RW	0.0	No
19	Belmont Ave.	w/o Pine Ave.	Residential	55.4	55.4	RW	RW	RW	0.0	No
20	Irvington Ave.	w/o Palm Ave.	Residential	60.0	60.0	RW	RW	30	0.0	No
21	Irvington Ave.	e/o Palm Ave.	Residential	59.5	59.5	RW	RW	RW	0.0	No
22	W. Little League Dr.	w/o Magnolia Ave.	Public Park	57.6	58.1	RW	RW	RW	0.5	No
23	Kendall Dr.	w/o N. Little League Dr.	Industrial	67.5	67.5	RW	65	140	0.0	No

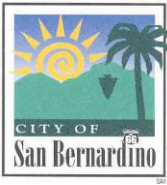


Table 3.10-19, continued

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
				24	Kendall Dr.	e/o N. Little League Dr.	Industrial	66.7		
25	W. Little League Dr.	w/o Palm Ave.	Commercial	63.5	65.0	RW	30	65	1.5	No
26	Kendall Dr.	e/o Palm Ave.	Commercial	70.1	70.1	51	110	237	0.0	No
27	Kendall Dr.	w/o Pine Ave.	Residential	69.6	69.7	RW	103	222	0.1	No
28	Kendall Dr.	w/o Campus Pkwy.	Residential	71.1	71.1	59	128	275	0.0	No
29	Kendall Dr.	w/o University Pkwy.	Residential	71.0	71.0	58	126	271	0.0	No
30	Kendall Dr.	e/o University Pkwy.	Residential	70.7	70.7	55	119	257	0.0	No
31	I-215	w/o Palm Ave.	Commercial	80.2	80.3	299	645	1390	0.1	No
32	I-215	e/o Palm Ave.	Industrial	81.0	81.0	336	725	1561	0.0	No

¹ Source: City of San Bernardino General Plan Land Use Element, Figure LU-2.
² RW – Location of the respective noise contour falls within the right-of-way of the road.

Table 3.10-20. Existing Plus Ambient 2019 with Project Buildout Conditions Noise Impacts

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
				1	N. Little League Dr.	n/o W. Little League Dr.	Public/Comm. Rec.	58.4		
2	N. Little League Dr.	s/o W. Little League Dr.	Public Park	59.1	60.2	RW	RW	46	1.1	No
3	Palm Ave.	n/o Belmont Ave.	Residential	57.8	58.0	RW	RW	RW	0.2	No
4	Palm Ave.	s/o Belmont Ave.	Residential	66.6	66.9	RW	59	127	0.3	No
5	Palm Ave.	s/o Irvington Ave.	Residential	69.3	69.5	RW	88	190	0.2	No
6	Palm Ave.	n/o Kendall Dr.	Residential	70.1	70.3	46	99	214	0.2	No
7	Palm Ave.	n/o I-215 NB Ramps	Commercial	71.9	72.1	61	132	284	0.2	No
8	Palm Ave.	s/o I-215 NB Ramps	Commercial	70.8	71.0	51	110	237	0.2	No

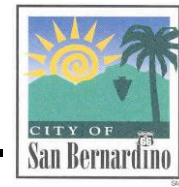


Table 3.10-20, continued

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
9	Palm Ave.	n/o Hallmark Pkwy.	Commercial	67.7	67.9	RW	69	148	0.2	No
10	Palm Ave.	s/o Hallmark Pkwy.	Industrial	65.2	65.3	RW	46	100	0.1	No
11	Pine Ave.	n/o Belmont Ave.	Residential	62.6	62.9	RW	RW	69	0.3	No
12	Pine Ave.	s/o Belmont Ave.	Residential	64.3	64.8	RW	RW	93	0.5	No
13	Pine Ave.	n/o Kendall Dr.	Residential	67.4	67.6	RW	66	142	0.2	No
14	Campus Pkwy.	n/o Kendall Dr.	Residential	65.2	65.3	RW	46	99	0.1	No
15	University Pkwy.	n/o Kendall Dr.	Residential	72.9	72.9	79	169	365	0.0	No
16	University Pkwy.	s/o Kendall Dr.	Residential	73.9	73.9	92	197	425	0.0	No
17	Belmont Ave.	w/o Palm Ave.	Residential	58.3	58.6	RW	RW	RW	0.3	No
18	Belmont Ave.	e/o Palm Ave.	Residential	58.1	58.6	RW	RW	RW	0.5	No
19	Belmont Ave.	w/o Pine Ave.	Residential	55.4	56.5	RW	RW	RW	1.1	No
20	Irvington Ave.	w/o Palm Ave.	Residential	60.0	60.2	RW	RW	31	0.2	No
21	Irvington Ave.	e/o Palm Ave.	Residential	59.6	59.6	RW	RW	RW	0.0	No
22	W. Little League Dr.	w/o Magnolia Ave.	Public Park	57.8	59.0	RW	RW	RW	1.2	No
23	Kendall Dr.	w/o N. Little League Dr.	Industrial	67.6	67.8	RW	67	145	0.2	No
24	Kendall Dr.	e/o N. Little League Dr.	Industrial	66.8	66.9	RW	59	127	0.1	No
25	W. Little League Dr.	w/o Palm Ave.	Commercial	63.7	68.0	RW	48	103	4.3	Yes
26	Kendall Dr.	e/o Palm Ave.	Commercial	70.2	70.5	54	116	250	0.3	No
27	Kendall Dr.	w/o Pine Ave.	Residential	69.7	70.1	51	109	235	0.4	No
28	Kendall Dr.	w/o Campus Pkwy.	Residential	71.2	71.3	61	132	284	0.1	No
29	Kendall Dr.	w/o University Pkwy.	Residential	71.1	71.2	60	129	279	0.1	No
30	Kendall Dr.	e/o University Pkwy.	Residential	70.8	70.8	57	122	263	0.0	No
31	I-215	w/o Palm Ave.	Commercial	80.3	80.4	304	656	1413	0.1	No
32	I-215	e/o Palm Ave.	Industrial	81.1	81.1	342	736	1586	0.0	No

¹ Source: City of San Bernardino General Plan Land Use Element, Figure LU-2.
² RW – Location of the respective noise contour falls within the right-of-way of the road.

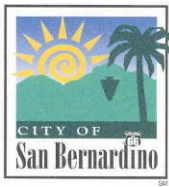


Table 3.10-21. Opening Year 2018 with Phase I Project Conditions Noise Impacts

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
1	N. Little League Dr.	n/o W. Little League Dr.	Public/Comm. Rec.	58.4	58.4	RW	RW	RW	0.0	No
2	N. Little League Dr.	s/o W. Little League Dr.	Public Park	59.1	59.5	RW	RW	RW	0.4	No
3	Palm Ave.	n/o Belmont Ave.	Residential	57.9	57.9	RW	RW	RW	0.0	No
4	Palm Ave.	s/o Belmont Ave.	Residential	66.6	66.7	RW	57	122	0.1	No
5	Palm Ave.	s/o Irvington Ave.	Residential	69.4	69.4	RW	86	185	0.0	No
6	Palm Ave.	n/o Kendall Dr.	Residential	70.1	70.1	45	97	209	0.0	No
7	Palm Ave.	n/o I-215 NB Ramps	Commercial	72.0	72.1	61	131	282	0.1	No
8	Palm Ave.	s/o I-215 NB Ramps	Commercial	71.0	71.1	52	112	242	0.1	No
9	Palm Ave.	n/o Hallmark Pkwy.	Commercial	68.4	68.5	RW	75	161	0.1	No
10	Palm Ave.	s/o Hallmark Pkwy.	Industrial	65.6	65.7	RW	49	106	0.1	No
11	Pine Ave.	n/o Belmont Ave.	Residential	62.8	62.8	RW	RW	67	0.0	No
12	Pine Ave.	s/o Belmont Ave.	Residential	64.7	64.7	RW	RW	90	0.0	No
13	Pine Ave.	n/o Kendall Dr.	Residential	67.5	67.5	RW	65	140	0.0	No
14	Campus Pkwy.	n/o Kendall Dr.	Residential	65.4	65.5	RW	47	102	0.1	No
15	University Pkwy.	n/o Kendall Dr.	Residential	73.0	73.0	79	170	366	0.0	No
16	University Pkwy.	s/o Kendall Dr.	Residential	74.0	74.0	93	200	430	0.0	No
17	Belmont Ave.	w/o Palm Ave.	Residential	58.3	58.3	RW	RW	RW	0.0	No
18	Belmont Ave.	e/o Palm Ave.	Residential	58.1	58.1	RW	RW	RW	0.0	No
19	Belmont Ave.	w/o Pine Ave.	Residential	55.4	5.4	RW	RW	RW	0.0	No
20	Irvington Ave.	w/o Palm Ave.	Residential	60.0	60.0	RW	RW	30	0.0	No
21	Irvington Ave.	e/o Palm Ave.	Residential	59.6	59.6	RW	RW	RW	0.0	No
22	W. Little League Dr.	w/o Magnolia Ave.	Public Park	57.8	58.3	RW	RW	RW	0.5	No
23	Kendall Dr.	w/o N. Little League Dr.	Industrial	67.5	67.5	RW	65	140	0.0	No
24	Kendall Dr.	e/o N. Little League Dr.	Industrial	66.7	66.8	RW	58	125	0.1	No
25	W. Little League Dr.	w/o Palm Ave.	Commercial	63.7	65.2	RW	31	66	1.5	No
26	Kendall Dr.	e/o Palm Ave.	Commercial	70.4	70.4	53	115	248	0.0	No
27	Kendall Dr.	w/o Pine Ave.	Residential	69.9	70.0	50	107	230	0.1	No
28	Kendall Dr.	w/o Campus Pkwy.	Residential	71.3	71.3	61	132	285	0.0	No
29	Kendall Dr.	w/o University Pkwy.	Residential	71.2	71.2	60	130	280	0.0	No
30	Kendall Dr.	e/o University Pkwy.	Residential	70.8	70.9	57	124	266	0.1	No

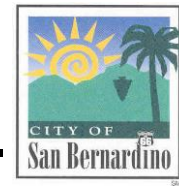


Table 3.10-21, continued

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
31	I-215	w/o Palm Ave.	Commercial	80.3	80.3	303	654	1408	0.0	No
32	I-215	e/o Palm Ave.	Industrial	81.0	81.1	338	729	1570	0.1	No

¹ Source: City of San Bernardino General Plan Land Use Element, Figure LU-2.
² RW – Location of the respective noise contour falls within the right-of-way of the road.

Table 3.10-22. Opening Year 2019 with Project Buildout Noise Impacts

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
1	N. Little League Dr.	n/o W. Little League Dr.	Public/Comm. Rec.	58.4	59.0	RW	RW	RW	0.6	No
2	N. Little League Dr.	s/o W. Little League Dr.	Public Park	59.3	60.2	RW	RW	RW	0.9	No
3	Palm Ave.	n/o Belmont Ave.	Residential	57.9	58.2	RW	RW	RW	0.3	No
4	Palm Ave.	s/o Belmont Ave.	Residential	66.7	67.1	RW	55	119	0.4	No
5	Palm Ave.	s/o Irvington Ave.	Residential	69.4	69.7	RW	84	181	0.3	No
6	Palm Ave.	n/o Kendall Dr.	Residential	70.2	70.4	44	95	204	0.2	No
7	Palm Ave.	n/o I-215 NB Ramps	Commercial	72.1	72.3	59	127	273	0.2	No
8	Palm Ave.	s/o I-215 NB Ramps	Commercial	71.1	71.3	49	106	229	0.2	No
9	Palm Ave.	n/o Hallmark Pkwy.	Commercial	68.5	68.7	RW	66	142	0.2	No
10	Palm Ave.	s/o Hallmark Pkwy.	Industrial	65.7	65.9	RW	45	96	0.2	No
11	Pine Ave.	n/o Belmont Ave.	Residential	62.9	63.2	RW	RW	64	0.3	No
12	Pine Ave.	s/o Belmont Ave.	Residential	64.8	65.3	RW	RW	84	0.5	No
13	Pine Ave.	n/o Kendall Dr.	Residential	67.6	67.9	RW	62	134	0.3	No
14	Campus Pkwy.	n/o Kendall Dr.	Residential	65.5	65.6	RW	45	98	0.1	No
15	University Pkwy.	n/o Kendall Dr.	Residential	73.1	73.1	77	167	359	0.0	No
16	University Pkwy.	s/o Kendall Dr.	Residential	74.1	74.1	90	195	419	0.0	No
17	Belmont Ave.	w/o Palm Ave.	Residential	58.3	58.6	RW	RW	RW	0.3	No
18	Belmont Ave.	e/o Palm Ave.	Residential	58.1	58.4	RW	RW	RW	0.3	No
19	Belmont Ave.	w/o Pine Ave.	Residential	55.7	56.7	RW	RW	RW	1.0	No
20	Irvington Ave.	w/o Palm Ave.	Residential	60.1	60.2	RW	RW	30	0.1	No
21	Irvington Ave.	e/o Palm Ave.	Residential	59.6	59.8	RW	RW	RW	0.2	No
22	W. Little League Dr.	w/o Magnolia Ave.	Public Park	57.9	59.3	RW	RW	RW	1.4	No

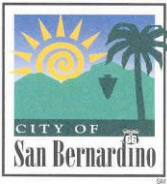


Table 3.10-22, continued

ID	Road	Segment	Adjacent Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
				23	Kendall Dr.	w/o N. Little League Dr.	Industrial	67.6		
24	Kendall Dr.	e/o N. Little League Dr.	Industrial	66.8	66.9	RW	58	125	0.1	No
25	W. Little League Dr.	w/o Palm Ave.	Commercial	63.9	68.2	RW	30	65	4.3	Yes
26	Kendall Dr.	e/o Palm Ave.	Commercial	70.5	70.8	51	110	237	0.3	No
27	Kendall Dr.	w/o Pine Ave.	Residential	70.0	70.3	RW	103	222	0.3	No
28	Kendall Dr.	w/o Campus Pkwy.	Residential	71.4	71.5	59	128	275	0.1	No
29	Kendall Dr.	w/o University Pkwy.	Residential	71.3	71.4	58	126	271	0.1	No
30	Kendall Dr.	e/o University Pkwy.	Residential	70.9	70.9	55	119	257	0.0	No
31	I-215	w/o Palm Ave.	Commercial	80.4	80.5	299	645	1390	0.1	No
32	I-215	e/o Palm Ave.	Industrial	81.1	81.2	336	725	1561	0.1	No

¹ Source: City of San Bernardino General Plan Land Use Element, Figure LU-2.
² RW – Location of the respective noise contour falls within the right-of-way of the road.

Impact 3.10-4

Would the project cause:

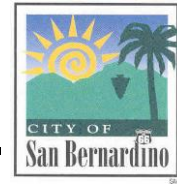
A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Impact Analysis

Construction noise represents a short-term impact on ambient noise levels. Noise generated by construction equipment, including trucks, graders, bulldozers, concrete mixers, and portable generators, can reach high levels, typically greater than 5 dBA over ambient noise levels.

Grading activities typically represent one of the highest potential sources for noise impacts. As lands in the vicinity of the project site are generally developed, and sensitive receptors have been identified in the surrounding area, it is possible that construction noise would result in a short-term increase in the ambient noise.

As shown in [Table 3.10-8](#), the unmitigated construction noise levels (peak noise level operating at a single point nearest the sensitive receiver location) would range from 54.7 to 70.0 dBA Leq. In conformance with City Municipal Code Section 8.54.070, noise-generating project construction activities would not occur between the hours of 8:00 p.m. and 7:00 a.m. While the City establishes limits on the hours during which construction activity may take place, it does not identify specific limits for construction noise levels. Section 8.54.060(l), Exemptions, of the Noise Control Ordinance indicates that project construction noise levels are considered exempt from the provisions of the ordinance. Therefore, if project construction only occurs during the hours



permitted in the Noise Control Ordinance, project construction noise levels will be exempt from the ordinance. Additionally, construction-related noise would tend to diminish as the use of heavy equipment in the early construction stages concludes and would dissipate entirely at the end of construction activities; refer also to discussion under Impact 3.10-1, above. Given the sporadic and variable nature of project construction and the implementation of noise limits specified in the *Municipal Code*, noise impacts would be less than significant.

However, to further reduce the potential for noise impacts and nuisances, Mitigation Measure NOI-1 would be implemented to incorporate best management practices during construction. Implementation of Mitigation Measure NOI-1 would ensure that the project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels that exist without the project. As such, impacts would be reduced to less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.10-5

Would the project cause:

For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels?

Impact Analysis

Riverside Municipal Airport is approximately 17 miles southwest of the project site in Riverside, and Redlands Municipal Airport is approximately 14 miles to the southeast in Redlands.

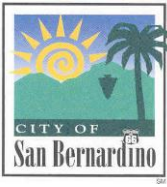
The airport nearest to the project site is San Bernardino International Airport (SBIA), located in the southeastern portion of the city. The SBIA is located approximately 10.6 miles from the project site. According to the General Plan EIR, a Comprehensive Land Use Plan (CLUP) and Airport Master Plan have not yet been adopted for the SBIA. As such, the project site is not currently located within the boundaries of an airport land use plan and is not within any noise contours of San Bernardino International Airport. Therefore, the project would not expose people residing or working in the project area to excessive noise levels.

Impact Conclusion

No impact.

Mitigation Measures

No mitigation measures are required.



Impact 3.10-6

Would the project cause:

For a project in the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels?

Impact Analysis

The project site is not located in the vicinity of a private airstrip, as no private airports are located in or adjacent to the city's boundaries. According to the General Plan EIR, there are five private helipads located in the City's planning area. However, due to the nature of the project setting (urbanized) and the proposed land uses (residential and commercial), the proposed development is not anticipated to result in substantial new levels of noise in the project area. As such, the project would not result in the exposure of people residing or working in the project area to excessive noise levels.

Impact Conclusion

No impact.

Mitigation Measures

No mitigation measures are required.

3.10.5 Cumulative Impacts and Mitigation Measures

Impact 3.10-7

Would the project:

Result in cumulatively considerable impacts related to noise?

Impact Analysis

The cumulative setting associated with the proposed project with regard to noise impacts includes approved, proposed, planned, and other reasonably foreseeable projects and development in the City of San Bernardino. Developments and planned land uses, including the proposed project, would cumulatively contribute to increased noise levels along roadways in the city.

Primarily, the project would have the potential to contribute to cumulative noise impacts as a result of increased traffic on local roadways, in combination with other projects in the vicinity. Therefore, cumulative traffic-generated noise impacts were assessed based on the contribution of the proposed project to the future cumulative base traffic volumes in the project vicinity. Refer also to [Table 2-3, Cumulative Projects](#), and [Figure 3.2-1, Cumulative Projects Map](#), of this EIR. Those projects considered for the cumulative analysis relative to traffic and transportation were also considered in the cumulative analysis relative to noise. The proposed project's contribution to cumulative traffic noise levels along area roadways was determined by comparing the predicted noise levels with and without project-generated traffic.

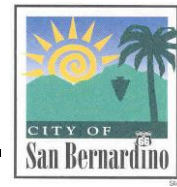


Table 3.10-23, Year 2035 Project-Related Traffic Noise Impacts, shows that the unmitigated exterior noise levels are expected to range from 56.0 to 83.9 dBA CNEL for Year 2035 without Project conditions. Table 3.10-23 presents the Year 2035 with Project conditions noise level contours that are expected to range from 57.0 to 83.9 dBA CNEL and presents a comparison of the Year 2035 without and with Project conditions CNEL noise levels. As shown in Table 3.10-23, the project is expected to generate an exterior noise level increase of up to 1.8 dBA CNEL, which would exceed the significance thresholds identified when the existing ambient conditions range from 60 to 65 dBA CNEL on the roadway segment of West Little League Drive west of Palm Avenue. However, existing land use adjacent to this roadway segment is commercial, and therefore, not noise-sensitive (i.e. versus residential use types). Therefore, any noise level increase resulting with project buildout is considered to be less than significant for Year 2035 conditions. The proposed project's cumulative contribution to ambient noise levels would be less than cumulatively considerable.

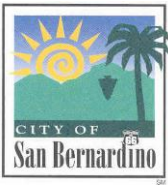


Table 3.10-23. Year 2035 Project-Related Traffic Noise Impacts.

ID	Road	Segment	Adjacent Land Use	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition at Buildout	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
1	N. Little League Dr.	n/o W. Little League Dr.	Public/Comm. Rec.	59.0	59.3	RW	RW	RW	0.3	No
2	N. Little League Dr.	s/o W. Little League Dr.	Public Park	60.1	60.9	RW	RW	50	0.8	No
3	Palm Ave.	n/o Belmont Ave.	Residential	59.9	60.0	RW	RW	44	0.1	No
4	Palm Ave.	s/o Belmont Ave.	Residential	67.5	67.8	RW	67	145	0.3	No
5	Palm Ave.	s/o Irvington Ave.	Residential	70.2	70.4	47	101	218	0.2	No
6	Palm Ave.	n/o Kendall Dr.	Residential	71.0	71.2	53	114	246	0.2	No
7	Palm Ave.	n/o I-215 NB Ramps	Commercial	72.8	73.1	71	152	327	0.3	No
8	Palm Ave.	s/o I-215 NB Ramps	Commercial	71.9	72.0	60	129	279	0.1	No
9	Palm Ave.	n/o Hallmark Pkwy.	Commercial	69.2	69.3	RW	85	184	0.1	No
10	Palm Ave.	s/o Hallmark Pkwy.	Industrial	66.4	66.6	RW	56	120	0.2	No
11	Pine Ave.	n/o Belmont Ave.	Residential	65.1	65.2	RW	45	98	0.1	No
12	Pine Ave.	s/o Belmont Ave.	Residential	65.2	65.6	RW	48	103	0.4	No
13	Pine Ave.	n/o Kendall Dr.	Residential	68.0	68.2	RW	72	155	0.2	No
14	Campus Pkwy.	n/o Kendall Dr.	Residential	66.6	66.7	RW	57	122	0.1	No
15	University Pkwy.	n/o Kendall Dr.	Residential	73.9	73.9	90	195	420	0	No
16	University Pkwy.	s/o Kendall Dr.	Residential	74.9	74.9	106	229	492	0	No
17	Belmont Ave.	w/o Palm Ave.	Residential	58.7	59.1	RW	RW	RW	0.4	No
18	Belmont Ave.	e/o Palm Ave.	Residential	58.7	58.9	RW	RW	RW	0.2	No
19	Belmont Ave.	w/o Pine Ave.	Residential	56.0	57.0	RW	RW	RW	1.0	No
20	Irvington Ave.	w/o Palm Ave.	Residential	60.5	60.8	RW	RW	34	0.3	No
21	Irvington Ave.	e/o Palm Ave.	Residential	60.1	60.2	RW	RW	31	0.1	No
22	W. Little League Dr.	w/o Magnolia Ave.	Public Park	58.3	59.6	RW	RW	RW	1.3	No
23	Kendall Dr.	w/o N. Little League Dr.	Industrial	68.4	68.6	RW	76	164	0.2	No

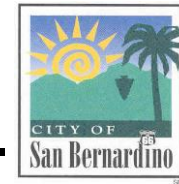
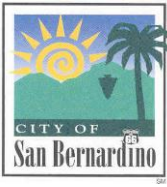


Table 3.10-23, continued

ID	Road	Segment	Adjacent Land Use	CNEL at Nearest Adjacent Land Use (dBA)		Distance to Contour from Centerline (feet) ² (with Project)			Project Addition at Buildout	Significant?
				Without Project	With Project	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
24	Kendall Dr.	e/o N. Little League Dr.	Industrial	67.6	67.7	RW	66	143	0.1	No
25	W. Little League Dr.	w/o Palm Ave.	Commercial	68.9	70.7	33	72	155	1.8	Yes
26	Kendall Dr.	e/o Palm Ave.	Commercial	70.9	71.1	59	128	276	0.2	No
27	Kendall Dr.	w/o Pine Ave.	Residential	70.5	70.8	57	122	263	0.3	No
28	Kendall Dr.	w/o Campus Pkwy.	Residential	72.1	72.3	71	152	328	0.2	No
29	Kendall Dr.	w/o University Pkwy.	Residential	72.1	72.1	70	150	323	0	No
30	Kendall Dr.	e/o University Pkwy.	Residential	71.7	71.7	65	140	301	0	No
31	I-215	w/o Palm Ave.	Commercial	83.4	83.4	486	1046	2254	0	No
32	I-215	e/o Palm Ave.	Industrial	83.9	83.9	527	1136	2447	0	No

1 Source: City of San Bernardino General Plan Land Use Element, Figure LU-2.
2 RW – Location of the respective noise contour falls within the right-of-way of the road.



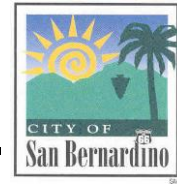
Additionally, operational noise from the project would have the potential to contribute to an increase in cumulative noise levels in the area. Operational noise from the commercial uses may be generated by stationary sources such as rooftop air conditioning units, shopping cart corrals, parking lot vehicle movements, and loading dock activities. As noted above, with consideration for the project's close proximity to residential land uses to the north of the project site boundary, operational stationary source noise from the project would be limited to an exterior noise level of 65 dBA for the residential land uses.

Key noise-generating land uses already present in the project area include the Platinum Soccer Complex, the Little League Baseball Western Region Headquarters, Cesar E. Chavez Middle School, and North Verdmont Elementary School. A number of commercial uses are present to the east, south, and southeast. Also contributing to noise levels are vehicles traveling along Palm Avenue and the Palm Avenue/I-215 interchange, as well as industrial uses located to the east and/or southeast of the site.

Operational noise generated from activities at the sporting fields and public parks in the area is generally intermittent and varies on a daily basis, with greater noise levels generally occurring in the evenings and/or on weekends. Conversely, noise generated by operation of the school is generally greater during the weekdays. Operational noise associated with the existing commercial uses in the area also varies, but is generally concentrated during the daytime and early evening hours both during the week and on the weekends. Similarly, operational noise produced by planned future projects in the surrounding area are anticipated to similarly generate varying levels of noise during various times of any particular day and/or week.

The project would have the potential to contribute to area noise levels on a cumulative basis. However, as was determined under Impact 3.10-1 above, operational noise levels for the project would not exceed the City's noise thresholds under a worst-case scenario (with all rooftop air conditioning units, shopping cart corrals, parking lot vehicle movements, and loading dock activities all operating simultaneously), although this condition would typically not occur. As indicated in [Tables 3.10-14 and 3.10-15](#), operational noise levels would contribute a maximum increase of 2.0 dBA Leq during daytime or nighttime hours, and therefore, would not contribute to a substantial increase in stationary-source noise levels when considered with future development projects that may also generate new operational noise in the project vicinity. Additionally, mitigation required to reduce direct noise impacts relative to project-generated traffic (see NOI-1A) would also help to reduce the project's contribution to cumulative operational noise levels experienced by off-site sensitive receptors (i.e. residential uses to the northeast). Further, all future development projects occurring within the project area would require evaluation to determine their potential to contribute to an increase in area noise levels on a cumulative basis. Operation of all such future development would be required to demonstrate conformance with the City's noise level thresholds and to provide mitigation to reduce noise levels to the extent feasible, should such thresholds be exceeded.

Due to the minor increase in operational noise levels generated by the proposed project, combined with implementation of mitigation required for direct noise impacts, it is not anticipated that the project's cumulative contribution to ambient noise levels would be cumulatively considerable.



Impact Conclusion

Less than cumulatively considerable.

Mitigation Measures

No mitigation measures are required.

3.10.6 Sources Cited

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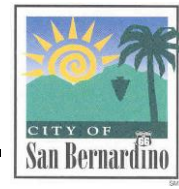
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



LEGEND:

- ▲ Noise Measurement Locations
- Receiver Locations
- Existing Barrier
- 6' Existing Barrier Height (in feet)
- Distance from receiver to Project site boundary (in feet)

Source: Urban Crossroads, December 2015.



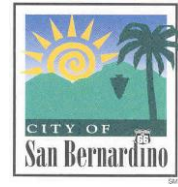
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LEGEND:

- Receiver Locations
- 6' Existing Barrier Height (in feet)
- Roof-Top Air Conditioning Unit
- Parking Lot Vehicle Movements
- Existing Barrier
- + Shopping Cart Corral
- Loading Dock Activity
- Distance from receiver to center of noise source (in feet).

Source: Urban Crossroads, December 2015



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3.11 Population and Housing

This section identifies existing conditions and analyzes potential population and housing impacts associated with the proposed project. The section is based on information from the General Plan Housing, Economic Development, and Community Design elements, the San Bernardino General Plan, the California Department of Finance (DOF) population and housing report (2015), the US Census from 1990 and 2000, the California Employment Development Department (EDD), and the Southern California Association of Governments (SCAG) growth forecasts.

3.11.1 Regulatory Setting

STATE

Southern California Association of Governments

SCAG is the responsible agency for developing and adopting regional housing, population, and employment growth forecasts for local governments from Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. To facilitate regional planning efforts, SCAG's planning area is further organized into 14 subregions. The City of San Bernardino, in District Seven, is one of 20 cities in the San Bernardino Associated Governments (SANBAG) Subregion. The SANBAG Subregion includes the entirety of San Bernardino County.

SCAG's demographic data is developed to enable the proper planning of infrastructure and facilities to adequately meet the needs of anticipated growth. On April 4, 2012, SCAG adopted the 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The 2012 RTP/SCS represents an assessment of the overall growth and economic trends in the SCAG region for the years 2012 through 2035, and provides the transportation vision for the SCAG region and outlines a long-term investment framework to address the region's transportation and related challenges. Additionally, SCAG's RTP/SCS identifies land use strategies which focus new housing and job growth in areas served by high quality transit and other opportunity areas. The RTP/SCS seeks a land use development pattern that supports and complements the transportation network, emphasizes system preservation, and supports transportation demand management measures. The 2012 RTP/SCS incorporates local land use projections and circulation networks from the cities' and counties' general plans. The projected regional development pattern includes location of land uses and residential densities in local general plans, when integrated with the proposed regional transportation network identified in the 2012 RTP/SCS.

The RTP/SCS is meant to provide individual jurisdictions with growth strategies. Specifically, the SCS distributes growth forecast data to transportation analysis zones for the purpose of modeling performance. The growth and land use assumptions for the SCS are to be adopted at the jurisdiction level.

3.11.2 Environmental Setting

POPULATION

Population data for the SANBAG Subregion and the City of San Bernardino is presented in [Table 3.11-1, Population Data](#).

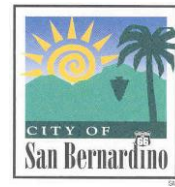


Table 3.11-1. Population Data

Year	SANBAG Subregion ¹	City of San Bernardino
1990 ²	NA	164,164
2000 ³	NA	185,401
1990–2000 Percentage Change	NA	+12.9%
2015 ⁴	NA	213,861
2020 ¹	2,268,000	231,200
2035 ¹	2,750,000	261,400
2020–2035 Percentage Change	+17.5%	+11.5%

NA = not available; 1. SCAG 2012; 2. US Census Bureau 1990; 3. US Census Bureau 2000; 4. DOF 2015

SANBAG Subregion

The population of the SANBAG Subregion is projected to total 2,268,000 in 2020 and 2,750,000 in 2035, which would represent an increase of approximately 17.5 percent between 2020 and 2035.

City of San Bernardino

As indicated in [Table 3.11-1](#), the City’s population totaled 164,164 in 1990 and 185,401 in 2000, which represents an approximate 12.9 percent increase in population between 1990 and 2000. Per the DOF (2015), the City had an estimated population of 213,861 in 2015. According to the City’s General Plan, the City’s population is projected to total 276,264 by 2030, which would represent an approximate 22.5 percent increase. Comparatively, the City’s population growth rate would be higher than projected for the county and the SANBAG Subregion. However, the General Plan buildout projections assume a larger population in the City than projected by SCAG.

HOUSING

Housing data for the SANBAG subregion and the City is presented in [Table 3.11-2, Housing Data](#).

Table 3.11-2. Housing Data

Year/Description	SANBAG Subregion ¹	City of San Bernardino
1990 Dwelling Units ²	NA	54,482
2000 Dwelling Units ³	NA	63,535
1990–2000 Percentage Change	NA	+16.6%
2015 Dwelling Units ⁴	NA	65,440
2020 Dwelling Units ¹	698,000	66,900
2035 Dwelling Units ¹	847,000	76,800
2020–2035 Percentage Change	+16%	+13%

NA = not available; 1. SCAG 2012; 2. US Census Bureau 1990; 3. US Census Bureau 2000; 4. DOF 2015

SANBAG Subregion

The SANBAG Subregion, which as previously stated includes the entirety of San Bernardino County, contains a housing inventory that is projected to total 698,000 dwelling units in 2020 and



847,000 dwelling units in 2035. This would represent an increase of approximately 16 percent from 2020 to 2035.

City of San Bernardino

In 2000, the City had an estimated 63,535 dwelling units. The year 2000 housing inventory represented an increase of approximately 16.6 percent over the number of dwelling units (54,482) estimated in the 1990 US Census.

SCAG projects that the City will have 66,900 dwelling units in 2020 and 76,800 dwelling units in 2035, approximately a 13 percent increase between 2020 and 2035. Comparatively, the City's housing growth rate would be less than the growth rate projected for the SANBAG Subregion overall.

3.11.3 Significance Threshold Criteria

The issues presented in Appendix G of the California Environmental Quality Act (CEQA) Guidelines are used as thresholds of significance in this section. Accordingly, the project may create a significant environmental impact if it causes one or more of the following to occur:

- a) 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).
- b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

As the project site is vacant and no structures will be removed or any resident displaced, thresholds b and c will not be discussed further in this EIR.

3.11.4 Project Impacts and Mitigation Measures

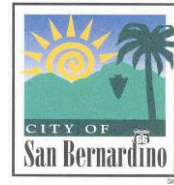
Impact 3.11-1

Would the project:

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)?

Impact Analysis

As indicated in [Table 3.11-1](#), the City has a projected population of 231,200 in 2020. Per the Department of Finance, the average household size in San Bernardino in 2015 was 3.49 persons. The proposed project would include 120 additional single-family dwelling units, which would add approximately 419 people to the City's population (3.49 persons per household x 120 dwelling units). In addition, proposed project will deliver an appropriately sized neighborhood commercial center that provides a mix of retail uses with employment growth and increased sales tax for San



Bernardino. The “Commercial Component” located in [Section 2.0, Project Description](#) describes the proposed plan for the commercial area.

The City of San Bernardino General Plan (2005a) projected the total population to be 319,241 at buildout. The increase in population as a result of the proposed project would account for approximately 1 percent of the population growth under the General Plan. The anticipated growth has been planned for in the General Plan, and the residential land use proposed with the project is an allowed use under the current General Plan designation (Commercial General), with City approval of a Conditional Use Permit, and zoning (Commercial General). Furthermore, the General Plan includes goals and policies to reduce potential population growth-related impacts. The project would therefore not induce substantial population growth, either directly or indirectly.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

3.11.5 Cumulative Impacts and Mitigation Measures

Impact 3.11-2

Would the project:

Result in cumulative impacts related to population and housing?

Impact Analysis

Cumulative development in San Bernardino would result in substantial, direct population growth through the construction of new housing units and the creation of new employment opportunities. As is shown in [Table 3.11-1](#), San Bernardino is anticipated to increase population, though at a smaller percentage than experienced between 1990 and 2015. Population growth has been planned for in the General Plan, and the proposed project represents would be consistent with these projected uses. In addition, the proposed project would not alter subregional or regional growth rates projected in the General Plan or by SCAG. As such, the proposed project would not induce growth not already considered in the General Plan and the population forecasts for the city and surrounding area. As such, this impact is considered to be less than cumulatively considerable.

Impact Conclusion

Less than cumulatively considerable.

Mitigation Measures

No mitigation measures are required.



3.11.6 Sources Cited

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3.12 Traffic and Transportation

This section presents the results of the traffic impact analysis (TIA) prepared by Urban Crossroads (2015) for the proposed project see [Appendix 3.12-1](#) and the Rancho Palma Little League Drive Design Parameter Review [Appendix 3.12-2](#). The TIA evaluated the potential impacts to traffic and circulation associated with development of the proposed project and recommended improvements to mitigate impacts considered significant in comparison to established regulatory thresholds.

3.12.1 Regulatory Setting

STATE

Caltrans Traffic Operation Standards

The California Department of Transportation (Caltrans) *Guide for the Preparation of Traffic Impact Studies* (2002) includes criteria for evaluating the effects of land use development and changes to the circulation system on state highways. Caltrans maintains a target level of service at the transition between LOS C and LOS D for freeway facilities.

REGIONAL

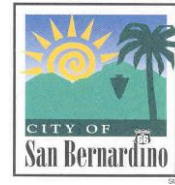
San Bernardino County Congestion Management Program (CMP)

Proposition 111, passed in June 1990, provided additional transportation funding through a \$.09 per gallon increase in the state gas tax. This amount equates to an estimated annual return of more than \$6.25 per person for cities in San Bernardino County and \$7.1 million for the County. Included with the provision for additional transportation funding was a requirement to undertake a Congestion Management Program in each county with an urbanized area of more than 50,000 population, to be developed and adopted by a designated Congestion Management Agency (CMA). In San Bernardino County, San Bernardino Associated Governments (SANBAG) was designated the CMA by the County Board of Supervisors and the cities representing a majority of the incorporated population. The San Bernardino Associated Governments (SANBAG) adopted the 2011 CMP for the County of San Bernardino in November 2011.

The intent of a CMP is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related impacts, and improve air quality. Counties within California have developed CMPs with varying methods and strategies to meet the intent of the CMP legislation. There are 10 study area intersections that are identified as CMP facilities ([Table 3.12-1](#)).

California Department of Transportation (CALTRANS)

Caltrans endeavors to maintain a target level of service at the transition between LOS C and LOS D on state highway system facilities; 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. If an existing state highway facility is operating at less than this target LOS, the existing



LOS should be maintained. Caltrans acknowledges that the region-wide goal for an acceptable LOS on all freeways, roadway segments, and intersections is LOS D. Consistent with the City of San Bernardino level of service threshold of LOS D and in excess of the CMP stated level of service threshold of LOS E, LOS D will be used as the target LOS for freeway ramps, freeway segments, and freeway merge/diverge ramp junctions.

LOCAL

City of San Bernardino General Plan

In the City of San Bernardino, the minimum acceptable level of service is established as LOS D for intersections (General Plan Policy 6.2.1) and LOS C for roadways (General Plan Policy 6.2.2). The traffic study guidelines require that traffic mitigation measures be identified to provide for operations at the minimum threshold levels (City of San Bernardino 2004).

3.12.2 Environmental Setting

EXISTING TRAFFIC CONDITIONS

Intersections

[Table 3.12-1, Intersection Analysis Locations and Current Level of Service](#), shows the intersections that were approved by the City of San Bernardino for study in the TIA. The 19 study area intersection locations listed in [Table 3.12-1](#) were selected for the TIA based on the City's traffic study guidelines that require analysis of intersection locations in which the proposed project is anticipated to contribute 50 or more peak-hour trips, or were added based on discussions with City staff. Furthermore, the rationale for evaluating intersections where a project would contribute 50 or more peak-hour trips is standard industry practice and supported by substantial evidence. The intersection locations are listed in [Table 3.12-1](#) and are also shown on [Figure 3.12-1, Study Area Intersection Locations](#).

Roadways

Roadways that will provide access to the project site include:

- North Magnolia Avenue – Magnolia Avenue is a north-south oriented roadway along the western project boundary. Currently North Magnolia Avenue is an unimproved dirt road and terminates at the Cable Creek Canal, north of the project site.
- West Little League Drive – is an east-west oriented roadway along the southern project boundary.

Caltrans

The following state highways that will provide access to the project site include:

- I-215 – is a north-south oriented freeway along the western project boundary. Access to the project site from the I-215 will be provided via Palm Avenue exit.

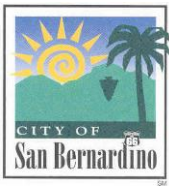


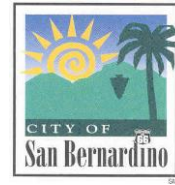
Table 3.12-1. Intersection Analysis Locations and Current Level of Service

ID	Intersection Location	Jurisdiction	Existing LOS		CMP
			AM	PM	
1	N. Little League Drive/W. Little League Drive	City of San Bernardino	B	A	No
2	N. Little League Drive/Kendall Drive	City of San Bernardino	B	B	Yes
3	Magnolia Avenue/Irvington Avenue	City of San Bernardino	B	A	No
4	Magnolia Avenue/Driveway 1 – Future Intersection	City of San Bernardino	NA		No
5	Magnolia Avenue/W. Little League Drive – Future Intersection	City of San Bernardino	NA		No
6	Driveway 2/W. Little League Drive – Future Intersection	City of San Bernardino	NA		No
7	Driveway 3/W. Little League Drive – Future Intersection	City of San Bernardino	NA		No
8	Driveway 4/W. Little League Drive – Future Intersection	City of San Bernardino	NA		No
9	Driveway 5/W. Little League Drive – Future Intersection	City of San Bernardino	NA		No
10	Palm Avenue/Belmont Avenue	City of San Bernardino	C	A	Yes
11	Palm Avenue/Irvington Avenue	City of San Bernardino	C	B	No
12	Palm Avenue/Kendall Avenue	City of San Bernardino	D	C	Yes
13	Palm Avenue/I-215 Northbound Ramps	San Bernardino, Caltrans	A	A	Yes
14	Palm Avenue/I-215 Southbound Ramps	San Bernardino, Caltrans	C	B	Yes
15	Palm Avenue/Hallmark Parkway	City of San Bernardino	B	B	Yes
16	Pine Avenue/Belmont Avenue	City of San Bernardino	B	B	Yes
17	Pine Avenue/Kendall Drive	City of San Bernardino	C	B	Yes
18	Campus Parkway/Kendall Drive	City of San Bernardino	D	C	Yes
19	University Parkway/Kendall Drive	City of San Bernardino	D	D	Yes

Source: Urban Crossroads 2015

Background Traffic

Future year traffic forecasts were based on a background (ambient) growth factor of 2 percent per year. The ambient growth factor is intended to approximate traffic growth. The total ambient growth is 6.12 percent for 2018 traffic conditions (compounded growth of 2 percent per year over three years) and 8.24 percent for 2019 traffic conditions (compounded growth of 2 percent per year over four years). This ambient growth rate was added to existing traffic volumes to account for areawide growth not reflected by cumulative development projects (refer also to [Table 2-3, Cumulative Projects](#), and [Figure 2-1, Cumulative Projects Map](#). Ambient growth was added to daily

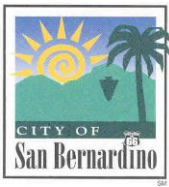


and peak-hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

3.12.3 Significance Threshold Criteria

The proposed project may create a significant environmental impact if it causes one or more of the following to occur:

- a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
 - i. If an intersection is projected to operate at an acceptable level of service (i.e., LOS D or better) without the project and the addition of project traffic, as measured by 50 or more peak-hour trips, is expected to cause the intersection to operate at an unacceptable level of service (i.e., LOS E or worse), the impact is considered a significant impact.
 - ii. If an intersection is projected to operate at an unacceptable level of service (i.e., LOS E or F) without the project, and the project contributes 50 or more peak-hour trips and increases the volume to capacity ration (V/C) by more than 0.01, the impact is considered a significant impact.
 - iii. A significant cumulative impact is identified when a facility is projected to operate below the level of service standards due to cumulative future traffic AND contribute a project-related increase to the V/C of 0.01 or more for intersections operating at LOS E or LOS F under pre-project traffic conditions. Cumulative traffic impacts are created as a result of a combination of the proposed project and other future developments contributing to the overall traffic impacts requiring additional improvements to maintain acceptable level of service operations with or without the project.
- b) 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.
 - i. The traffic study finds that the level of service of a segment will degrade from D or better to E or F.
 - ii. The traffic study finds that the project will exacerbate an already deficient condition by contributing 50 or more peak-hour trips. A segment that is operating at or near capacity is deemed to be deficient.
- c) 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.



- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- e) Result in inadequate emergency access.
- f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The proposed project is outside the San Bernardino International airport influence area as shown in Figure 5.1-2 of the Land Use Element of the City of San Bernardino General Plan. Therefore, the proposed project will not affect air traffic patterns and threshold (c) will not be discussed further.

METHODOLOGY

Project Trip Generation

Trip generation represents the amount of traffic that is both attracted to and produced by a development. Determining traffic generation for a specific project is based on forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses proposed for a given development. Trip generation rates used to estimate project traffic are shown in [Table 3.12-2, Project Trip Generation Rates](#), and a summary of the project’s trip generation is shown in [Table 3.12-3, Project Trip Generation Summary](#).

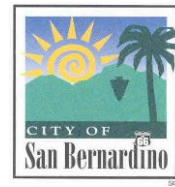
Table 3.12-2. Project Trip Generation Rates¹

Land Use	Units ²	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			Inbound	Outbound	Total	Inbound	Outbound	Total	
Single Family Residential	DU	210	0.19	0.56	0.75	0.63	0.37	1.00	9.52
Commercial Retail ³	TSF	820	0.97	0.60	1.57	2.90	3.14	6.04	68.39

Source: Urban Crossroads 2015
 1. Trip Generation Source: ITE Trip Generation Manual, 9th Edition (2012)
 2. DU = dwelling unit
 3. Trip generation rates based on the regression equation for ITE Land Use 820.

Pass-by trips are defined as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are subtracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. These types of trips are many times associated with retail uses such as fast-food restaurants and coffee/donut shops with drive-through windows. Pass-by percentages were obtained from Table 5.6 from the *ITE Trip Generation Handbook*, 2nd Edition (2004). As shown in [Table 3.12-3](#), the proposed project results in a 34 percent reduction in pass-by trips for the PM peak hour and daily counts and a reduction in daily counts of 2,107 trips.

Internal capture is a percentage reduction that can be applied to the trip generation estimates for individual land uses to account for trips internal to the site. In other words, trips may be made between individual retail uses on-site and can be made either by walking or using internal roadways without using external streets. An internal capture reduction was applied to recognize



the interactions that would occur between the various complementary land uses. For example, residents may visit one of the nearby schools (North Verdmont Elementary School or Chavez Middle School) or commercial site without leaving the site and are therefore considered vehicle trips internal to the site. The National Cooperative Highway Research Program (NCHRP) 684 Internal Trip Capture Estimation Tool was used to compute internal capture reduction for residential to retail. As shown in [Table 3.12-3](#), the proposed project would result in an internal capture of 505 daily trips for both residential to commercial and commercial to residential categories.

The project is estimated to generate a total of approximately 4,728 net trip-ends per day on a typical weekday, with approximately 242 net weekday AM peak-hour trips and 425 net weekday PM peak-hour trips.

Table 3.12-3. Project Trip Generation Summary

Land Use	Quantity	Units ²	AM Peak Hour			PM Peak Hour			Daily
			Inbound	Outbound	Total	Inbound	Outbound	Total	
Single-Family Residential	120	DU	23	67	90	76	44	120	1,142
Internal Capture – Residential to Commercial ²			0	-1	-1	-35	-18	-53	-505
<i>Residential Subtotal</i>			23	66	89	41	26	67	638
Commercial Retail	98,000	TSF	95	59	154	284	308	592	6,702
Internal Capture - Commercial to Residential ⁴			-1	0	-1	-18	-35	-53	-505
Pass-by Reduction (34% – PM Peak Hour and Daily) ⁵			-	-	-	-91	-91	-181	-2,107
<i>Commercial Retail Subtotal</i>			94	59	153	176	182	358	4,090
Project Buildout Subtotal			117	125	242	217	208	425	4,728

Source: Urban Crossroads 2015
 1 Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation manual, Ninth Edition (2012).
 2 DU = dwelling units; TSF = thousand square feet
 3 Trip generation rates based on the regression equation for ITE Land Use 820.
 4 Internal capture is based on the NCHRP 684 Internal Capture Estimation Tool.
 5 Pass-by reduction percentage is based on the ITE methodology per Table 5.6 of ITE Trip Generation Handbook (2nd Edition, 2004).

Project Trip Distribution

Trip distribution patterns are provided for both residential and commercial retail uses. In addition, an alternative long-range roadway network that would include the potential extension of Magnolia Avenue over the Cajon Creek Wash was evaluated for the purposes of the TIA. As such, trip distribution patterns are anticipated to change for long-range traffic conditions for both the residential and commercial retail uses for the With Magnolia Avenue Bridge alternative. [Figure 3.12-2, Project Trip Distribution \(2018 & 2019\)](#), illustrates the proposed residential trip distribution patterns that will be utilized for both 2018 and 2019 traffic conditions, and [Figure 3.12-3, Project Trip Distribution \(Commercial Retail 2019\)](#), illustrates the proposed commercial retail trip distribution patterns that will be utilized for 2019 traffic conditions. [Figure 3.12-4, Horizon Year 2035 Project Trip Distribution \(Residential\)](#), illustrates the proposed Horizon Year (2035) residential trip distribution patterns, and [Figure 3.12-5, Horizon Year 2035 Project Trip Distribution \(Commercial Retail\)](#), illustrates the proposed Horizon Year (2035) commercial retail



trip distribution patterns. The With Magnolia Avenue Bridge alternative trip distributions for Horizon Year (2035) traffic conditions are shown on an inset on [Figure 3.12-6A, Project Traffic Volumes \(2018\)](#), and [Figure 3.12-7A, Project Traffic Volumes \(2019\)](#).

TRAFFIC OPERATIONS ANALYSIS METHODOLOGY

As described in [Section 2.0, Project Description](#), the proposed project has two phases with the residential part as Phase 1 and Commercial as Phase 2. For the purpose of this EIR section, only the buildout condition that includes all residential and commercial components of the project are reported for each scenario. The TIA includes other development scenarios as well as an analysis of the residential and commercial only impact of each scenario. See [Appendix 3.12-2](#). This section includes the following scenarios:

Existing (2015)

Existing (2015) physical conditions are disclosed to represent the baseline traffic conditions as they existed at the time the TIA was prepared.

Existing (2015) Plus Project (E+P)

The E+P analysis determines circulation system deficiencies that would occur on the existing roadway system in the scenario of the project being placed on Existing conditions.

Opening Year Cumulative (2019) Without and With the Proposed Project

The Opening Year Cumulative Without and With Project traffic conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth factor.

Horizon Year (2035) Without and With the Proposed Project

Horizon Year traffic conditions have been evaluated for without and with the Magnolia Avenue crossing over the Cajon Creek Wash. The currently San Bernardino Transportation Analysis Model (SBTAM) does not account for the extension of Magnolia Avenue over the Cajon Creek Wash.

TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term *signal warrants* refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. The TIA used the signal warrant criteria presented in the latest edition of the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), as amended by the MUTCD 2014 California Supplement, for all study area intersections.

As shown in [Table 3.12-4, Traffic Signal Warrant Analysis Locations](#), traffic signal warrant analyses were performed for 16 unsignalized study area intersections during the peak weekday conditions wherein the project is anticipated to contribute the highest trips.

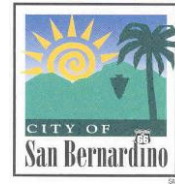


Table 3.12-4. Traffic Signal Warrant Analysis Locations

ID	Intersection Location	Jurisdiction	CMP
1	N. Little League Drive/W. Little League Drive	City of San Bernardino	No
2	N. Little League Drive/Kendall Drive	City of San Bernardino	Yes
3	Magnolia Avenue/Irvington Avenue	City of San Bernardino	No
4	Magnolia Avenue/Driveway 1 – Future Intersection	City of San Bernardino	No
5	Magnolia Avenue/W. Little League Drive – Future Intersection	City of San Bernardino	No
6	Driveway 2/W. Little League Drive – Future Intersection	City of San Bernardino	No
7	Driveway 3/W. Little League Drive – Future Intersection	City of San Bernardino	No
8	Driveway 4/W. Little League Drive – Future Intersection	City of San Bernardino	No
9	Driveway 5/W. Little League Drive – Future Intersection	City of San Bernardino	No
10	Palm Avenue/Belmont Avenue	City of San Bernardino	Yes
15	Palm Avenue/Hallmark Parkway	City of San Bernardino	Yes
16	Pine Avenue/Belmont Avenue	City of San Bernardino	Yes

Source: Urban Crossroads 2015

It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with level of service. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

FREEWAY OFF-RAMP QUEUING ANALYSIS

The study area for the TIA includes the freeway-to-arterial interchange of the Interstate 215 at Palm Avenue off-ramps. Consistent with Caltrans requirements, the 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing impacts at the freeway ramp intersections on Palm Avenue. Specifically, the queuing analysis is used to identify any potential queuing and “spill back” onto the I-215 mainline from the off-ramps.

FREEWAY MAINLINE SEGMENT ANALYSIS METHODOLOGY

Consistent with recent Caltrans guidance and because impacts to freeway segments dissipate with distance from the point of state highway system entry, quantitative study of freeway segments beyond those immediately adjacent to the point of entry is not required. As such, the traffic study evaluated the freeway segments along I-215 where the project is anticipated to contribute traffic. Because impacts to freeway segments dissipate with distance from the point of state highway system entry, quantitative evaluation of freeway segments with less than 50 peak hour trips is not necessary. Although the project is anticipated to contribute less than 50 peak-



hour directional trips to Interstate 215 adjacent to the point of entry to the state highway system, the trips have been evaluated for the purposes of this traffic study in an effort to conduct a conservative analysis.

FREEWAY MERGE/DIVERGE RAMP JUNCTION ANALYSIS

The freeway system in the study area was divided into segments defined by freeway-to-arterial interchange locations, resulting in six existing on- and off-ramp locations where the project is anticipated to contribute traffic. Although the HCM indicates the influence area for a merge/diverge junction is 1,500 feet, the analysis presented in this traffic study was performed at all ramp locations with respect to the nearest on- or off-ramp at each interchange in an effort to be consistent with Caltrans guidance and comments on other projects Urban Crossroads has worked on in the region. Per HCM guidelines, analysis of the adjacent freeway mainline segments to each of these ramp junctions is sufficient to evaluate the peak-hour operations.

The merge/diverge analysis was based on the HCM Ramps and Ramp Junctions analysis method and performed using HCS2010 software. The measure of effectiveness (reported in passenger cars per mile per lane) were calculated based on the existing number of travel lanes, the number of lanes at the on- and off-ramps both at the analysis junction and at upstream and downstream locations (if applicable), and acceleration/deceleration lengths at each merge/diverge point.

3.12.4 Project Impacts and Mitigation Measures

Impact 3.12-1

Would the project:

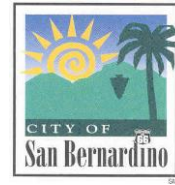
Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? 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?

Impact Analysis

Existing Plus Project

Intersection Analysis

The Existing Plus Project scenario includes Existing (2015) traffic volumes plus project traffic. As shown in [Table 3.12-6](#), all study area intersections are anticipated to continue to operate at acceptable levels of service with the implementation of the proposed project.



Off-Ramp Queuing Analysis

A queuing analysis was performed for the off-ramps at the I-215 and Palm Avenue interchange to assess vehicle queues for the off-ramps that may potentially result in deficient peak-hour operations at the ramp-to-arterial intersections and may potentially spill back onto the I-215 mainline. As shown in [Table 3.12-7](#), no movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Existing Plus Project (Phase 1) or Existing Plus Project (Project Buildout) traffic conditions.

Basic Freeway Segment Analysis

As shown on [Table 3.12-8](#), for the basic freeway segments analyzed in the study, for Existing Plus Project (Phase 1) and Existing Plus Project (Project Buildout), mainline directional volumes for the weekday AM and PM peak hours are anticipated to operate at an acceptable level of service (i.e., LOS C or better) during the peak hours, with the addition of Phase 1 project and project buildout traffic.

Opening Year Cumulative (2019) With and Without Project

Intersection Analysis

As shown in [Table 3.12-11](#), with one exception the study area intersections will continue to operate at acceptable levels with construction of the proposed project under all project scenarios. The one exception is the intersection 19, University Parkway/Kendall Drive intersection (#19) where the proposed project will worsen the level of service that is projected to be D without the project under the Existing Plus Ambient Growth (EAP) 2019 scenario.

As shown in [Table 3.12-5](#), the calculated V/C for the proposed project at the University Parkway/Kendall Drive intersection is 0.013 which is greater than the threshold of 0.01. Therefore, the impact is considered significant.

Table 3.12-5. Volume to Capacity Ratio (V/C) for 2019 Without Project (NP) and 2019 With Project (WP)

ID	Intersection Location	V/C for 2019 NP- PM Peak Hour	V/C for 2019 WP-PM Peak Hour	Increase
19	University Parkway/Kendall Drive	0.739	0.752	0.013

Source: Urban Crossroads 2015

The impact affects left turn movements from southbound Kendall Drive onto eastbound University Parkway during the PM Peak Hour. The single turn lane limits the number of cars that can complete the left turn movement during the signal phase. Installation of a second left turn lane will increase the lanes turning left that will increase the number of cars that can complete the turning movement during the same signal timing phase. Mitigation Measures TRA-1 requires that the proposed project either construct the additional left turn lane at this intersection, or pay proportionate fees toward its construction.

Off-Ramp Queuing Analysis

A queuing analysis was performed for the off-ramps at the I-215 and Palm Avenue interchange to assess vehicle queues for the off-ramps to determine if peak-hour operations at the ramp-to-arterial intersection would remain acceptable. As shown in [Table 3.12-7](#), no movements are



anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for the 2019 WP scenario.

Freeway Merge/Diverge Analysis

Ramp merge and diverge operations were evaluated for 2019 WP Scenario. As shown in [Table 3.12-9](#) the freeway ramp merge and diverge areas are anticipated to operate at an acceptable level of service (i.e., LOS D or better).

Basic Freeway Segment Analysis

As shown on [Table 3.12-8](#), for the basic freeway segments analyzed in the study, for EAP 2019 Scenario Impact Summary, remain at acceptable levels of service.



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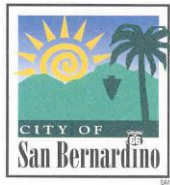


Table 3.12-6. Intersection Analysis for Existing, Existing Plus Project Conditions, 2019 NP, and 2019 WP Conditions

#	Intersection	Traffic Control ²	Existing (2015)				Existing Plus Project				Significant Impact	2019 NP				Significant Impact	2019 WP				Significant Impact
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service			Delay ¹ (secs.)		Level of Service			Delay ¹ (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM		AM	PM	AM	PM		AM	PM	AM	PM	
1	N. Little League Drive/W. Little League Drive	CSS	10.1	9.8	B	A	11.1	10.4	B	B	No	10.4	10.0	B	B	No	11.5	10.7	B	B	No
2	N. Little League Drive/Kendall Drive	CSS	10.3	13.3	B	B	10.7	14.8	B	B	No	10.5	14.2	B	B	No	11.0	16.0	B	C	No
3	Magnolia Avenue/Irvington Avenue	CSS	10.4	0.0	B	A	10.4	0.0	B	A	No	10.7	0.0	B	A	No	10.7	0.0	B	A	No
4	Magnolia Avenue/Driveway 1 – Future Intersection	<u>CSS</u>	Future Intersection				8.6	8.6	A	A	No	Future Intersection				No	No	8.6	A	A	No
5	Magnolia Avenue/W. Little League Drive – Future Intersection	<u>CSS</u>	Future Intersection				9.7	9.8	A	A	No	Future Intersection				No	No	10.0	A	B	No
6	Driveway 2/W. Little League Drive – Future Intersection	<u>CSS</u>	Future Intersection				10.0	10.4	B	B	No	Future Intersection				No	No	10.6	B	B	No
7	Driveway 3/W. Little League Drive – Future Intersection	<u>CSS</u>	Future Intersection				10.3	13.7	B	B	No	Future Intersection				No	No	14.1	B	B	No
8	Driveway 4/W. Little League Drive – Future Intersection	<u>CSS</u>	Future Intersection				10.6	12.2	B	B	No	Future Intersection				No	No	12.4	B	B	No
9	Driveway 5/W. Little League Drive – Future Intersection	<u>CSS</u>	Future Intersection				10.8	12.3	B	B	No	Future Intersection				No	No	12.5	B	B	No
10	Palm Avenue/Belmont Avenue	AWS	15.7	9.7	C	A	16.8	10.1	C	B	No	20.3	10.2	C	B	No	22.3	10.7	C	B	No

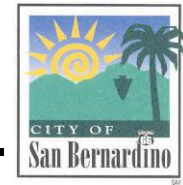


Table 3.12-6, continued

#	Intersection	Traffic Control ²	Existing (2015)				Existing Plus Project				Significant Impact	2019 NP				Significant Impact	2019 WP				Significant Impact
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service			Delay ¹ (secs.)		Level of Service			Delay ¹ (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM		AM	PM	AM	PM		AM	PM	AM	PM	
11	Palm Avenue/Irvington Avenue	TS	31.0	15.2	C	B	31.6	15.4	C	B	No	43.6	15.7	D	B	No	44.3	15.9	D	B	No
12	Palm Avenue/Kendall Avenue	TS	35.1	33.9	D	C	40.5	36.0	D	D	No	41.1	36.9	D	D	No	47.3	38.6	D	D	No
13	Palm Avenue/I-215 Northbound Ramps	TS	8.0	9.8	A	A	8.2	10.3	A	B	No	9.1	10.9	A	B	No	9.3	11.9	A	B	No
14	Palm Avenue/I-215 Southbound Ramps	TS	32.3	15.3	C	B	38.0	16.1	D	B	No	51.6	21.1	D	C	No	54.7	23.0	D	C	No
15	Palm Avenue/Hallmark Parkway	AWS	11.5	10.9	B	B	11.6	11.4	B	B	No	13.5	13.6	B	B	No	13.8	14.2	B	B	No
16	Pine Avenue/Belmont Avenue	CSS	12.6	11.5	B	B	13.1	12.4	B	B	No	14.1	12.6	B	B	No	14.8	13.8	B	B	No
17	Pine Avenue/Kendall Drive	TS	20.0	18.0	C	B	21.0	18.3	C	B	No	21.0	18.3	C	B	No	22.2	20.4	C	C	No
18	Campus Parkway/Kendall Drive	TS	37.5	26.7	D	C	37.7	28.1	D	C	No	36.7	27.9	D	C	No	36.8	28.0	D	C	No
19	University Parkway/Kendall Drive	TS	37.1	49.6	D	D	37.4	51.3	D	D	No	40.3	62.7	D	E	Yes	40.8	65.0	D	E	Yes

Source: Urban Crossroads 2015

Notes:

1. Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

2. CSS = cross-street stop; AWS = all-way stop; TS = traffic stop; **CSS** = improvement

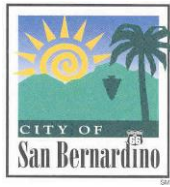


Table 3.12-7. Peak-Hour Freeway Off-Ramp Queuing Summary for Existing, Existing Plus Project Conditions, 2019 NP, and 2019 WP Conditions

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2015)				Existing Plus Project				2019 NP				2019 WP			
			95th Percentile Queue (feet)		Acceptable? ¹		95th Percentile Queue (feet)		Acceptable? ¹		95th Percentile Queue (feet)		Acceptable? ¹		95th Percentile Queue (feet)		Acceptable? ¹	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-215 NB Off-Ramp/Palm Avenue	NBL/T	910	105	133	Yes	Yes	102	133	Yes	Yes	120	151	Yes	Yes	120	151	Yes	Yes
	NBR	415	104	165	Yes	Yes	118	202	Yes	Yes	145	228	Yes	Yes	163	310 ²	Yes	Yes
I-215 SB Off-Ramp/Palm Avenue	NBL/T/R	1,470	429 ²	74	Yes	Yes	445 ²	77	Yes	Yes	585 ²	109	Yes	Yes	601 ²	115	Yes	Yes

Source: Urban Crossroads 2015
Notes:
1. Stacking distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking, which is assumed to be provided in the transition for turn pockets, is reflected in the stacking distance shown on this table, where applicable.
2. Maximum queue length for the approach reported.

Table 3.12-8. Basic Freeway Segment Analysis for Existing, Existing Plus Project Conditions, 2019 NP, and 2019 WP Conditions

Freeway	Direction	Mainline Segment	Lanes ¹	Existing (2015)				Existing Plus Project				2019 NP				2019 WP			
				Density ²		LOS		Density ²		LOS		Density ²		LOS		Density ²		LOS	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-215	SB	North of Palm Avenue	2	20.5	13.7	C	B	20.6	13.9	C	B	22.9	15.2	C	B	23.1	15.4	C	B
		South of Palm Avenue	2	23.5	15.4	C	B	23.7	15.6	C	B	26.1	16.9	D	B	26.4	17.1	D	B
	NB	North of Palm Avenue	2	9.0	15.7	A	B	9.2	15.9	A	B	10.0	17.4	A	B	10.2	17.6	A	B
		South of Palm Avenue	2	10.2	19.7	A	C	10.3	20.0	A	C	11.2	21.7	B	C	11.4	22.0	B	C

Source: Urban Crossroads 2015
Notes:
1. Number of lanes in the specified direction and based on existing conditions.
2. Density is measured by passenger cars per mile per lane (pc/mi/ln).

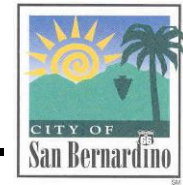


Table 3.12-9. Freeway Ramp Junction Merge/Diverge Analysis for Existing, Existing Plus Project Conditions, 2019 NP, and 2019 WP Conditions

Freeway	Direction	Mainline Segment	Lanes ¹	Existing (2015)				Existing Plus Project				2019 NP				2019 WP			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density ²	LOS	Density ²	LOS	Density ²	LOS	Density ²	LOS	Density ²	LOS	Density ²	LOS	Density ²	LOS	Density ²	LOS
I-215	SB	North of Palm Avenue	2	27.8	C	19.9	B	27.9	C	20.1	C	30.3	D	21.6	C	30.5	D	21.9	C
		South of Palm Avenue	2	28.8	D	20.7	C	29.0	D	29.0	C	31.0	D	22.3	C	31.2	D	22.5	C
	NB	North of Palm Avenue	2	13.3	B	20.7	C	13.5	B	13.5	C	14.1	B	22.6	C	14.5	B	22.8	C
		South of Palm Avenue	2	15.2	B	26.5	C	15.3	B	15.3	C	16.4	B	28.7	D	16.6	B	28.9	D

Source: Urban Crossroads 2015

Notes:

- Number of lanes in the specified direction and based on existing conditions.
- Density is measured by passenger cars per mile per lane (pc/mi/ln).



Parking

Although parking is not an issue of environmental concern per CEQA requirements, with the introduction of the proposed land uses into the existing Verdemon Heights neighborhood, the provision of adequate parking in support of the proposed uses will be important to ensure that adverse effects on area streets and established circulation patterns do not occur with project implementation.

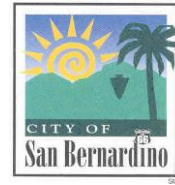
The project would provide on-street parking along the proposed interior roadways, as well as at each residential unit (i.e. private driveways and garages). Additionally, it should be noted that attendees of events held at the Platinum Soccer Complex adjacent to the east of the site frequently park along West Little League Drive. Consistent with the project objective to “facilitate additional public parking with the improvement of West Little League Drive and Magnolia Avenue,” construction of offsite project roadway improvements would not restrict or prohibit the continuation of public parking along West Little League Drive. On-street parking would be provided along both sides of West Little League Drive and (future) Magnolia Avenue with project implementation; refer to [Figure 2-6, Streetscape Sections](#), of the Rancho Palma Specific Plan. Additionally, parking for the proposed commercial uses would be provided onsite consistent with parking ratios established by the City, and as addressed in the Rancho Palma Specific Plan. Therefore, the project would not conflict with City Municipal Code requirements for the provision of adequate surface parking within the project area or adversely affect the performance of the circulation system with regard to parking.

Impact Summary

As shown in [Table 3.12-6](#), with one exception, the study area intersections will continue to operate at acceptable levels with construction of the proposed project. The one exception is the intersection 19, University Parkway/Kendall Drive intersection (#19) where the proposed project will worsen the level of service that is projected to be D without the project under the 2019 WP scenario and also result in an increase in the v/c by 0.013 (exceeding the threshold of 0.01). The impact affects left turn movements from southbound Kendall Drive onto eastbound University Parkway during the PM Peak Hour. The left turn lane is not long enough to accommodate the proposed project traffic, which could block the through lanes. The installation of a second left turn lane will increase the area where cars can queue to turn left without blocking the through lanes.

Project mitigation may include a combination of fee payments to established programs (e.g., DIF), construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate (to be determined at the City of San Bernardino’s discretion).

When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. Detailed fair share calculations, for each peak hour, has been provided on Table 1-8 of the TIA ([Appendix 3.12-2](#)) for the applicable deficient intersections shown on Tables 1-9 and 1-10 of the TIA ([Appendix 3.12-2](#)).



As shown in Table 1-9 of the TIA ([Appendix 3.12-2](#)), the calculated proportionate share of impact at this intersection from the proposed project is 4.4 percent. Mitigation Measure TRA-1 requires that the proposed project either construct the additional left turn lane at this intersection, or pay proportionate fees toward its construction.

Impact Conclusion

Potentially significant.

Mitigation Measures

TRA-1 Prior to the issuance of building permits, the project applicant shall be required to construct or pay its fair share to create a second southbound turn lane at the intersection of University Parkway/Kendall Drive (#19).

Timing/Implementation: Prior to Issuance of a Building Permit

Enforcement/Monitoring: City of San Bernardino Planning and Public Works Departments

Level of Significance After Mitigation: Less than significant.

The effectiveness of implementation of these transportation improvement strategies is shown in [Table 3.12-10](#).

As shown in [Table 3.12-10](#), implementation of the proposed mitigation measure will ensure that the intersection of University Parkway/Kendall Drive (#19) functions acceptably.

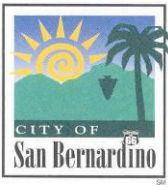


Table 3.12-10. Intersection Analysis for EA 2019 and EAP 2019 Conditions – With Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
University Parkway/Kendall Drive (EA 2019)																		
1	-- without improvements	TS	2	3	0	1	3	0	2	2	0	2	2	0	38.7	56.1	D	E
	-- with improvements	TS	2	3	0	<u>2</u>	3	0	2	2	0	2	2	0	38.5	49.5	D	D
University Parkway/Kendall Drive (EAP 2019)																		
2	-- without improvements	TS	2	3	0	1	3	0	2	2	0	2	2	0	39.1	58.0	D	E
	-- with improvements	TS	2	3	0	<u>2</u>	3	0	2	2	0	2	2	0	38.7	50.3	D	D

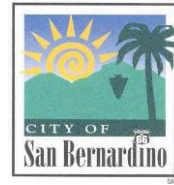
Source: Urban Crossroads 2015

Bold = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1. When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes. (L = left; T = through; R = right; d= de facto right turn lane; > = right turn overlap phasing; >> = free-right turn lane; 1= Improvement).

2. Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross-street stop control, the delay and LOS for the worst individual movement (or movements sharing a single lane) are shown.

3. TS = traffic signal



Impact 3.12-2

Would the project:

Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Impact Analysis

The City of San Bernardino implements development standards designed to ensure standard engineering practices are used for all improvements. The proposed project would be checked for compliance with these standards as part of the review process conducted by the City. The project includes improvements to the transportation and circulation system surrounding the site, and all such improvements would be designed and constructed to local, regional, and federal standards. As such, they would not introduce any hazardous design features.

The project is proposed to have access on Magnolia Avenue via Driveway 1 and W. Little League Drive via Driveways 2 through 5. All five project driveways are proposed to be full access. Construction of on-site and site-adjacent improvements would occur in conjunction with adjacent project development activity or as needed for project access purposes. The site access driveway improvements for the project are included in the TIA and described in [Table 3.12-11](#).

Table 3.12-11. Site Access Driveway Improvements

#	Access Driveway	Funding Source	Site Access Driveway Improvement
4	Magnolia Avenue/Driveway 1	Project Applicant	Install a stop control on the westbound approach and construct the intersection with the following geometrics: <ul style="list-style-type: none"> ▪ Northbound approach: one shared through-right turn lane ▪ Southbound approach: one shared left-through lane ▪ Eastbound approach: not applicable ▪ Westbound approach: one shared left-right turn lane
5	Magnolia Avenue/W. Little League Drive	Project Applicant	Install a stop control on the southbound approach and construct the intersection with the following geometrics: <ul style="list-style-type: none"> ▪ Northbound approach: not applicable ▪ Southbound approach: one shared left-right turn lane ▪ Eastbound approach: one shared left-through lane ▪ Westbound approach: one shared through-right turn lane
6	Driveway 2/W. Little League Drive	Project Applicant	Install a stop control on the southbound approach and construct the intersection with the following geometrics: <ul style="list-style-type: none"> ▪ Northbound approach: not applicable ▪ Southbound approach: one shared left-right turn lane ▪ Eastbound approach: one shared left-through lane ▪ Westbound approach: one shared through-right turn lane

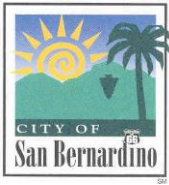


Table 3.12-11, continued

#	Access Driveway	Funding Source	Site Access Driveway Improvement
7	Driveway 3/W. Little League Drive	Project Applicant	Install a stop control on the southbound approach and construct the intersection with the following geometrics: <ul style="list-style-type: none"> ▪ Northbound approach: not applicable ▪ Southbound approach: one shared left-right turn lane ▪ Eastbound approach: one shared left-through lane ▪ Westbound approach: one shared through-right turn lane
8	Driveway 4/W. Little League Drive	Project Applicant	Install a stop control on the southbound approach and construct the intersection with the following geometrics: <ul style="list-style-type: none"> ▪ Northbound approach: not applicable ▪ Southbound approach: one shared left-right turn lane ▪ Eastbound approach: one shared left-through lane ▪ Westbound approach: one shared through-right turn lane
9	Driveway 5/W. Little League Drive	Project Applicant	Install a stop control on the southbound approach and construct the intersection with the following geometrics: <ul style="list-style-type: none"> ▪ Northbound approach: not applicable ▪ Southbound approach: one shared left-right turn lane ▪ Eastbound approach: one shared left-through lane ▪ Westbound approach: one shared through-right turn lane

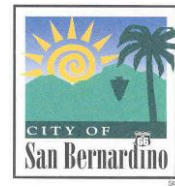
Source: Urban Crossroads 2015

Additionally, as part of the development, the project would construct improvements on the site-adjacent roadways of W. Little League Drive and Magnolia Avenue. Roadway improvements necessary to provide site access are assumed to be constructed in conjunction with site development and are described below. These improvements would be constructed as adjacent portions of the project are developed.

On-Site Roadway Improvements

Magnolia Avenue – Magnolia Avenue is a north–south-oriented roadway along the western project boundary. Construct Magnolia Avenue from the northern project boundary to W. Little League Drive at its ultimate half-section width as a collector (60-foot right-of-way), in compliance with applicable City of San Bernardino standards.

W. Little League Drive – W. Little League Drive is an east–west-oriented roadway along the southern project boundary. Construct W. Little League Drive from Magnolia Avenue to the eastern project boundary of Phase 1 at its ultimate half-section width as a collector (60-foot right-of-way), in compliance with applicable City of San Bernardino standards. Construct W. Little League Drive from the western boundary of Phase 2 to the eastern project boundary at its ultimate half-section width as a collector (60-foot right-of-way), in compliance with applicable City of San Bernardino standards. In addition, the Little League Drive Design Parameter Review recommends a curve radius of 400-feet be used at this location (Urban Crossroads 2015; [Appendix 3.12-1](#)) to provide alignment consistency with the existing curve located northwest of the project site.



Wherever necessary, roadways adjacent to the project, site access points, and site-adjacent intersections will be constructed to be consistent with or within the recommended roadway classifications and respective cross sections in the City of San Bernardino General Plan Circulation Element. On-site traffic signing and striping would be implemented in conjunction with detailed construction plans for the project site. As part of the City's review of all development plans, sight distance at each project access point will be reviewed with respect to City of San Bernardino sight distance standards (Chapter 12.30, Sight Distance Requirement) at the time of preparation of final grading, landscape, and street improvement plans. The proposed project does not include any dangerous design features, curves, or intersections.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.12-3

Would the project:
Result in inadequate emergency access?

Impact Analysis

All of the roadways proposed within the project meet the City's design standards for access. During construction of improvements associated with the project, roadways may be temporarily blocked or subject to detours and delays, which could temporarily affect emergency access. Project construction will require the export of materials from the site and the import of construction materials to the site. The exported materials will be transported via dump trucks. Each truck will generate one inbound and one outbound trip.

In order to minimize the impact of construction truck traffic to the surrounding roadway network, a construction traffic management plan (TMP) will be implemented for the duration of the construction phase. A TMP is prepared in coordination with emergency services personnel and made part of the construction requirements placed on the contractor. The TMP often requires public notice of construction schedules as well as contact information in case of emergency or concern with the construction site and/or roadways. A TMP can be customized to avoid construction during special events, holidays, or other periods of intense traffic demand. Of particular focus in a TMP is a requirement to ensure access to adjacent homes and property during the construction process. Coordination of the TMP with local and regional emergency personnel is required to ensure consistency. Mitigation Measure TRA-2 establishes the requirement for a traffic management plan and minimizes the effect of construction activity on emergency access.

After construction, emergency access throughout the project site will be developed in accordance with applicable ordinances, standard conditions of approval, and permits related to emergency access and reduce this impact to a less than significant level.



Impact Conclusion

Potentially significant.

Mitigation Measures

TRA-2 The project applicant shall prepare and implement a traffic management plan (TMP) to minimize inconveniences during construction. Included among the provisions, the contractor shall coordinate with the City of San Bernardino, the County of San Bernardino, and local police, fire, and emergency medical service providers regarding construction scheduling and any other practical measures to maintain adequate access to properties and response times. The TMP shall also limit construction activity to the extent feasible and limit all soil export activities to occur outside of the typical weekday morning (7:00 AM to 9:00 AM) and weekday evening (4:00 PM to 6:00 PM) peak commute hours. The TMP shall include contact information for members of the general public who may have questions concerning the project and access to their property. Two-way traffic through the construction zone shall be maintained throughout the construction period.

Timing/Implementation: Prior to and during construction

Enforcement/Monitoring: City of San Bernardino Public Works and Planning Departments

Level of Significance After Mitigation: Less than significant.

Impact 3.12-4

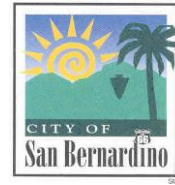
Would the project:

Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Impact Analysis

The addition of population proposed by the project has the potential to increase the demand for public transit. There is an existing sbX transit station/transfer point on Kendall Drive, just east of Palm Avenue. Additionally, Omnitrans Route 2 runs to just east of the project site, while Route 7 and Route 11 run in proximity of the project site near University Parkway. As far as pedestrian and bicycle facilities are concerned, there are existing bus stop locations, crosswalks, bike lanes, trails, and sidewalks in proximity to the project site. Pedestrian facilities are limited in the western portion of the project site. According to the City of San Bernardino Conceptual Trail System, a regional multipurpose trail is proposed west of Palm Avenue and along Pine Avenue, north of Kendall Drive. Additionally, bicycle routes are proposed along Cajon Boulevard, west of Palm Avenue.

As discussed in [Section 3.11, Population and Housing](#), the residential component of the proposed project would add approximately 419 people to the City's population. This represents a .20-



percent incremental increase in the City's existing population of 213,861. Additionally, the commercial component of the proposed project would generate commuters that would have the option to use public transit located within proximity to the project site. However, the performance of these systems is not expected to decrease upon implementation of the proposed project. In fact, the existing and proposed transit options would remain intact and not otherwise be affected by the project. Therefore, impacts related to existing alternative transportation would not result from the project, and the proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation or the expansion of alternative transportation.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

3.12.5 Cumulative Impacts and Mitigation Measures

Impact 3.12-5

Would the project:

Result in cumulative impacts related to traffic?

Impact Analysis

[Figures 3.12-9A to 3.12-9C](#) illustrate the cumulative study area and projects considered, as well as the resulting cumulative traffic volumes. Refer also to [Table 2-3, Cumulative Projects](#), which identifies those projects considered in the cumulative analysis for the proposed project.

Horizon Year (2035)

Horizon Year (2035) without Project Traffic (2035 NP) and Horizon Year (2035) with Project (2035 NP) calculations are based on the San Bernardino Transportation Analysis Model (SBTAM). Peak-hour intersection operations were also evaluated at study area intersections that were determined to potentially be impacted by the future Magnolia Avenue Bridge over the Cajon Creek Wash.

Intersection Analysis

Under 2035 NP conditions, as shown in [Table 3.12-12](#), several intersections result in a reduction in level of service from the acceptable LOS D to the unacceptable LOS E during either the AM or PM peak hour.

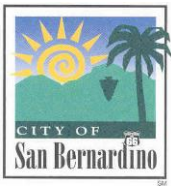


Table 3.12-12. Unacceptable Level of Service 2035 NP

ID	Intersection Location
10	Palm Avenue/Belmont Avenue – LOS E AM peak hour only
11	Palm Avenue/Irvington Avenue – LOS E AM peak hour only
14	Palm Avenue/I-215 Southbound Ramps – LOS E PM peak hour only
15	Palm Avenue/Hallmark Parkway – LOS E PM peak hour only
19	University Parkway/Kendall Drive – LOS F PM peak hour only
Source: Urban Crossroads 2015	

In addition, the Palm Avenue/Kendall Avenue intersection would experience a reduction in level of service from the acceptable LOS D to the unacceptable LOS F during the AM peak hour under 2035 NP conditions with the Magnolia Avenue extension over the Cajon Creek Wash.

The addition of project traffic under the 2035 WP scenario is not anticipated to result in any deficient intersections with the exception of the intersections listed in [Table 3.12-13](#), which would exceed the City’s minimum V/C threshold of 0.01 for intersections operating at LOS E or LOS F under pre-project conditions ([Tables 3.12-13 and 3.12-14](#)).

Table 3.12-13. Volume to Capacity Ratio (V/C) for 2035 Without Project (NP) and 2035 With Project (WP)

ID	Intersection Location	V/C for 2035 NP– Deficient Peak Hour	V/C for 2035 WP– Deficient Peak Hour	Increase
10	Palm Ave./Belmont Ave.	0.990	1.033	0.043
11	Palm Ave./Irvington Ave.	1.140	1.190	0.050
14	Palm Ave./I-215 SB Ramps	0.952	1.077	0.125
15	Palm Ave./Industrial Pkwy.	1.099	1.149	0.050
19	University Pkwy./Kendall Dr.	0.888	0.902	0.014
Source: Urban Crossroads 2015				

In addition, the Palm Avenue/Kendall Avenue intersection would experience a reduction in level of service from the acceptable LOS D to the unacceptable LOS F during the AM peak hour under 2035 WP conditions with the Magnolia Avenue extension over the Cajon Creek Wash.

The implementation of the proposed project would result in several deficient intersections ([Table 3.12-13](#)). This is considered a cumulatively considerable impact.

Off-Ramp Queuing Analysis

As shown in [Table 3.12-16](#), no movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for 2035 NP or 2035 WP traffic conditions.

Basic Freeway Segment Analysis

As shown on [Table 3.12-17](#), for the basic freeway segments analyzed in this study, for 2035 NP and 2035 WP, two mainline directional segments are anticipated to operate at an unacceptable level of service (i.e., LOS C or better) during the peak hours.



Freeway Merge/Diverge Analysis

As shown in [Table 3.12-18](#), the freeway ramp merge and diverge areas are anticipated to operate at an acceptable level of service (i.e., LOS D or better), with the exception of the intersections listed in [Table 3.12-14](#).

Table 3.12-14. Unacceptable Intersection Locations

ID	Intersection Location
1	I-215 Freeway – Southbound, Palm Avenue Off-Ramp – LOS F AM and PM peak hours
2	I-215 Freeway – Southbound, Palm Avenue On-Ramp – LOS F AM and PM peak hours
4	I-215 Freeway – Northbound, Palm Avenue Off-Ramp – LOS E PM peak hour only
Source: Urban Crossroads 2015	

Impact Summary

As shown in [Tables 3.12-14 and 3.12-15](#), several intersections will operate at unacceptable levels of service.

The intersections listed in [Table 3.12-15](#) are anticipated to experience an unacceptable level of service during either the AM or PM peak hour under 2035 NP conditions. The addition of project traffic in the 2035 NP scenario is not anticipated to result in any additional deficient intersection. However, under 2035 WP conditions, the intersections listed in [Table 3.12-15](#) are anticipated to exceed the City’s minimum V/C threshold of 0.01 for intersections operating at LOS E or LOS F under pre-project conditions. Therefore, these impacts are considered potentially cumulatively considerable.



Table 3.12-15. Intersection Analysis for 2035 NP and 2035 WP Conditions

#	Intersection	Traffic Control ²	Existing (2015)				2035 NP				Significant Impact	2035 WP				Significant Impact
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service			Delay ¹ (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	
1	N. Little League Drive/W. Little League Drive	CSS	10.1	9.8	B	A	10.2	10.2	B	B	No	11.9	11.0	B	B	No
2	N. Little League Drive/Kendall Drive	CSS	10.3	13.3	B	B	12.4	17.3	B	C	No	13.2	20.0	B	C	No
3	Magnolia Avenue/Irvington Avenue	CSS	10.4	0.0	B	A	11.2	0.0	B	A	No	11.2	0.0	B	A	No
4	Magnolia Avenue/Driveway 1 – Future Intersection	CSS	Future Intersection				Future Intersection				No	8.6	8.6	A	A	No
5	Magnolia Avenue/W. Little League Drive – Future Intersection	CSS	Future Intersection				Future Intersection				No	9.9	10.1	A	B	No
6	Driveway 2/W. Little League Drive – Future Intersection	CSS	Future Intersection				Future Intersection				No	10.4	10.9	B	B	No
7	Driveway 3/W. Little League Drive – Future Intersection	CSS	Future Intersection				Future Intersection				No	10.8	14.9	B	B	No
8	Driveway 4/W. Little League Drive – Future Intersection	CSS	Future Intersection				Future Intersection				No	11.0	12.9	B	B	No
9	Driveway 5/W. Little League Drive – Future Intersection	CSS	Future Intersection				Future Intersection				No	11.3	12.9	B	B	No
10	Palm Avenue/Belmont Avenue	AWS	15.7	9.7	C	A	41.1	11.5	E	B	Yes	41.3	12.5	E	B	Yes
11	Palm Avenue/Irvington Avenue	TS	31.0	15.2	C	B	58.1	16.2	E	B	Yes	60.6	16.5	E	B	Yes
12	Palm Avenue/Kendall Avenue	TS	35.1	33.9	D	C	49.0	41.6	D	D	No	54.1	46.4	D	D	No
13	Palm Avenue/I-215 Northbound Ramps	TS	8.0	9.8	A	A	18.0	18.2	B	B	No	44.1	27.6	D	C	No
14	Palm Avenue/I-215 Southbound Ramps	TS	32.3	15.3	C	B	48.9	57.5	D	E	Yes	53.7	57.9	D	E	Yes

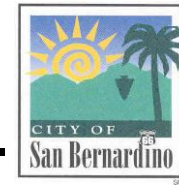


Table 3.12-15, continued

#	Intersection	Traffic Control ²	Existing (2015)				2035 NP				Significant Impact	2035 WP				Significant Impact
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service			Delay ¹ (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	
15	Palm Avenue/Hallmark Parkway	AWS	11.5	10.9	B	B	20.8	36.0	C	E	Yes	21.9	36.2	C	E	Yes
16	Pine Avenue/Belmont Avenue	CSS	12.6	11.5	B	B	17.7	16.6	C	C	No	18.5	18.1	C	C	No
17	Pine Avenue/Kendall Drive	TS	20.0	18.0	C	B	21.5	25.9	C	C	No	21.5	32.4	C	C	No
18	Campus Parkway/Kendall Drive	TS	37.5	26.7	D	C	36.9	27.7	D	C	No	36.9	28.2	D	C	No
19	University Parkway/Kendall Drive	TS	37.1	49.6	D	D	48.9	89.3	D	F	Yes	49.6	92.9	D	F	Yes

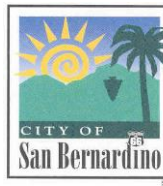


Table 3.12-16. Peak-Hour Freeway Off-Ramp Queuing Summary for 2035 NP and 2035 WP Conditions

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2015)				2035 NP				2035 WP			
			95th Percentile Queue (feet)		Acceptable?¹		95th Percentile Queue (feet)		Acceptable?¹		95th Percentile Queue (feet)		Acceptable?¹	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-215 NB Off-Ramp/Palm Avenue	NBL/T	910	105	133	Yes	Yes	218²	208	Yes	Yes	218²	208	Yes	Yes
	NBR	415	104	165	Yes	Yes	226²	400²	Yes	Yes	281²	441²	Yes	Yes
I-215 SB Off-Ramp/Palm Avenue	NBL/T/R	1,470	429²	74	Yes	Yes	700²	179²	Yes	Yes	718²	191²	Yes	Yes

Source: Urban Crossroads 2015

Notes:

- Stacking distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking, which is assumed to be provided in the transition for turn pockets, is reflected in the stacking distance shown on this table, where applicable.
- Maximum queue length for the approach reported.

Table 3.12-17. Basic Freeway Segment Analysis for 2035 NP and 2035 WP Conditions

Freeway	Direction	Mainline Segment	Lanes¹	Existing (2015)				2035 NP				2035 WP			
				Density²		LOS		Density²		LOS		Density²		LOS	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-215	SB	North of Palm Avenue	2	20.5	13.7	C	B	60.2	63.8	F	F	60.7	65.0	F	F
		South of Palm Avenue	2	23.5	15.4	C	B	82.3	87.0	F	F	84.2	89.1	F	F
	NB	North of Palm Avenue	2	9.0	15.7	A	B	23.5	26.1	C	D	23.7	26.4	C	D
		South of Palm Avenue	2	10.2	19.7	A	C	26.5	34.5	D	D	26.7	34.9	D	D

Source: Urban Crossroads 2015

Notes **Bold** = unacceptable level of service

- Number of lanes in the specified direction and based on existing conditions.
- Density is measured by passenger cars per mile per lane (pc/mi/ln).

Table 3.12-18. Freeway Ramp Junction Merge/Diverge Analysis for 2035 NP and 2035 WP Conditions

Freeway	Direction	Mainline Segment	Lanes¹	Existing (2015)				2035 NP				2035 WP			
				Density²		LOS		Density²		LOS		Density²		LOS	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-215	SB	North of Palm Avenue	2	27.8	19.9	C	B	49.5	50.3	F	F	49.6	50.6	F	F
		South of Palm Avenue	2	28.8	20.7	D	C	49.3	50.0	F	F	49.5	50.2	F	F
	NB	North of Palm Avenue	2	13.3	20.7	B	C	28.3	30.6	D	D	28.5	30.8	D	D
		South of Palm Avenue	2	15.2	26.5	B	C	33.2	38.9	D	E	33.3	39.2	D	E

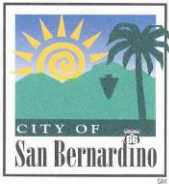
Source: Urban Crossroads 2015

Notes **Bold** = Unacceptable Level of Service

- Number of lanes are in the specified direction and is based on existing conditions.
- Density is measured by passenger cars per mile per lane (pc/mi/ln).



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A project's contribution to a cumulatively significant impact can be reduced to less than significant if the project implements or funds its fair share of improvements designed to alleviate the potential cumulative impact. City Municipal Code Sections 3.27.050 (Local Circulation System Impact Fee) and 3.27.060 (Regional Circulation System Impact Fee) require the project applicant to participate in the funding of off-site improvements, including traffic signals that are needed to serve cumulative traffic conditions. Specifically, this will be done through the payment of Development Impact Fees (DIF). Per Municipal Code Chapter 3.27, these fees are collected as part of a funding mechanism intended to ensure regional highways and arterial expansions keep pace with projected population increases.

Each of the following improvements has been identified as being included as part of the City DIF program.

- Palm Avenue/I-215 SB Ramps (#14)
 - Second southbound turn lane
- Palm Avenue/Hallmark Parkway (#15)
 - Second northbound through lane
 - Second southbound through lane

In addition to the DIF program, the project applicant will be required to participate in a fair share contribution, as directed by the City. When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. As such, Mitigation Measure TRA-4 requires a 12.1 percent and 10.9 percent fair share contribution for Palm Avenue/Belmont Avenue and Palm Avenue/Irvington Avenue, respectively (as calculated by Urban Crossroads (2015)). Fees paid by the applicant must be received prior to occupancy of the proposed project. Another funding source is San Bernardino County approved Measure "1" which is a one-half of one percent sales tax on retail transactions, through the year 2040, for transportation projects including, but not limited to, infrastructure improvements, commuter rail, public transit, and other identified improvements.

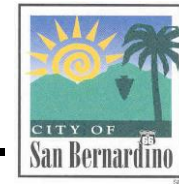


Table 3.12-19. Intersection Analysis for 2035 WP and 2035 NP Conditions – With Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
10	Palm Avenue/ Belmont Avenue																	
	2035 NP																	
	-- without improvements	AWS	0	1	1	0	1	0	0	1	0	0	1	0	41.1	11.5	E	B
	-- with improvements	AWS	<u>1</u>	1	<u>0</u>	<u>1</u>	1	0	<u>1</u>	1	0	<u>1</u>	1	0	28.4	10.8	C	B
	2035 WP																	
	-- without improvements	AWS	0	1	1	0	1	0	0	1	0	0	1	0	41.3	12.5	E	B
	-- with improvements	AWS	<u>1</u>	1	<u>0</u>	<u>1</u>	1	0	<u>1</u>	1	0	<u>1</u>	1	0	31.5	11.4	D	B
11	Palm Avenue/ Irvington Avenue																	
	2035 NP																	
	-- without improvements	TS	1	2	0	1	2	0	0	1	0	0	1	0	58.1	16.2	E	B
	-- with improvements	TS	1	2	0	<u>1</u>	2	0	0	1	<u>1></u>	0	1	0	40.3	16.0	D	B
	2035 WP																	
	-- without improvements	TS	1	2	0	1	2	0	0	1	0	0	1	0	60.6	16.5	E	B
	-- with improvements	TS	1	2	0	<u>1</u>	2	0	0	1	<u>1></u>	0	1	0	41.5	16.3	D	B
14	Palm Avenue/ I-215 SB Ramps																	
	2035 NP																	
	-- without improvements	TS	1	2	0	1	1	1	0	1	d	0	1	0	48.9	57.5	D	E
	-- with improvements	TS	1	2	0	<u>2</u>	1	1	0	1	d	0	1	0	26.5	20.1	C	C
	2035 WP																	
	-- without improvements	TS	1	2	0	1	1	1	0	1	d	0	1	0	53.7	57.9	D	B
	-- with improvements	TS	1	2	0	<u>2</u>	1	1	0	1	d	0	1	0	29.8	24.1	C	C

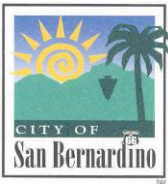


Table 3.12-19, continued

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
15	Palm Avenue/Hallmark Parkway																	
	2035 NP																	
	- without improvements	AWS	1	1	1	1	1	1	0	1	0	1	1	1	20.8	36.0	C	E
	-with improvements	AWS	1	<u>2</u>	<u>0</u>	1	<u>2</u>	<u>0</u>	0	1	0	1	1	1	12.1	16.9	B	C
	2035 WP																	
	- without improvements	AWS	1	1	1	1	1	1	0	1	0	1	1	1	21.9	36.2	C	E
	-with improvements	AWS	1	<u>2</u>	<u>0</u>	1	<u>2</u>	<u>0</u>	0	1	0	1	1	1	12.5	17.8	B	C
19	University Parkway/ Kendall Drive																	
	2035 WP																	
	-- without improvements	TS	2	3	0	1	3	0	2	2	0	2	2	0	48.9	89.3	D	F
	-- with improvements	TS	2	3	<u>1</u> >	<u>2</u>	3	0	2	3	<u>1</u> >	2	<u>3</u>	0	40.9	52.4	D	D
	2035 NP																	
	-- without improvements	TS	2	3	0	1	3	0	2	2	0	2	2	0	49.6	92.9	D	F
	-- with improvements	TS	2	3	<u>1</u> >	<u>2</u>	3	0	2	<u>3</u>	<u>1</u> >	2	<u>3</u>	0	41.1	54.8	D	D

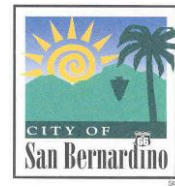
Source: Urban Crossroads 2015

Bold = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1. When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane, there must be sufficient width for right turning vehicles to travel outside the through lanes. (L = left; T = through; R = right; d= de facto right turn lane; > = right turn overlap phasing; >> = free-right turn lane; 1= Improvement).

2. Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross-street stop control, the delay and LOS for the worst individual movement (or movements sharing a single lane) are shown.

3. AWS = all-way stop; TS = traffic signal



Long-term impacts would typically be considered less than significant because the City reasonably assumes that the improvements will eventually be constructed. However, since the City does not have the authority to implement regional funded roadway improvements (Measure “I”) and cannot be certain that the projects listed on page 14 of the TIA will be built and will pay to address the impacts at the intersections in TRA-3. Without certain funding, the City cannot guarantee that the proposed improvements will be constructed as proposed by mitigation measure TRA-3.

As shown in [Table 3.12-15](#), the intersection analysis for 2035 With Project scenario would result in significant impacts at Palm Avenue/Belmont Avenue (Intersection #10); Palm Avenue/Irvington Avenue (Intersection #11); Palm Avenue/I-215 Southbound Ramps (Intersection #14); Palm Avenue/Hallmark Parkway (Intersection #15), and; University Parkway/Kendall Drive (Intersection #19). As the City will collect fees representing the proportionate share of the proposed project’s impact at the intersections identified in mitigation measure TRA-3, the project’s potential contribution to traffic-related impacts would be reduced to less than cumulatively considerable.

Impact Conclusion

Cumulatively considerable.

Mitigation Measures

TRA-3 The project applicant shall be required to construct or pay its fair share of the following traffic improvements:

Palm Avenue/Belmont Avenue (#10)

- Restripe northbound with one left turn lane and one shared through-right turn lane
- One southbound left turn lane
- One eastbound left turn lane
- One westbound left turn lane

OR

- Fair Share contribution: 12.1 percent

Palm Avenue/Irvington Avenue (#11)

- Eastbound right turn lane with overlap phase

OR

- Fair Share contribution: 10.9 percent

Palm Avenue/I-215 Southbound Ramps (#14) (Measure “I”)

- 2nd Southbound left turn lane

Palm Avenue/Hallmark Parkway (#15) (Measure “I”)

- 2nd Northbound through lane



- 2nd Southbound through lane

University Parkway/Kendall Drive (#19) (Measure “I”)

- 2nd Southbound left turn lane
- 1 Northbound right turn lane
- 2nd Southbound left turn lane
- 3rd Eastbound through lane
- 1 Eastbound right turn lane
- 3rd Westbound through lane
- Modify traffic signal with overlap phasing on the Northbound and Eastbound right turn lanes

Level of Significance After Mitigation: Less than cumulatively considerable.

3.12.6 Sources Cited

San Bernardino, City of. 2005a. *San Bernardino General Plan*.

———. 2005b. *San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report (SCH #2004111132)*.

SCAG (Southern California Association of Governments). 2012. *2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future*.

Transportation Research Board. 2000. *Highway Capacity Manual*.

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———. 2015a. *Rancho Palma, Traffic Impact Analysis, City of San Bernardino*.

———. 2015b. *Rancho Palma Little League Drive Design Parameter Review*.



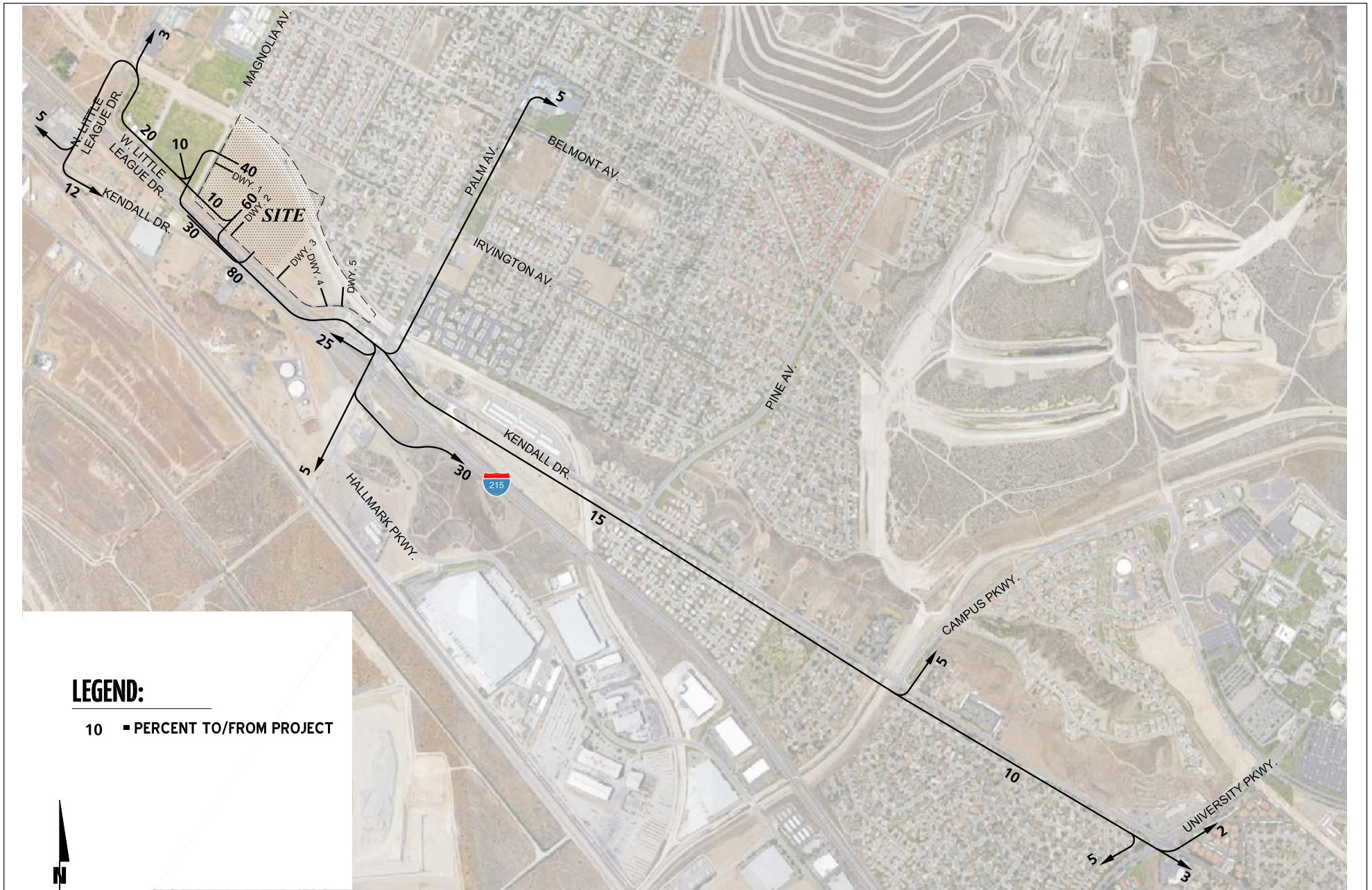
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Source: Urban Crossroads, Rancho Palma Traffic Impact Analysis, 2015.



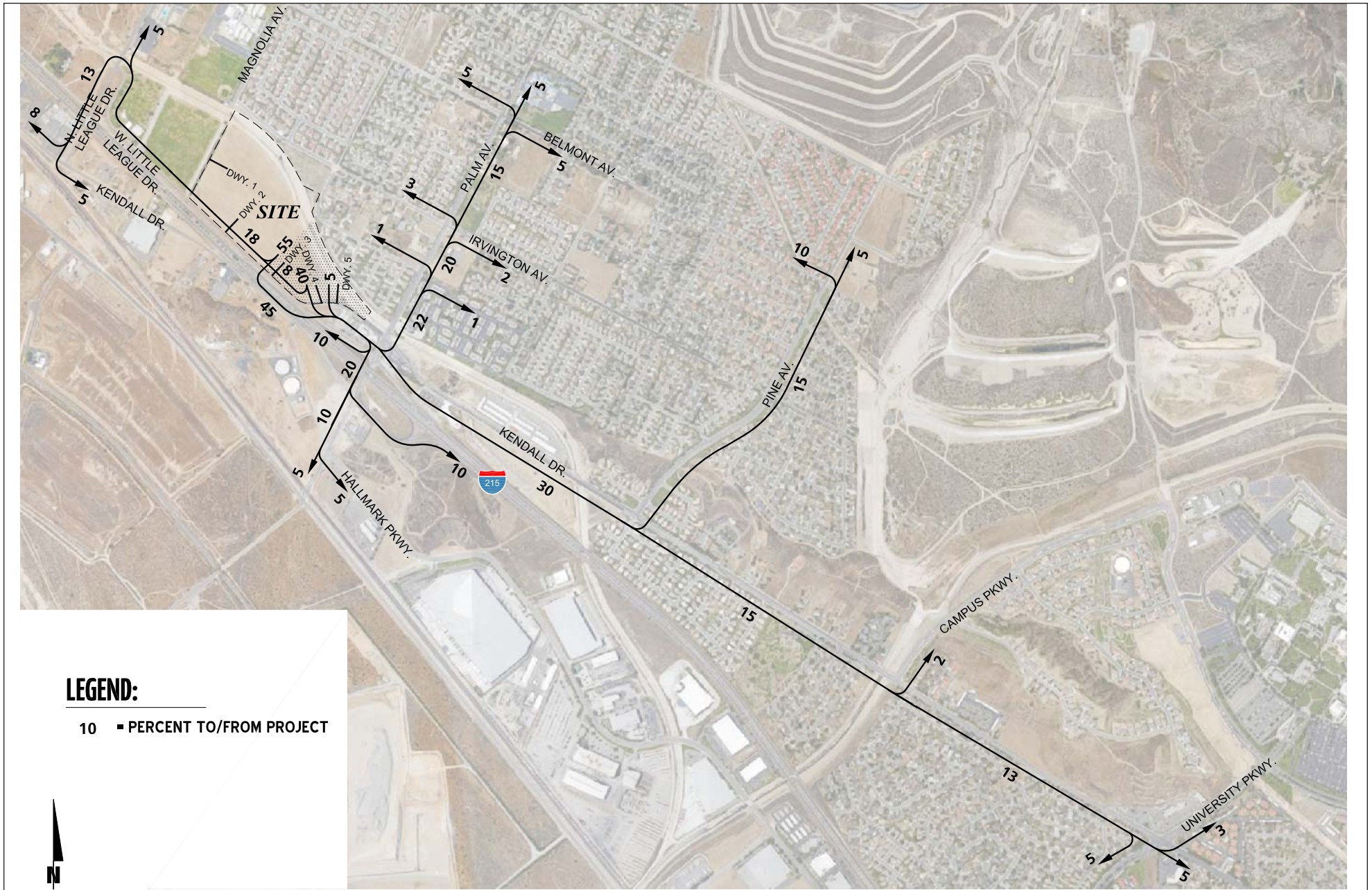
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Source: Urban Crossroads, Rancho Palma Traffic Impact Analysis, 2015.



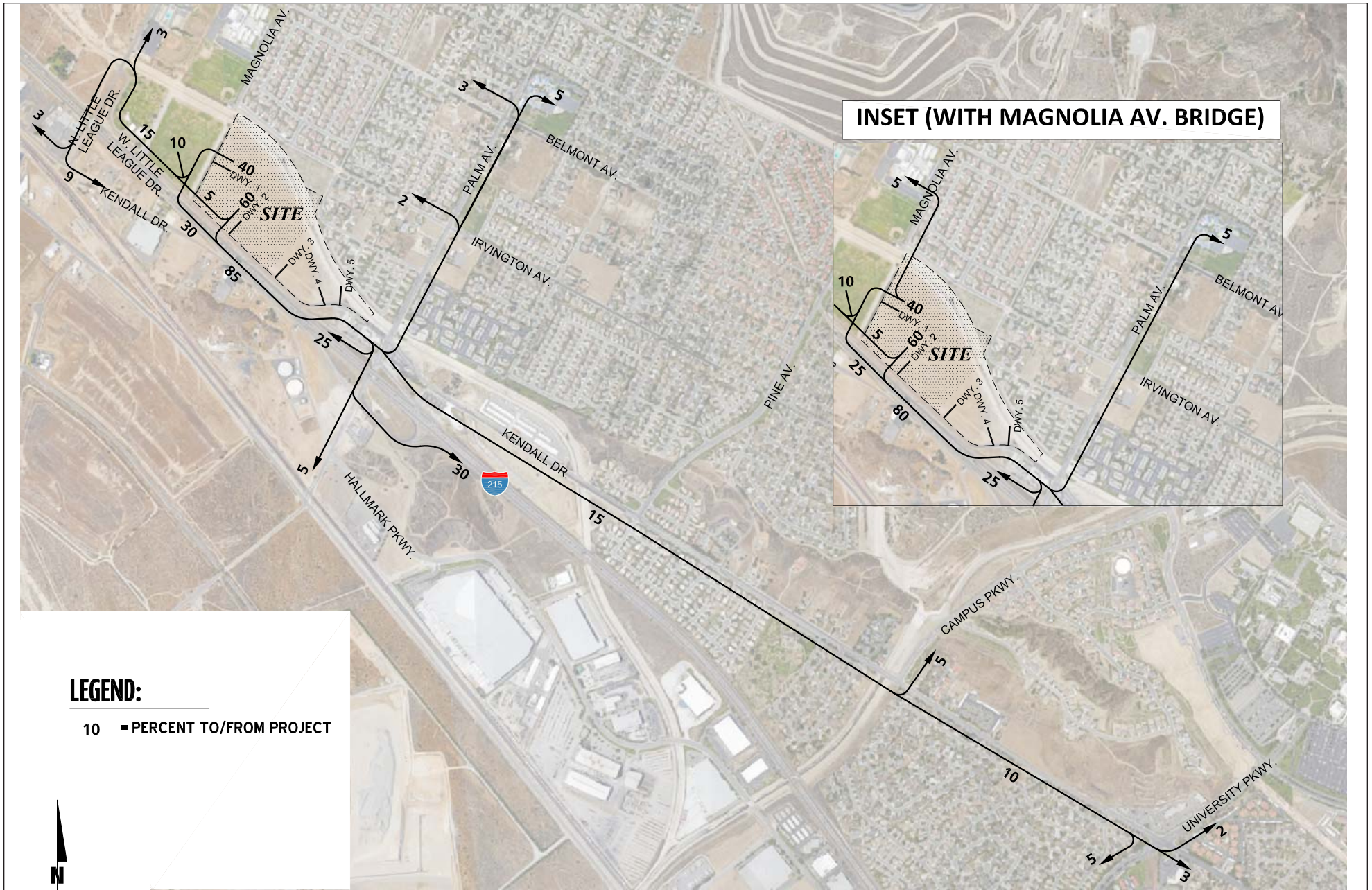
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Source: Urban Crossroads, Rancho Palma Traffic Impact Analysis, 2015.



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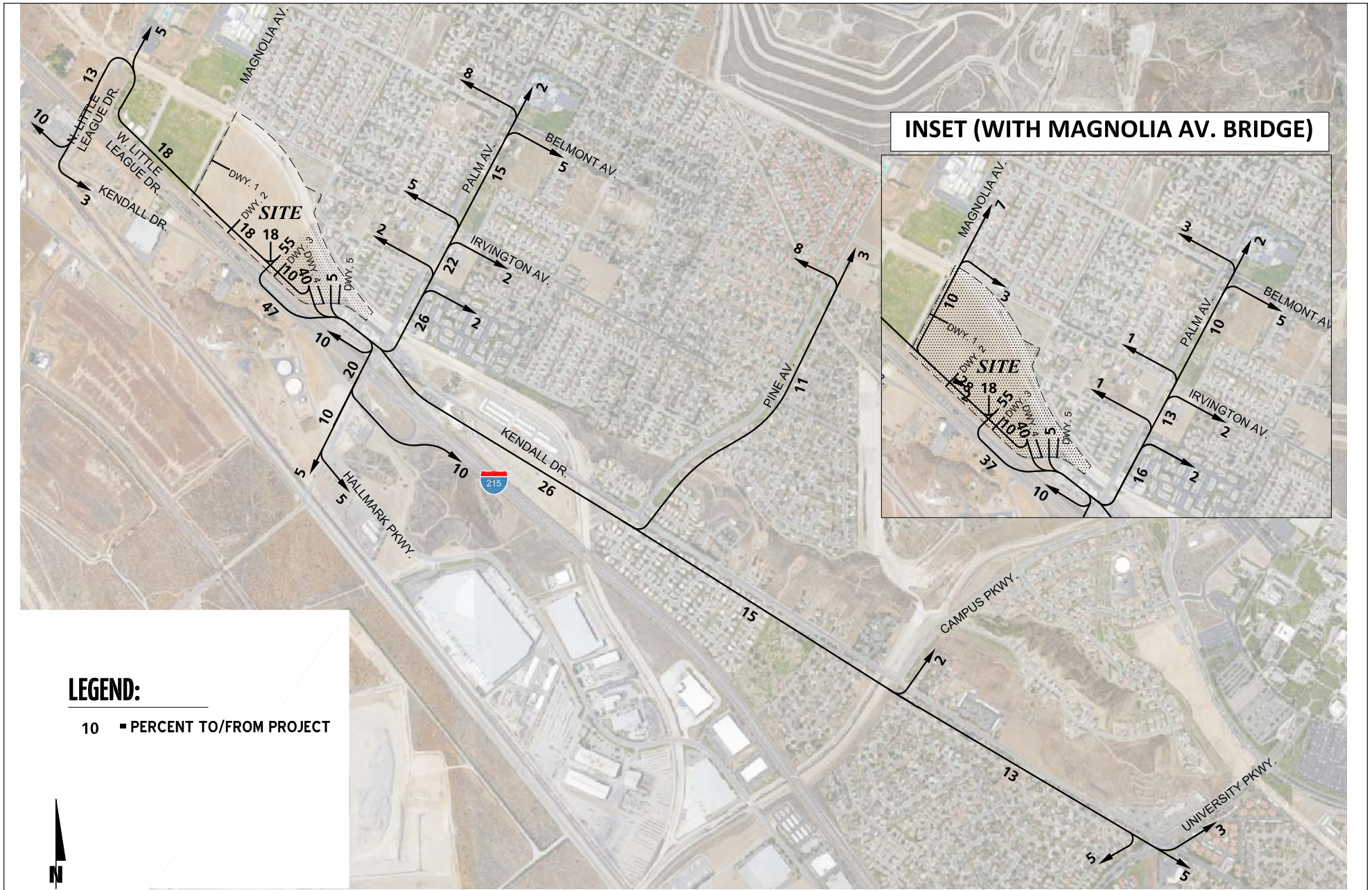


Source: Urban Crossroads, Rancho Palma Traffic Impact Analysis, 2015.

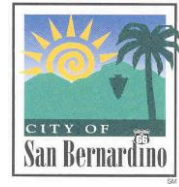
FIGURE 3.12-4
Horizon Year 2035 Project Trip Distribution (Residential)
RANCHO PALMA



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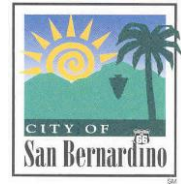
Source: Urban Crossroads, Rancho Palma Traffic Impact Analysis, 2015.



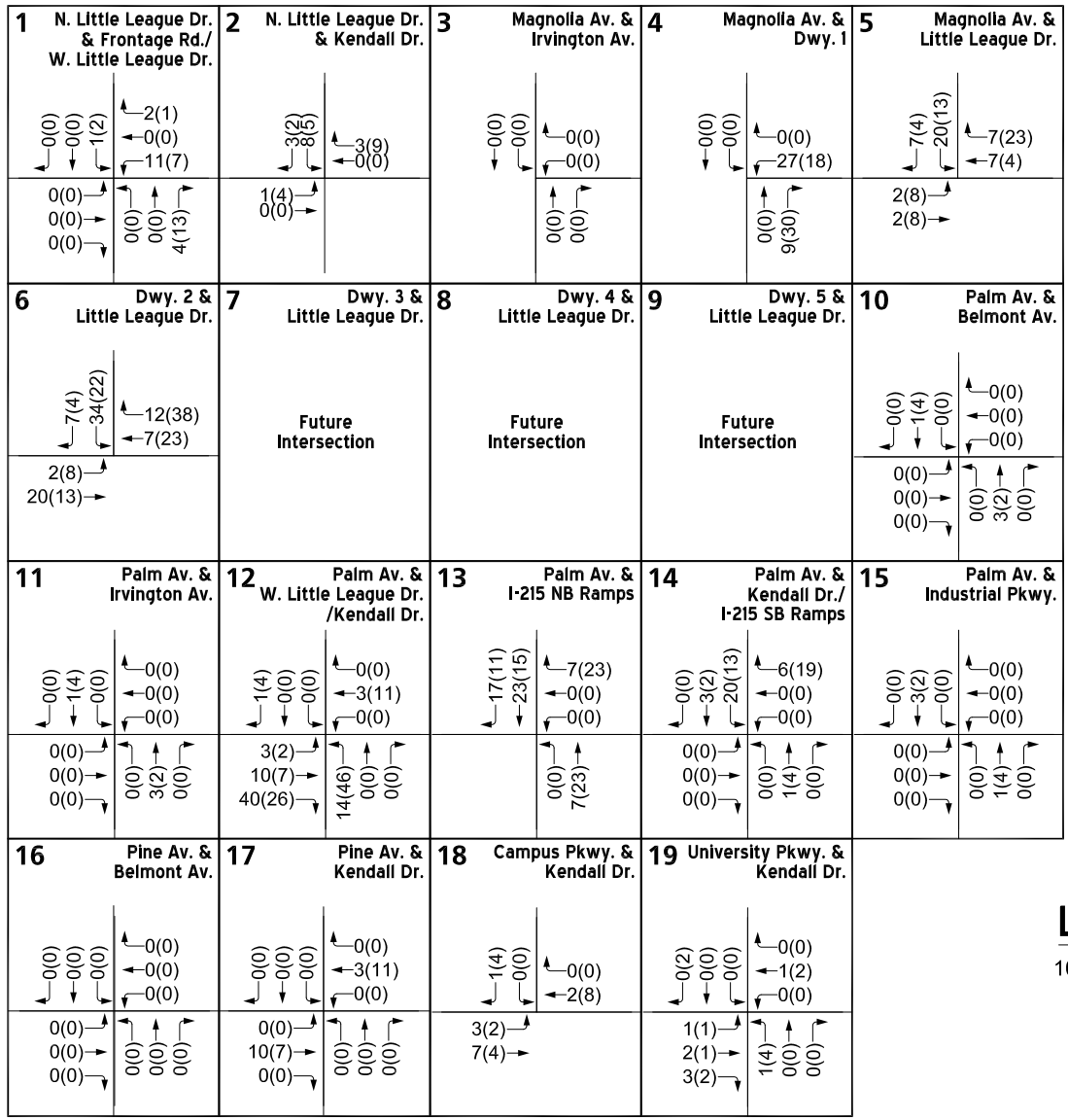
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Source: Urban Crossroads, Rancho Palma Traffic Impact Analysis, 2015.



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LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES



Source: Urban Crossroads, Rancho Palma Traffic Impact Analysis, 2015.



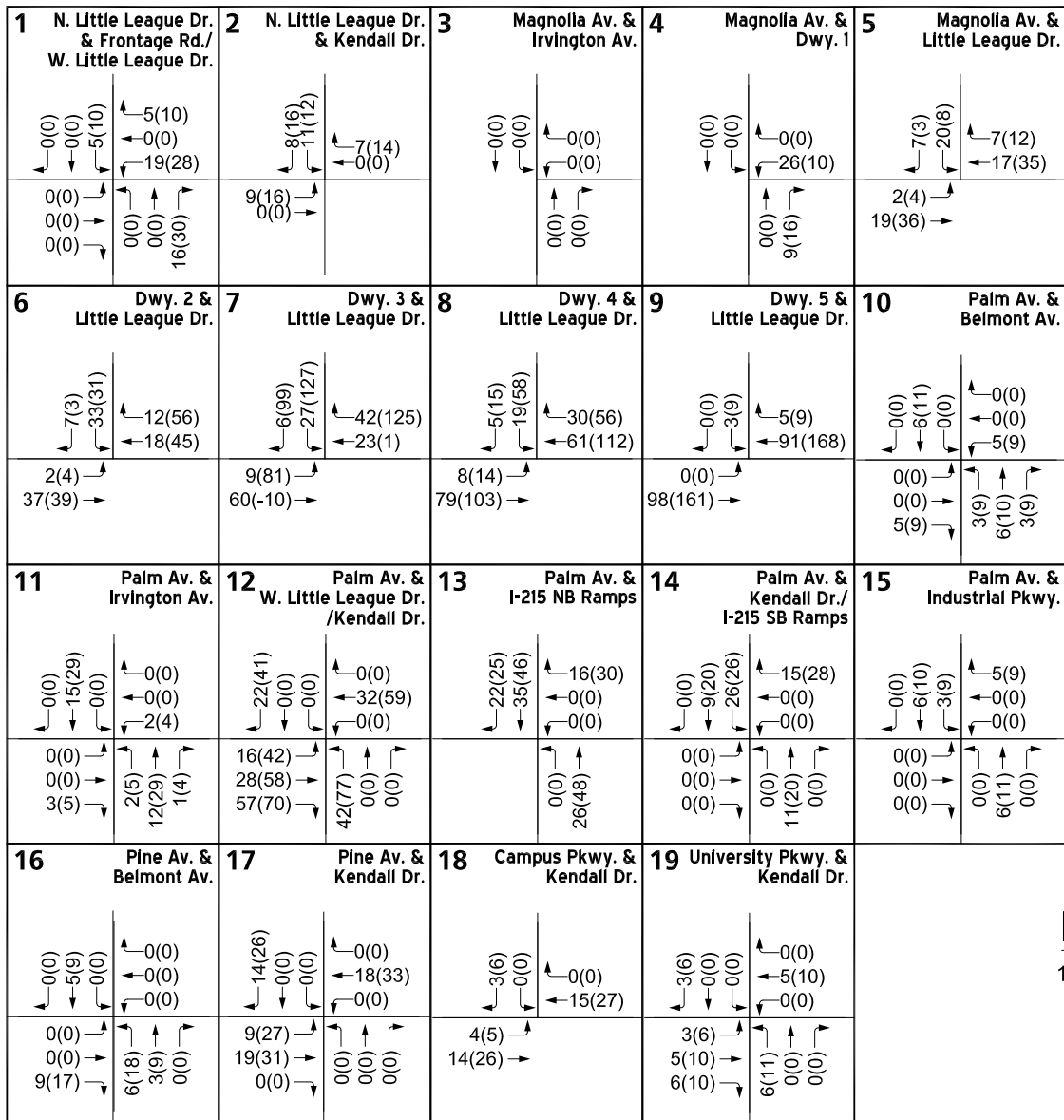
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FIGURE 3.12-7A
Project Traffic Volumes (2019)
RANCHO PALMA



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LEGEND:

10(10) ■ AM(PM) PEAK HOUR INTERSECTION VOLUMES



Source: Urban Crossroads, Rancho Palma Traffic Impact Analysis, 2015.



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Source: Urban Crossroads, Rancho Palma Traffic Impact Analysis, 2015.



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1 N. Little League Dr. & Frontage Rd./ W. Little League Dr.	2 N. Little League Dr. & Kendall Dr.	3 Magnolia Av. & Irvington Av.	4 Magnolia Av. & Dwy. 1	5 Magnolia Av. & Little League Dr.
6 Dwy. 2 & Little League Dr.	7 Dwy. 3 & Little League Dr.	8 Dwy. 4 & Little League Dr.	9 Dwy. 5 & Little League Dr.	10 Palm Av. & Belmont Av.
11 Palm Av. & Irvington Av.	12 Palm Av. & W. Little League Dr. /Kendall Dr.	13 Palm Av. & I-215 NB Ramps	14 Palm Av. & Kendall Dr./ I-215 SB Ramps	15 Palm Av. & Industrial Pkwy.
16 Pine Av. & Belmont Av.	17 Pine Av. & Kendall Dr.	18 Campus Pkwy. & Kendall Dr.	19 University Pkwy. & Kendall Dr.	

2035 ALTERNATIVE

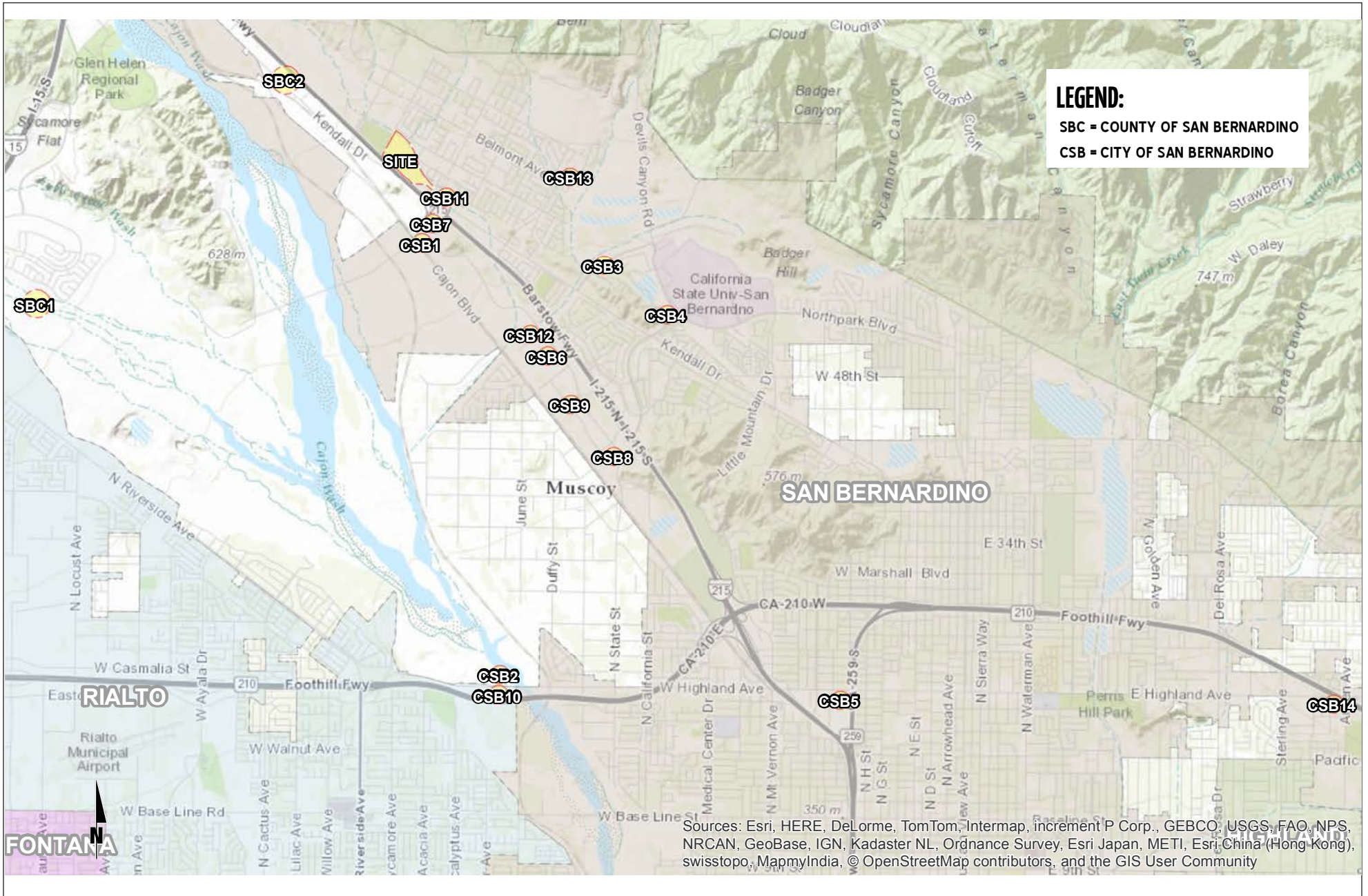
3 Magnolia Av. & Irvington Av.	4 Magnolia Av. & Dwy. 1	5 Magnolia Av. & Little League Dr.
6 Dwy. 2 & Little League Dr.	7 Dwy. 3 & Little League Dr.	8 Dwy. 4 & Little League Dr.
9 Dwy. 5 & Little League Dr.	10 Palm Av. & Belmont Av.	11 Palm Av. & Irvington Av.
12 Palm Av. & W. Little League Dr. /Kendall Dr.		

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

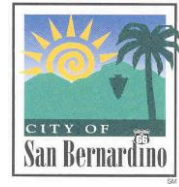


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Source: Urban Crossroads, Rancho Palma Traffic Impact Analysis, 2015.

FIGURE 3.12-9A
Cumulative Development Projects Location Map
RANCHO PALMA



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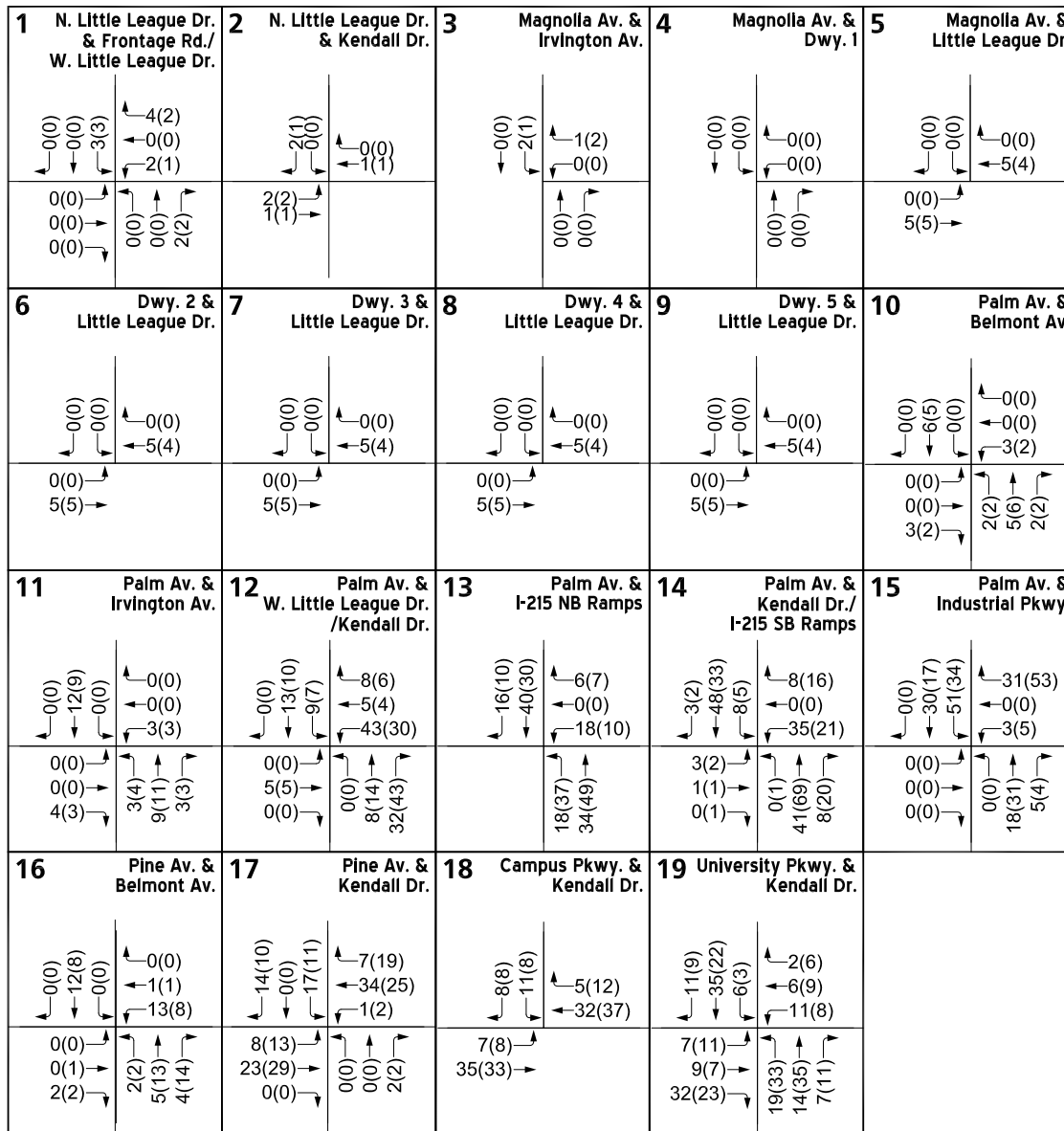


Source: Urban Crossroads, Rancho Palma Traffic Impact Analysis, 2015.

FIGURE 3.12-9B
Cumulative Development Projects Traffic Volumes



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LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES



Source: Urban Crossroads, Rancho Palma Traffic Impact Analysis, 2015.

FIGURE 3.12-9C
Cumulative Development Projects Traffic Volumes

Michael Baker

INTERNATIONAL

03/2016 JN 151510

RANCHO PALMA



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3.13 Utilities, Public Services, and Recreation

This section describes utilities, public services, and parks and recreational facilities resources in San Bernardino. It evaluates potential impacts to these resources associated with implementation of the proposed project.

3.13.1 Regulatory Setting

STATE

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates investor-owned electric power and natural gas utility companies in the state. Assembly Bill (AB) 1890, enacted in 1996, deregulated the power generation industry, allowing customers to purchase electricity on the open market. Under deregulation, the production and distribution of power that was under the control of investor-owned utilities was decoupled. Deregulation allowed other providers the ability to supply electricity to consumers.

California Integrated Waste Management Act

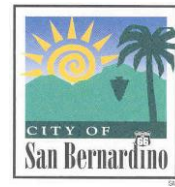
The California Integrated Waste Management Act of 1989 (AB 939) requires every city and county in the state to prepare a Source Reduction and Recycling Element (SRRE) to its Solid Waste Management Plan that identifies how each jurisdiction will meet the mandatory state waste diversion goal of 50 percent by and after the year 2000. The purpose of AB 939 is to “reduce, recycle, and re-use solid waste generated in the state to the maximum extent feasible.”

The term *integrated waste management* refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. AB 939 established a waste management hierarchy as follows: source reduction, recycling, composting, transformation, and disposal.

State-Mandated Solid Waste Diversion

As landfills reach their capacities and new landfill sites become increasingly difficult to establish, the need to reduce solid waste generation is significant. State law currently requires that local jurisdictions divert at least 50 percent of their solid waste from landfills through recycling, conservation, and composting. The City of San Bernardino is required to comply with state regulations.

Currently, there are no collection service deficiencies, and all sites utilized by the City are considered to be adequate. In 2002, the City diverted 45 percent of its solid waste, 5 percent less than the 50 percent diversion rates required by the State. Local governments are subject to fines of up to \$10,000 per day if the waste diversion goals are not met. Since 1995, the City has received either a Board Approved or Good Faith Effort in reaching waste diversion goals required by the law (San Bernardino 2005b).



Urban Water Management Plan Act

The Urban Water Management Plan Act was passed in 1983 and codified as California Water Code Sections 10610 through 10657. Since its passage in 1983, the act has been amended on several occasions. In 2004, it was amended to require additional discussion of transfer and exchange opportunities, non-implemented demand management measures, and planned water supply projects. Most recently, in 2005, the act was amended to require water use projections (required by California Water Code Section 10631) to include projected water use for single-family and multi-family residential housing needed for lower-income households. In addition, Government Code Section 65589.7 was amended to require local governments to provide a copy of the adopted housing element to water and sewer providers. The act requires “every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet (AF) of water annually, to prepare and adopt, in accordance with prescribed requirements, an urban water management plan.” Urban water suppliers must file these plans with the California Department of Water Resources every five years describing and evaluating reasonable and practical efficient water uses, reclamation, and conservation activities. As required by the Memorandum of Understanding Regarding Urban Water Conservation in California and Assembly Bill 11X (1991), the 2005 act incorporated water conservation initiatives and a Water Shortage Contingency Plan.

Assembly Bill 2926

The State of California has traditionally been responsible for the funding of local public schools. To assist in providing facilities to serve students generated by new development projects, the State passed re in 1986. This bill allowed school districts to collect impact fees from developers of new residential and commercial/industrial building space. Development impact fees were also referenced in the 1987 Leroy Greene Lease-Purchase Act, which required school districts to contribute a matching share of project costs for construction, modernization, or reconstruction.

Quimby Act

Originally passed in 1975, the Quimby Act (California Government Code Section 66477) allows cities and counties to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. This act allows local agencies to establish ordinances requiring developers of residential subdivisions to provide impact fees for land and/or recreational facilities. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities. In 1982, the act was substantially amended, further defining acceptable uses of or restrictions on Quimby funds, provided acreage/population standards and formulas for determining the exaction, and indicated that the exactions must be closely tied to a project’s impacts.

LOCAL

City of San Bernardino Waste Reduction Programs

The City’s programs to divert solid waste from landfills include composting, facility recovery, policy incentives, household hazardous waste management, public education recycling, reduction of the amount of solid waste produced, special waste materials, and transformation. In addition to reducing the amount of waste that might otherwise be sent to a landfill, the City’s household



hazardous waste management program is an important facet in the City's effort to clean up the solid waste stream.

City of San Bernardino Water Facilities Master Plan

The Water Facilities Master Plan (2015) was developed to assist the San Bernardino Municipal Water Department in planning for the future, so that it can continue providing a reliable source of high quality water, in the most cost-effective manner, to both existing and future customers.

City of San Bernardino Urban Water Management Plan

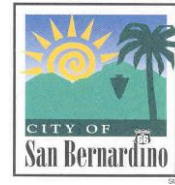
The Regional Urban Water Management Plan (2010) is an update of the previously prepared 2005 UWMP for the planning period 2010–2035 and takes into account new UWMP act requirements and changes in demographics, water demand, and supplies.

The Urban Water Management Plan Act requires evaluation of the following:

- Whether supplies will be sufficient to meet demands during the following hydrologic year types
- Normal/average year
- Single dry year
- Multiple dry year sequence;
- Existing baseline water use in terms of gallons per capita per day (GPCD) (applies only to retail water suppliers);
- Targets for future water use consistent with the Water Conservation Act of 2009
- (SBX7-7) which seeks a 20 percent reduction in per capita water use by 2020;
- Demand Management Measures (DMMs) implemented or planned for implementation as well as the methods proposed for achieving future water use targets;
- Water shortage contingency planning; and
- Notification and coordination with other water agencies, land use entities, and the community.

Water Conservation Act of 2009 (SBX7-7)

The Water Conservation Bill of 2009 (also referred to as SBX7-7) was enacted as part of the November 2009 Comprehensive Water Package. The Water Conservation Bill of 2009 provides the regulatory framework to support a statewide reduction in urban per capita water use. Each retail water supplier must demonstrate compliance with SBX7-7 by determining its existing baseline water consumption and then establish a future water use target in gallons per capita per day and report that information in its 2010 UWMP.



City of San Bernardino Municipal Code

Title 8, Health and Safety, Chapter 8.2, Refuse and Solid Waste, sets forth uniform requirements and regulations for the direct and indirect users of the City's refuse and recycling collection services. The chapter also allows for the City to comply with all applicable state and federal laws, including the Integrated Waste Management Act of 1989, State Assembly Bill 75, Public Resources Code Sections 49520-49524, California Code Title 14 Division 7, and any subsequent amendments to each.

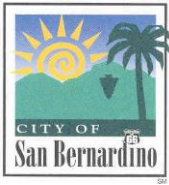
The City adopted Title 13, Public Utilities, Chapter 13.32, Wastewater Facilities, to regulate wastewater discharges in accordance with the federal government's objectives of general pretreatment regulations as stated in Section 403.2 of Title 40 of the Code of Federal Regulations and amendments thereto, which are for the following purposes:

1. To prevent the introduction of pollutants into the publicly owned treatment works (POTW) which will interfere with the operation of the water reclamation plant, including interference with its use or disposal of municipal biosolids.
2. To prevent the introduction of pollutants into the POTW which will pass through the treatment works, inadequately treated, to the receiving waters or otherwise be compatible with such works.
3. To improve opportunities to recycle and reclaim wastewater and biosolids.
4. To enable the SBMWD to comply with its National Pollutant Discharge Elimination System (NPDES) permit conditions, biosolids use, and disposal requirements, and any other federal or state laws to which the water reclamation plant is subjected.
5. To provide for the equitable distribution of the costs associated with the operation of the water reclamation plant.
6. To protect and preserve the health and safety of the citizens and personnel of the SBMWD and adjacent service areas.

The City adopted Chapter 13.24, Water Supply System, to ensure that the water furnished or supplied by the domestic water supply system under the City's jurisdiction is at all times pure, wholesome, potable, healthful, and in adequate supply and to establish minimum standards for the construction, reconstruction, abandonment, and destruction of wells in order to protect underground water resources and provide safe water to persons in the City.

Police Department Strategic Plan

The San Bernardino Police Department (2005a) developed a Strategic Plan to help anticipate change and guide the future of the department. The plan is divided into three parts: service to the community, service to employees, and ensure adequate resources. Six different fundamental strategic issues detailed in the actual report are the foundation for the Police Department's future. The six fundamental strategic issues include ensure adequate staffing, institute innovative workload management, realign organization structure, support employees, upgrade



organizational infrastructure, and enhance the department's image. The Police Department prepares a report each year outlining its performance in meeting the goals from the prior year.

Fire Code

The City of San Bernardino uses the Uniform Fire Code (UFC), the California Fire Code (CFC) as amended, the California Building Code (CBC), the California Administrative Codes, Title 19 and Title 24, and the National Fire Codes as the basis for its enforcement programs. The UFC establishes the minimum safety standards for fire flow and water supply, road width, access, and turning radius for fire apparatus. The CFC establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The CBC is generally consistent with the Uniform Building Code, with additional guidance and language specific to conditions germane to the State of California. San Bernardino Municipal Code Chapters 8.60, Fireworks; 8.61, Prohibited Fireworks; and 8.63, Explosives and Fires, identify regulations regarding the sale and possession of fireworks, protection strategies, and standards and legalities involving explosives and fires. Along with these codes, the City has adopted more stringent fire regulations in the areas of building construction (San Bernardino 2005a).

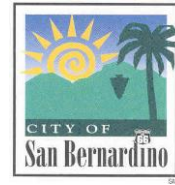
City of San Bernardino Development Code

The City's Development Code, Chapter 19.30, Subdivision Regulations, requires the payment of a fee for each new residential dwelling unit constructed. The fee is placed in a designated fund and is used for the acquisition and development of new or improvement of existing neighborhood and community parks and recreational facilities. The fee, which is imposed at the time of building permit issuance, is based on the type of construction and a percentage of its valuation. The ordinance provides that in lieu of fees, the Mayor and Council may grant credit for land and improvements that are dedicated in fee to public recreation and park purposes. The amount of dedicated land and any conditions are determined by mutual agreement between the City and the dedicator. Improvement of parklands is provided through the City's Capital Improvement Program. Acquisition funding is limited and must compete with funding needed for ongoing maintenance of existing facilities and equipment as well as with other City needs. In addition to City funds, federal and state grant programs provide funds for the purchase of new parkland (San Bernardino 2005a).

City of San Bernardino Park Standards

The City has established a park acreage standard of 5 acres per 1,000 residents. This is 1 acre greater than the land required by the state's Quimby Act, which requires developers to provide land and/or fees for new parks based on a standard of 4 acres per 1,000 residents. Based on the City's standards, 1,596.2 acres of total parkland are necessary to satisfy the projected population at buildout of the General Plan for Horizon Year 2030.

With regard to the types of parks these acreages are intended to accommodate, no single set of accepted standards exist nationally or in the city. However, the National Recreation and Parks Association (NRPA) has published benchmark guidelines for communities to consider. The



guidelines define acceptable ratios of per capita park space for local parkland, including a proportion of neighborhood and mini parks, based on national averages. Regional parks, because of their variety in size and type, are not included. The standard for the neighborhood parks is 1 to 2 acres per 1,000 residents and for mini-parks, it is 0.25 to 0.50 acre per 1,000 residents. The standard for a community park is 2 to 3 acres per 1,000 residents (San Bernardino 2005a).

3.13.2 Environmental Setting

UTILITIES

Electricity and Natural Gas

Southern California Edison (SCE) is one of the largest electric utilities in California, serving more than 14 million people in a 50,000-square-mile area of central, coastal, and Southern California, excluding the City of Los Angeles and some other cities. SCE's service territory includes more than 180 cities. In December 2014, SCE had core earnings of approximately \$1.5 billion. SCE has approximately 13,600 employees (SCE 2016).

Electrical service in San Bernardino is provided by SCE, which owns, operates, and maintains both aboveground and underground facilities in the City. Most of SCE's facilities are located in street rights-of-way. SCE will extend electrical service into unserved areas pursuant to SCE's current rules and rates. Electricity can be generated from a combination of natural gas, hydroelectric, nuclear, or renewable sources (wind and solar).

Geothermal Wells

Use of geothermal resources results in substantial energy savings and generated revenue for the City of San Bernardino. Approximately 90 to 100 geothermal wells and springs are currently in operation. The wells are concentrated in the Central City, Commerce Center, and Tri-City areas and at the former Norton Air Force Base. Currently, the San Bernardino Municipal Water Department (SBMWD) maintains and operates two wells capable of pumping 4,300,000 gallons of hot water per day. These wells are located in the southern part of the City. The usable supply of geothermal water is much greater than what is currently used. The SBMWD uses geothermal resources to provide heat to over 35 offices and buildings, including the Civic Center and National Orange Show (San Bernardino 2005b).

Natural Gas

Natural gas service is provided by the Southern California Gas Company. The gas company owns, operates, and maintains underground gas lines in most of the public streets. Extension of service is based on the initiation of a service contract whose policies and extension rules are on file with the CPUC. There are no local wells producing oil or natural gas, coal deposits, refineries and processing facilities, or electrical generating stations in the City (San Bernardino 2005a).

Water

The San Bernardino Municipal Water Department (SBMWD) was created as a municipal utility by Article 9 of the City of San Bernardino Charter, as adopted on January 6, 1905. The SBMWD is governed by a Board of Water Commissioners appointed by the Mayor and subject to confirmation by the Council (San Bernardino Valley Municipal Water District et al. 2012).



The SBMWD service area includes portions of the City of San Bernardino and portions of unincorporated area of San Bernardino County. The area is bounded on the north by the San Bernardino National Forest, on the east by the East Valley Water District and the Redlands Municipal Utilities Department, on the south by the cities of Loma Linda and Colton, and on the west by the West Valley Water District, Rialto, and the Muscoy Mutual Water Company.

The SBMWD obtains 100 percent of its water from the Bunker Hill Groundwater Basin and delivers it to over 40,000 residential, commercial, and industrial accounts. It is expected that by the year 2035, the SBMWD will serve 234,937 individuals.

The proposed project will install a water line in Little League Drive, which will connect to an existing 24-inch water line located just south of the Magnolia Avenue/Little League Drive intersection, to an existing 16-inch water line adjacent to the proposed commercial development, north of Palm Avenue. A looped 8-inch water system within proposed project streets will provide water to the residential units and another looped water system will provide water to the commercial development (Forma Design 2015). Refer to [Figure 3.13-1, Water Plan](#).

Water Consumption

The SBMWD's water delivery data is segregated into various groups, including single-family, multi-family, commercial/industrial, institutional/governmental, and landscape. In 2009, residential water use (single-family and multi-family) accounted for approximately 67 percent of the total water delivered. Commercial/industrial accounted for approximately 17 percent, institutional/governmental accounted for approximately 4 percent, and the landscape portion accounted for approximately 13 percent (San Bernardino Valley Municipal Water District et al. 2012).

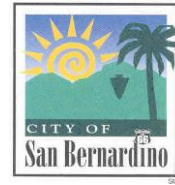
Water Demand

In year 2005, the City's water demand was approximately 330 gallons of water per person per day (120,450 gallons per person per year). The citywide total demand was approximately 61,182,330 gallons per day or 22,331,550,450 gallons per year (68,533 acre-feet per year) (San Bernardino 2005b). Existing supply sources are adequate to meet current demands (SBMWD 2005).

Recycled/Reclaimed Water

Currently, the SBMWD does not use recycled water in its service area. Wastewater is treated at the San Bernardino Water Reclamation Plant to a secondary treatment level and is conveyed to the Rapid Infiltration Extraction (RIX) Tertiary Treatment Facility in Colton. The facility is jointly owned by the SBMWD and the City of Colton and is operated under contract by the City of San Bernardino. RIX further treats the wastewater to a tertiary level. All treated effluent from the facility is discharged to the Santa Ana River.

The SBMWD continues to explore opportunities to economically and feasibly utilize recycled water. The SBMWD estimates that in the future it will be able to potentially recycle an additional 2.25 million gallons per day (mgd) or 2,519 acre-feet per year of water for use in its service area (SBMWD 2005).



Wastewater

Wastewater Treatment

San Bernardino Water Reclamation Plant

The SBMWD owns and has operated the water reclamation plant, known as the Margaret H. Chandler Water Reclamation Plant (WRP), since 1973, treating both residential and industrial wastewater (San Bernardino 2005a).

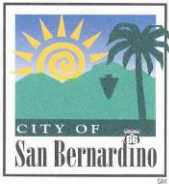
Primary and secondary treatment processes are employed to meet the discharge standards specified in the NPDES issued to the WRP by the Regional Water Quality Control Board. The WRP treatment process includes grit removal, screening, and primary clarification, as well as ensuring all water discharged into the Santa Ana River is properly treated. The WRP is a secondary treatment facility serving 185,000 people in the cities of San Bernardino and Loma Linda, East Valley Water District customers, San Bernardino International Airport, Patton State Hospital, and parts of San Bernardino County. The wastewater facility, including both primary and secondary treatment, has the capacity to process 33 mgd and currently processes 28 mgd. In March 1996, the City and the City of Colton jointly opened the Rapid Infiltration and Extraction (RIX) facility, where secondary treated water undergoes the final filtering and disinfecting process to produce wastewater that is superior or equivalent to that produced by conventional filtration systems and is suitable for recycling into the Santa Ana River. The RIX (tertiary treatment) facility has a total capacity of 40 mgd and currently treats 33 mgd of secondary treated wastewater from the water reclamation plant and Colton's treatment facility. Natural biofiltration is employed through the use of percolation basins, and ultraviolet disinfection is used to meet the State of California's Title 22 tertiary standards, in addition to the discharge standards specified in a separate NPDES permit issued to the RIX facility (SBMWD 2016).

Title 22 standards establish water quality standards and reliability criteria, depending on the end use of recycled water, to protect public health. Tertiary treated wastewater can meet Title 22 standards (SBMWD 2015). RIX treated wastewater consistently meets or exceeds required discharge standards and is often superior in quality to effluent produced through conventional tertiary facilities. The WRP is committed to reusing the resources generated during the wastewater treatment processes. A co-generation facility was recently installed at the plant, using methane gas produced during the treatment processes as a source of energy. The highly valuable energy source is used to fuel two 750-watt generators that supply electricity to the WRP. This minimizes the amount of electricity required to be purchased for overall operation (SBMWD 2016).

Wastewater Collection

In 2002, the City's Public Works Department prepared a master plan for the wastewater collection system that identified the existing conditions and potential improvements to the system. The collection system varies in pipe size from 4 to 54 inches.

The City's Public Works Department is responsible for the design and construction of wastewater collection facilities in the City. Operation and maintenance of wastewater collection facilities is the responsibility of the Public Services Department (San Bernardino 2005a). Other wastewater collection facilities are operated by the EVWD, San Bernardino International Airport and Trade



Center, and the City of Loma Linda. The EVWD provides service in the eastern portion of the City, the City of Loma Linda provides services in the southern portion of the City, and all wastewater obtained is routed to the City's collection facilities prior to treatment at the water reclamation plant (San Bernardino 2005b).

The proposed project would tie into the existing 15-inch sewer line located within the Little League Drive right-of-way. The residential units will access the sewer line through a proposed 8-inch system installed under the project streets. The commercial development will also tie in to this existing 15-inch sewer line (Forma Design 2015). Refer to [Figure 3.13-2, Wastewater Plan](#).

Solid Waste

Existing Solid Waste Collection and Disposal

Solid waste collection within much of the City and a portion of the unincorporated area is provided by the City of San Bernardino Department of Public Works, Integrated Waste Management Division. Solid waste collection in the remainder of the City is provided by private haulers through franchise contracts with the City (San Bernardino 2005b). According to the California Department of Resources Recycling and Recovery (CalRecycle), the last recorded annual per capita disposal rate per resident was 4.7 in 2014. Also in 2014, the annual per capital disposal rate per employee was 10.5. Both are short of the targets of 6.6 and 15.4, respectively (CalRecycle 2016).

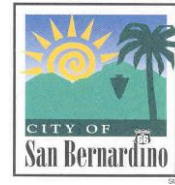
The County of San Bernardino Solid Waste Management Division is responsible for the management and operation of the county's solid waste disposal system, which consists of six regional landfills, eight transfer stations, and two community collection centers. The regional landfills that are closest to the project site are the Mid-Valley Landfill and the San Timoteo Landfill (San Bernardino County Department of Public Works 2016). The San Timoteo Landfill is permitted to accept 1,000 tons per day and has an estimated capacity of 20,400,000 cubic yards. In 2005, the estimated remaining capacity was 10,908,837 tons and the landfill had an anticipated closure date of May 2016. The Mid-Valley Landfill is permitted to accept 7,500 tons per day of solid waste and has an estimated capacity of 101,300,000 cubic yards. The estimated remaining capacity is 670,000 tons and has an estimated closure date of April 2033.

The County contracts with Burrtec Waste Industries for disposal site operations and maintenance. The County's Solid Waste Management Division also administers the County's solid waste handling franchise program and the refuse collection permit program, which authorizes and regulates trash collection by private haulers in the unincorporated area. Regional planning for solid waste issues is conducted by the County Solid Waste Management Plan. The City of San Bernardino has a representative serving on the Solid Waste Advisory Committee. Any future solid waste facilities, such as transfer stations and/or landfills, must be incorporated in the County Solid Waste Management Plan (San Bernardino 2005b).

PUBLIC SERVICES

Education

The City of San Bernardino, including the proposed project, is primarily served by the San Bernardino City Unified School District (SBCUSD). The schools in this district operate on a year-round track and a traditional school year system. School-aged children living in the residences



completed as part of the proposed project would attend North Verdemont Elementary School (grades K–6, 3555 West Myers Road, 0.4 mile north of the project site), Palm Elementary (grades K–6, 6565 Palm Avenue, 0.6 mile northeast of the site), Cesar E. Chavez Middle School (grades 6–8, 6650 Magnolia Avenue, 0.2 mile north of the site), and Cajon High School (grades 9–2, 1200 West Hill Drive, 3.2 miles to the southeast of the site) (SBCUSD 2015). All of the schools are traditional public schools.

Law Enforcement

California Highway Patrol

The California Highway Patrol (CHP) provides traffic patrol on state highways and on roads in the unincorporated areas. The CHP also provides emergency response backup to the Police Department and the Sheriff's Department upon request. The CHP has an office in San Bernardino.

San Bernardino County Sheriff's Department

The San Bernardino County Sheriff's Department provides law enforcement services to the City's unincorporated areas. The County Sheriff operates from an office in the City. The Sheriff's Department and the Police Department provide mutual backup services upon request in both the City and the unincorporated areas.

San Bernardino Police Department

The San Bernardino Police Department provides police protection services in the City. Police services include patrol, traffic enforcement, investigations, forensics, school resource officers, and community service offices. The Police Department operates under a mutual aid agreement with police agencies in the surrounding cities. This agreement allows use of up to 50 percent of adjacent agency resources upon request and automatic response in zones of mutual aid. The main headquarters for the Police Department are located at 710 N. D Street, approximately 6.9 miles to the southeast of the project site. The site is located in the Northwest District (one of four established districts) and in Baker Beat B1 (San Bernardino Police Department 2016).

The Police Department has established the target response times for emergency calls within all areas of the City. The target response time for emergency calls is six minutes or less, which is consistent with industry standards. The most recent report shows the average response time is 5.62 minutes for emergency calls (Garcia 2009).

Fire Protection

FIRE PROTECTION AGENCIES

The San Bernardino City Fire Department serves the City and a resident population of approximately 202,000 and covers a diverse service area of 59.3 square miles. The service area includes 19 miles of wildland-urban interface area, an international airport, a major rail yard, the county seat, a jail, two major mall complexes, and three major interstate freeways (10, 210, and 215) (San Bernardino City Fire Department 2016). Unincorporated areas receive fire protection and Emergency Medical Services (EMS) delivery from the Central Valley Fire District or the California Department of Forestry and Fire Protection (Cal Fire). San Bernardino County contracts



with Cal fire for fire protection in areas not covered by other fire departments (San Bernardino 2005a).

Facilities and Staffing

The Fire Department staffs 12 fire engine companies, two aerial truck companies, one heavy rescue, five four-wheel-drive brush engines, one hazardous material response rig, and one medic squad housed in 12 stations throughout the City. The closest fire station to the project site is Fire Station 232, located at 6065 Palm Avenue, and is approximately a quarter of a mile from the site. The total number of emergency operations personnel is 161 divided among three platoons. The current “on-duty” strength per shift (total number of personnel available to respond to emergencies including two battalion chief officers) is 53 spread among the 14 companies. The average personnel work week is 56 hours (San Bernardino City Fire Department 2016).

Mutual Aid Agreement

All fire departments in the state, including those in San Bernardino, are signatory to a master mutual aid agreement. The agreement was established to provide assistance for major incidents and emergencies. The agreement states in part that political subdivision will reasonably exhaust local resources before calling for outside assistance. In addition to a master mutual aid agreement, the Fire Department has joint response agreements between the neighboring cities of Rialto, Colton, and Loma Linda, where units in these cities respond in the event of a multi-unit fire (San Bernardino 2005b).

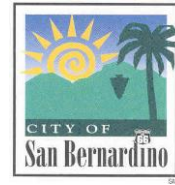
Services

In addition to fire protection services, the San Bernardino City Fire Department includes a Fire/Arson Investigation Unit, Hazardous Materials Team, Disaster Preparedness Services, and Urban Search and Rescue. The Investigations Unit has ten personnel consisting of a senior investigator and nine other investigators, with all members of the unit holding peace officer status. Members of the unit participate on a volunteer basis with 100 hours of on-scene training. The Hazardous Materials Response Team handles hazardous materials leakage, discharge, dumps, spills, and emissions in the City. The Disaster Preparedness Office, created by the City’s Municipal Code, Chapter 2.46, is a division of the Fire Department. Under the direction of the Fire Chief, a major activity of the Disaster Preparedness Office is the development and approval of integrated emergency response plans for the City (San Bernardino 2005b).

Response Times

Response time for a unit varies and depends on the location of the response site. However, the City’s adopted response time standard is 5 minutes or less for 90 percent of the emergency calls for service. The response time is measured from when the responding unit is en route to the call to when the unit arrives on the scene of an emergency (San Bernardino 2005b). The closest fire station (at 6065 Palm Avenue) is approximately a quarter of a mile away from the project site. The response time of units from this station to the site is well within the standard of 5 minutes.

The Fire Department responded to 28,171 life- and property-threatening emergency incidents during the 2008 calendar year. Of these, 4,311 were fire and other types of alarms. The department responded to 23,790 medical emergencies during the same time and processed an



additional 4,116 emergency medical dispatch responses (San Bernardino City Fire Department 2016).

Hazardous Fire Areas

The San Bernardino City Fire Department is a member of the Inland Empire Fuels and Management Alliance. This is a nine-member alliance developed to identify specific projects pertaining to vegetation management and wildland fuel reduction in San Bernardino and Riverside counties. Each member participates in projects to prevent and minimize fire threats in and around their respective communities.

The project site is located in the foothill area adjacent to the San Bernardino Mountains and is in the Foothill Fire Zone Overlay District. In this overlay district, the City identifies three foothill fire zones - A, Extreme Hazard; B, High Hazard; and C, Moderate Hazard—that have different degrees of hazard based on slope, natural barriers, and type of fuel present. Fire Zone A includes areas with slopes of 30 percent or greater. Fire Zone B includes areas with slopes between 15 to 30 percent. Fire Zone C includes those areas with slopes of 0 to 15 percent (San Bernardino City Fire Department 2016). Furthermore, according to State Fire Hazard Severity Mapping, the project site is located in a High Fire Hazard Severity Zone (Cal Fire 2007).

Urban and Wildland Fires

Fires in undeveloped areas result from the ignition of accumulated brush and woody materials, and are appropriately termed wildland fires. Such fires can burn large areas and cause great damage to both structures and valuable open space land. Urban fires usually result from sources within the structures themselves. Fire hazards of this type are related to specific sites and structures, and availability of firefighting services is essential to minimize losses.

In urban areas, the effectiveness of fire protection efforts is based on several factors, including the age of structures, efficiency of circulation routes that affect response times, and availability of water resources to combat fires. In wildland areas, taking the proper precautions, such as using fire-resistant building materials, can protect developed lands from fires and reduce the potential loss of life and property.

RECREATION

Park and Recreation Facility Classifications

Parks and trails can be active or passive and are important destinations for recreation, relaxation, or public gathering. Civic plazas are smaller centers of passive public space with benches or resting spots in an attractive environment within the urban fabric. They are preserved exclusively for non-recreational pedestrian use and have the potential to add important public gathering and green space to the City (San Bernardino 2005b).

Park and recreational areas San Bernardino are classified as regional parks, community parks, neighborhood parks, and mini parks, as briefly described below.



Regional Parks

Regional parks are at least 50 acres in size and offer a wide range of amenities to attract the greatest range of users and interested parties within and outside of the City. Regional parks provide significant natural features and passive and active recreational features such as sports fields, courts, fishing, hiking, camping, and picnicking.

Community Parks

Community parks are approximately 15 to 30 acres in size with a service radius of 1 to 2 miles. Typical amenities include lighted sports fields and courts, pools, hiking, play areas, picnic facilities, restrooms, service yards, and off-street parking.

Neighborhood Parks

Neighborhood parks are 5 to 15 acres in size with a service radius of 0.5 to 1 mile. Residents in surrounding areas can easily access neighborhood parks by walking or bicycling. Typical amenities include both active and passive design, informal fields, court games, passive green space, playground apparatus, picnic areas, and off-street parking.

Mini Parks

Mini parks, pocket parks, or tot lots are less than 5 acres in size with a service area of 0.25 to 0.5 mile. Residents in surrounding areas can easily access mini parks by walking or bicycling. Typical amenities include court games, passive green space, playground apparatus, picnic areas, and off-street parking.

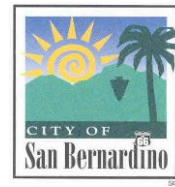
EXISTING PARKS AND RECREATIONAL FACILITIES

The City of San Bernardino Parks, Recreation, and Community Services Department is responsible for the development and maintenance of the City's park facilities. According to the department, there are 52 developed parks and recreational facilities in the City, including 19 neighborhood parks, 10 community parks, 17 mini parks, three regional parks, and three special facilities, totaling 539.98 total acres of parkland in the City. The parks contain a broad range of facilities including athletic fields, volleyball and tennis courts, and children's play equipment. Special facilities include community buildings and senior centers.

There are two public developed parks near the project site. Al Guhin Park is a 28-acre community park located southeast of Little League Drive and directly south of the Cable Creek Channel. Ronald Reagan Park is a 4.5-acre park located at the southeast corner of Magnolia Avenue and Irvington Avenue. This park serves as an educational site and is home to a piece of the Berlin Wall. The Little League Baseball Western Region Headquarters is also near the project site at the southeastern corner of Belmont Avenue and Little League Drive. [Figure 2-1, Regional/Local Vicinity Map](#), depicts the location of parks or recreational facilities near the project site.

MULTIPURPOSE TRAILS AND BIKEWAY CLASSIFICATIONS

The City's off-street recreational trail system combines hiking, equestrian, and bike trails. The on-street trail system consists of dedicated bike lanes along the pavement edge of streets. Pedestrian access and recreation is provided on the City's sidewalks and hiking trails. Many of the trails are still in the planning stages. Both the off- and on-street trails provide a system that connects the



City's parks, schools, and civic facilities with each other and with the surrounding area. The following multipurpose trails and bikeways are found in the City (San Bernardino 2005a).

Primary Regional Multipurpose Trails

These trails serve an entire region and accommodate hiking, equestrian, and bicycle users. The City has two primary regional multipurpose trails. The Santa Ana River Trail intersects the Southeast Industrial Park and Tri-City areas. The Greenbelt Trail is located in the foothills adjacent to the City's northern boundary.

Regional Multipurpose Trails

Regional multipurpose trails serve bicycle, pedestrian, and equestrian users and provide regional connections. Regional trails in the City are the Cajon/Lytle (intersects Central City South Project Area), Mid-City (intersects Southeast Industrial Park and Tri-City Project Areas), Sand Canyon, City Creek, and Loma Linda Connector trails.

Local Multipurpose Trails

Local multipurpose trails serve pedestrians, bicyclists, and equestrians and provide connections within the City. These trails intersect the Central City East and Central City North Project Areas.

3.13.3 Significance Threshold Criteria

The issues presented in Appendix G of the CEQA Guidelines are used as thresholds of significance in this section. Accordingly, the project may create a significant environmental impact if it causes one or more of the following to occur:

UTILITIES

- a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.
- e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- f) Would not be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.



- g) Would not comply with federal, state, and local statutes and regulations related to solid waste.

PUBLIC SERVICES

- h) 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 service ratios, response times, or other performance objectives for any of the public services:
 - i. Fire protection
 - ii. Police protection
 - iii. Schools
 - iv. Other public facilities

RECREATION

- i) 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.
- j) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Based on these significance standards, the effects of the proposed project have been categorized as either no impact, a less than significant impact, or a potentially significant impact. Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

3.13.4 Project Impacts and Mitigation Measures

UTILITIES

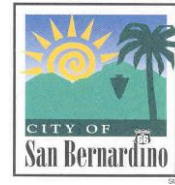
Impact 3.13-1

Would the project:

Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Impact Analysis

Wastewater generated on the project site would be treated at the San Bernardino Water Reclamation Plant (WRP). This facility treats residential and industrial wastewater using both primary and secondary treatment processes to meet the discharge standards specified in the



National Pollution Discharge Elimination System permit issued to the plant by the RWQCB. Wastewater would then be processed by the Rapid Infiltration and Extraction (RIX) facility, where secondary treated water undergoes the final filtering and disinfecting process to produce wastewater that is superior or equivalent to that produced by conventional filtration systems and is suitable for recycling into the Santa Ana River.

The WRP, including both primary and secondary treatment, has the permitted capacity to process 33 million gallons per day (mgd) and currently processes 28 mgd. Development of the proposed project will result in an increase of 35,974 gpd in wastewater generation. This increase will be a minor impact to the WRP daily capacity. Therefore, the project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board and impacts due to wastewater treatment would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.13-2

Would the project:

Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Impact Analysis

Water

Implementation of the proposed project would result in the addition of 120 dwelling units (26.9 acres) and 9.3 acres of non-residential development. Future development associated with implementation of the proposed project would result in an increased demand for water supplies and infrastructure within the Project Area. However, this anticipated growth has been planned for within the *General Plan*. As indicated in [Table 3.13-1, Proposed Water Demand](#), implementation of the proposed project would result in a demand for water supplies by 111,707 gallons per day (gpd).

Table 3.13-1. Proposed Water Demand

Land Use	Proposed Development Acreage	Generation Factor	Water Demand
Residential	26.9 acres	2,9711	79,920 gpd
Commercial General	9.3 acres	3,4182	31,787 gpd
Total			111,707 gpd
gpd = gallons per day Source: City of San Bernardino Municipal Water Department <i>Water Facilities Master Plan</i> , Table 4-2 Water Duty Factors, 2015. 1. Applied generation factor for Residential Suburban. 2. Applied generation factor for Commercial General.			



Water Supply

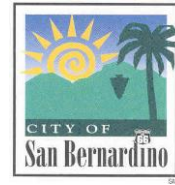
Currently, the SBMWD available groundwater supply is approximately 47,801 acre-feet per year (ac-ft/yr). The existing supply sources are adequate to meet current demands. According to the SBMWD, water shortages have not been experienced by the Department, nor are they anticipated within buildout of the *General Plan* based on current growth projections, hydrologic conditions, and the amount of groundwater in storage at the Bunker Hill Groundwater Basin. Furthermore, the SBMWD is legally responsible to maintain the groundwater level in Bunker Hill at the designated safe yield, and is responsible to obtain water through other means such as local runoff to support the population within the San Bernardino Valley Basin.

The *General Plan* includes goals and policies to ensure adequate water supply accommodates new development planned in the City. Additionally, the focus of the *Water Facilities Master Plan* and the *UWMP* is to give highest priority for further development of local supplies, with imported water being used to meet the remaining needs. Included in the plans are a number of proposed water resource management strategies in order to increase production within its jurisdiction. In addition, *Title 13, Public Utilities*, Chapter 13.24 Water Supply System, of the City's *Municipal Code* was adopted by the City to assure that the water furnished or supplied by the domestic water supply system under the jurisdiction of the City shall at all times be pure, wholesome, potable, healthful, and in adequate supply and to provide minimum standards for construction, reconstruction, abandonment, and destruction of wells in order to protect underground water resources and provide safe water to persons within the City.

The proposed project will extend the existing water lines from Palm Avenue and W. Little League Drive and extend the existing sewer lines from Palm Avenue (see [Figure 3.13-1](#)). This expansion will not cause significant environmental effects. Furthermore, the anticipated growth has been planned for within the *General Plan* and the City has anticipated having sufficient water supplies to meet the projected demand for buildout year 2030. As such, water supplies are anticipated to be adequate to serve the proposed project. With adherence to the *General Plan* goals and policies, the *Water Facilities Master Plan*, the *UWMP*, SB 610 and SB 221 requirements, and the City's *Municipal Code*, implementation of the proposed project would result in less than significant impacts to water supplies.

Water Infrastructure

The *General Plan* includes goals and policies that require existing water distribution infrastructure to be replaced as needed to support existing and new development, as well as to maintain healthy and safe drinking water for all residents and businesses. New development would be required to pay its share of the costs of infrastructure improvements necessary to accommodate the project. The *General Plan* includes a policy that requires new development proposals to bear the cost to improve wastewater collection and treatment facilities, water supply transmission, distribution, storage, and treatment facilities, and storm drain and flood control facilities as necessitated by the proposed project. This shall be accomplished by the actual construction of the improvements as depicted in [Figure 3.13-1](#). The project will construct an 8-inch sewer line within the local streets connect to the existing 15-inch sewer line in Little League Drive. Additionally, the focus of the *Water Facilities Master Plan* and the *UWMP* is to give highest priority for further development of local supplies, with imported water being used to meet the remaining needs. Moreover, *Title 13*,



Public Utilities, Chapter 13.24 Water Supply System, of the City’s *Municipal Code* was adopted by the City to assure that the water furnished or supplied by the domestic water supply system under the jurisdiction of the City shall at all times be pure, wholesome, potable, healthful, and in adequate supply and to provide minimum standards for construction, reconstruction, abandonment, and destruction of wells in order to protect underground water resources and provide safe water to persons within the City. With adherence to the *General Plan* goals and policies, the *Water Facilities Master Plan*, the *UWMP*, and the City’s *Municipal Code*, implementation of the proposed project would result in less than significant impacts to water infrastructure and facilities.

Wastewater

The City of San Bernardino Public Works Department will provide wastewater services to the proposed project. The project proposes the installation of an 8-inch system that will tie into the existing 15-inch sewer line in Little League Drive. The commercial development will also tie into this line.

Additionally, in *Municipal Code* Chapter 13.08, Connection with Public Sewer, the City requires new developments to pay a sewer service charge to maintain sewer systems. The City charges fees for connections to its sewerage system or to increase the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected. The fees are required to construct new sewer infrastructure and/or incremental expansions to the existing sewerage system to accommodate individual development, which would mitigate the project’s impact on the system. The project would not be permitted to exceed the capacity of wastewater conveyance systems or treatment facilities, since adequate capacity must be demonstrated before additional flows can be contributed to the system.

Furthermore, the WRP has the capacity to process 33 million gallons per day (mgd) and currently processes 28 mgd. Development of the proposed project will result in an increase of 35,974 gpd in wastewater generation. This increase will be a minor impact to the WRP daily capacity. The Rapid Infiltration and Extraction (RIX) facility filters and disinfects secondary treated water to produce wastewater that is superior or equivalent to that produced by conventional filtration systems and is suitable for recycling into the Santa Ana River. The RIX (tertiary treatment) facility has a total capacity of 40 mgd and currently treats 33 mgd of secondary treated wastewater from the WRP and the City of Colton’s treatment facility.

Table 3.13-2. Net Increase in Wastewater Generation

Land Use	Proposed Development	Generation Factor*	Wastewater Generation
Residential	120 du	281 gpd ¹	33,720 gpd
Commercial (Retail/Office/Lodging)*	98,000 sf	.023 gpd / sf ²	2,254 gpd
Total			35,974 gpd
du = dwelling units gpd = gallons per day * City of San Bernardino Municipal Water Department Sewage Flow Guide for Domestic Waste Discharge 1. Applied generation factor for Housing: Single Family. 2. Applied generation factor for Retail store (excl. food service/laundry).			



[Figure 3.13-2](#) depicts the existing and proposed on and off-site wastewater infrastructure. Environmental impacts associated with construction have been addressed throughout this EIR under areas of Air Quality, Biological Resources, Cultural Resources, Noise, and Paleontological Resources. Mitigation has been provided in each applicable section of this EIR to reduce potential significant, short-term construction impacts to below a level of significance. Therefore, impacts due to the construction of wastewater infrastructure as necessary to serve the Project would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.13-3

Would the project:

Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Impact Analysis

The proposed project includes the installation of two infiltration basins within the project footprint to collect stormwater runoff from both the residential and commercial areas. The project applicant proposes to construct an additional stormwater drainage pipe in Little League Drive.

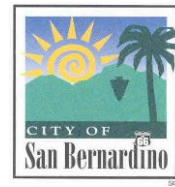
Environmental impacts associated with project construction have been addressed throughout this EIR under areas of Air Quality, Biological Resources, Cultural Resources, Noise, and Paleontological Resources. Mitigation has been provided in each applicable section of this EIR to reduce potential significant, short-term construction impacts to below a level of significance. Therefore, impacts due to the construction of stormwater infrastructure as necessary to serve the Project would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.



Impact 3.13-4

Would the project:

Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Impact Analysis

(Refer to Impact Analysis 3.13-2) The San Bernardino Municipal Water Department obtains 100 percent of its water directly from the Bunker Hill Groundwater Basin. The water that is used and treated is discharged into the Santa Ana River. The SBMWD is pursuing the Clean Water Factory, which would allow recycled water to be treated to a quality approved for recharge.

Implementation of the proposed project would result in the addition of 120 dwelling units (26.9 acres) and 9.3 acres of non-residential development. Future development associated with implementation of the proposed project would result in an increased demand for water supplies and infrastructure within the Project Area. However, this anticipated growth has been planned for within the *General Plan*. As indicated in [Table 3.13-1, Proposed Water Demand](#), implementation of the proposed project would result in a demand for water supplies of 111,707 gallons per day (gpd).

In recent years, water conservation has become an increasingly important factor in water supply planning in California. Since 2005 there have been a number of regulatory changes related to conservation including new standards for plumbing fixtures, a new landscape ordinance, a state universal retrofit ordinance, metering and billing requirements, new Green Building standards, demand reduction goals and more. SBX7-7 requires a 20 percent reduction in urban per capita water use in California by December 31, 2020 (“20 by 2020”). The bill requires each urban retail water supplier to determine their “base daily per capita water use” and report it in their 2010 UWMP, develop an urban water use target for year 2020, and set an interim urban water use target. The individual agency chapters (Chapters 7 through 13) provide information on compliance with SBX7-7 for the retail agencies participating in this plan. For the purposes of estimating SBBA demands and imported water demands, it has been assumed that retail agencies will comply with SBX7-7.

The proposed project would implement water conservation measures through the use of native, drought-tolerant landscaping and “smart” irrigation systems and would promote “green” project with water-saving measures as defined in Chapter 5 of the Rancho Palma Specific Plan.

The SBMWD website states that the district produces and delivers 47,676 acre-feet of water per year. With estimated water consumption of 133 acre-feet annually, the proposed project will represent an increase in water consumption of approximately 0.26 percent. Considering the current estimations that were determined by utilizing the SBMWD water consumption assumptions, sufficient water supplies are available to serve the project from existing entitlements and resources, and no new or expanded entitlements are needed. Therefore, impacts to water supply would be less than significant.



Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.13-5

Would the project:

Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Impact Analysis

The proposed project will include connection to the SBMWD wastewater system via an 8-inch sewer pipe in Little League Drive.

The SBMWD currently operates two wastewater treatment facilities: the Margaret H. Chandler Water Reclamation Plant (also known as the WRP) and the Rapid Infiltration and Extraction (RIX) facility. These facilities treat wastewater that consistently meets Title 22 standards.

The increase in demand for wastewater facilities as a result of the project can be predicted based on the anticipated increase in population and wastewater demand rates per capita. According to the SBMWD's website, the WRP has the capacity to process 33 million gallons per day. It currently processes 28 mgd. The WRP treats water from a population of approximately 185,000, meaning that the current baseline wastewater flow rate is approximately 151 gallons per capita per day. Development of the proposed project will result in an increase of 35,974 gpd in wastewater generation (See [Table 3.13-2](#)). This increase will be a minor impact to the WRP daily capacity. Because adequate wastewater treatment capacity is available, implementation of the proposed project would not result in a significant impact and mitigation would not be required.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.



Impact 3.13-6

Would the project:

Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Impact Analysis

The proposed project is estimated to result in 419 residents who will generate solid waste that will require disposal and recycling. CalRecycle provides unofficial estimates of solid waste generation and disposal rates for five land use or business types: commercial, industrial, institutional, residential, and service.

The solid waste generated as a result of the proposed project is expected to be sent to the Mid-Valley Landfill or the San Timoteo Landfill. Assuming that each person generates 4.7 pounds of residential waste per day, the residential development will produce 1,969 pounds of waste per day, and the commercial development on the site will produce 2,058 pounds of waste per day (San Bernardino 2005a; Cal Recycle 2009), for a total of 4,027 pounds of waste per day for the proposed project or 734 tons per year.¹ The estimated amount of generated solid waste would not exceed the landfills' permitted disposal, as the San Timoteo Landfill is permitted to accept 1,000 tons per day and has an estimated capacity of 20,400,000 cubic yards. The estimated remaining capacity is 10,908,837 tons and has an anticipated closure date of May 2016. Mid-Valley is permitted to accept 7,500 tons per day of solid waste and has an estimated capacity of 101,300,000 cubic yards. The estimated remaining capacity is 670,000 tons and has an estimated closure date of April 2033. Therefore, Mid-Valley landfill would be able to accommodate waste generated at the project site by residents and businesses. As identified above, adequate landfill capacity is available to meet the needs of the proposed project. Therefore, impacts to solid waste facilities would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

¹ The calculations for commercial waste production were based on the use of square footage and employee generation figures for regional commercial development provided in the City of San Bernardino General Plan, as well as the commercial waste production figure for pounds per day per employee from CalRecycle.



Impact 3.13-7

Would the project:

Comply with federal, state, and local statutes and regulations related to solid waste?

Impact Analysis

The City's programs to divert solid waste from landfills include composting, facility recovery, policy incentives, household hazardous waste management, public education recycling, reduction of the amount of solid waste produced, special waste materials, and transformation.

The State of California established 50 percent as the minimum waste reduction rate for all cities. Since 1995, the City has received either a Board Approved or Good Faith Effort in reaching waste diversion goals required by the law. Continuation of the recycling program and education on composting efforts would result in achieving the desired goal of 50 percent waste diversion in compliance with AB 939. The proposed project would not hinder efforts to achieve this requirement, as the City would distribute educational material on reducing waste, recycling, and composting to commercial and residential users (San Bernardino 2005b).

The General Plan Utilities Element includes goals and policies related to an adequate and orderly system for the collection and disposal of solid waste to meet the demands of new and existing development in the City. The proposed project is required to provide adequate storage areas for the storage and collection of trash, recyclables, and green waste materials.

Because it is required to comply with City and state regulations which require a minimum of 50 percent waste reduction and General Plan elements, the proposed project will be consistent with federal, state, and local regulations regarding solid waste. Therefore, impacts to solid waste facilities would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

3.13.5 Cumulative Impacts and Mitigation Measures

Impact 3.13-8

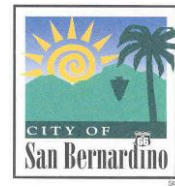
Would the project:

Result in cumulative impacts related to utilities?

Impact Analysis

Water

The proposed project when considered in combination with existing, approved, proposed, and reasonably foreseeable development in the SBMWD would create a cumulative increase in water



consumption. However, as discussed the proposed project will have an increase in water consumption of approximately 0.26 percent. Considering the current estimations that were determined by utilizing the SBMWD water consumption assumptions, sufficient water supplies are available to serve the project from existing entitlements and resources, and no new or expanded entitlements are needed. It is also not foreseen that the proposed project will necessitate the construction of additional water facilities other than those included in the project. As such, the project would not contribute to cumulative water impacts.

Wastewater

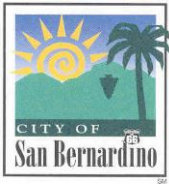
Development associated with implementation of the proposed project would result in an increased demand on the existing sewer system from increased sewage flows within the Project Area. The proposed project will represent an increase in wastewater production of approximately 35,974 gallons per day. This increase will be a minor impact to the WRP daily capacity. The wastewater generated by the proposed project will be treated using primary and secondary treatment processes to meet the discharge standards specified in the NPDES permit issued by the RWQCB, as well as a final filtering and disinfecting process. Because the project would not exceed waste water treatment requirements, cumulative impacts due to wastewater treatment would be less than significant.

Stormwater

The proposed project, when considered in combination with existing, approved, proposed, and reasonably foreseeable development in the Santa Ana River watershed, would alter cumulative drainage conditions, rates, volumes, and water quality, which could result in potential flooding and stormwater quality impacts in the overall watershed. However, as discussed within [Section 3.8, Hydrology and Water Quality](#), the proposed project's storm drain system and implementation of a Water Quality Management Plan would reduce the project's contributions to cumulative runoff, water quality, and flooding impacts. As demonstrated by the hydrology and hydraulics report completed for the project, the proposed project is designed to convey stormwater runoff in a safe manner for the post-project condition (Allard Engineering 2015a). As such, the project would not contribute to cumulative hydrology impacts. The proposed project includes drainage basins that both reduce the velocity of runoff and serve to remove debris and contaminants from stormwater runoff. Stormwater can only enter the storm drainage system after passing through these basins. The proposed project's contribution to cumulative water quality, runoff, and flooding impacts is considered to be less than cumulatively considerable.

Solid Waste

Future development associated with implementation of the proposed project and related cumulative projects served by the same solid waste hauler and/or disposal facilities could result in cumulative impacts to solid waste disposal services and landfill capacity. The City of San Bernardino along with cities in the surrounding area would continue to use common landfill resources, thereby reducing the capacity of landfills. Any additional solid waste incrementally added to existing facilities would shorten the amount of time until they reach maximum capacity. Implementation of the proposed project and related cumulative projects together could significantly impact the finite resources associated with solid waste disposal. However, local landfills would be able to handle the amount of refuse from the City and surrounding communities



for some time and legislative requirements are in place for planning of new landfills in advance of closure of existing landfills (San Bernardino General Plan Update, 2005). The proposed project will represent an increase in solid waste production of 734 tons per year. The project and cumulative projects, will be required to comply with City and state regulations and General Plan goals and policies related to solid waste. The San Timoteo landfill is permitted to accept 1,000 tons per day and the Mid-Valley landfill is permitted to accept 7,500 tons per day, the estimated amount of generated solid waste would not exceed the landfills' permitted capacity of 20,400,000 cubic yards. The contribution of the proposed project to cumulative impacts associated with increased solid waste would be less than significant. Therefore, the proposed project would not result in cumulatively considerable solid waste impacts.

Impact Conclusion

Less than cumulative considerable.

Mitigation Measures

No mitigation measures are required.

PUBLIC SERVICES

Impact 3.13-9

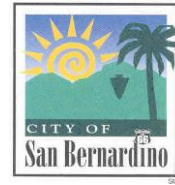
Would the project:

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 service ratios, response times, or other performance objectives for fire protection?

Impact Analysis

The San Bernardino City Fire Department provides fire protection and safety services in the City. The proposed project will be served by Station 232, located on Palm Avenue, which is approximately a quarter of a mile from the project site.

Future development associated with the proposed project would result in an increased demand for fire protection services within the Project Area. The future development within the Project Area is anticipated to result in increased calls and demands for fire protection services, which may create a need for additional fire protection services, personnel, and/or facilities. However, the required Fire Suppression fees overseen by the City Engineering Department and taxes paid by the project applicant would adequately mitigate the expected increase in fire protection and emergency medical service demand. The proposed project would also be subject to compliance with the 2013 California Building Code (or most current version) and 2013 California Fire Code, which would aid in reducing the demand on fire protection service by requiring fire protection detection systems, proper fire flow, and use of appropriate construction materials. Compliance with measures established by federal, state, and local regulations would maintain acceptable service ratios and response times for fire protection services. Accordingly, implementation of the



proposed project would not result in the need to construct a new fire station or physically alter an existing station. Therefore, impacts to fire protection services would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.13-10

Would the project:

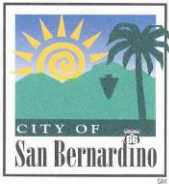
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection?

Impact Analysis

Police protection services are provided by the San Bernardino Police Department. The nearest police station to the site is located at 710 N. D Street, approximately 6.9 miles to the southeast of the site. The project site is located in the Northwest District and in Baker Beat B1 (San Bernardino Police Department 2016). Traffic enforcement is provided by the Police Department on local streets and by the California Highway Patrol on freeways.

The Police Department currently includes 312 sworn officers and another 150 civilian support staff, approximately 1.5 sworn officers per 1,000 people and 0.7 civilian support staff per 1,000 people. The department operates under a mutual aid agreement with police agencies in the surrounding cities. This allows use of up to 50 percent of adjacent agency resources upon request and for automatic response in the zone of mutual aid. As such, if and when law enforcement service needs increase as a result of incremental population increases in the City, and additional patrol hours are deemed necessary, they would be met through the department's mutual aid agreement and possibly an increase in the number of officers. The project proposed 120 single-family residential dwelling units and up to 98,000 square feet in commercial space. The average household size in San Bernardino in 2015 was 3.49 persons. The proposed project would include 120 additional single-family dwelling units, which would add approximately 419 people to the City's population (3.49 persons per household x 120 dwelling units).

Considering the Police Department's servicing level, the population increase resulting from the proposed project would require 0.6 additional sworn officers and 0.3 civilian support staff. This increase is not considered sufficient to result in the hiring of additional police department staff and officers or the need for new or physically altered law enforcement facilities. In addition, a standard condition of approval for the proposed project will require the project applicant to pay the standard Law Enforcement development impact fees provided by the Engineering department. Compliance with these measures would maintain acceptable service ratios and



responses times for police protection services. Accordingly, implementation of the proposed project would not result in the need to construct a new police facilities or physically alter an existing facility. Therefore, impacts to police protection services would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.13-11

Would the project:

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 service ratios, response times, or other performance objectives for schools?

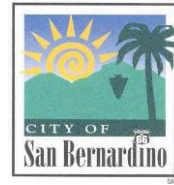
Impact Analysis

The proposed project is located in the San Bernardino City Unified School District (SBCUSD). The district has established school impact mitigation fees to address the facility impacts created by residential and commercial development.

School-aged children living in Rancho Palma would attend either North Verdmont Elementary School (public, grades kindergarten to 6) at 3555 West Myers Road, approximately 0.4 mile north of the project site, or Palm Avenue Elementary School (public school, grades kindergarten to 6) at 6565 Palm Avenue, approximately 0.6 mile northeast of the site. Children in grades 6 through 8 would attend Cesar E. Chavez Middle School (public) at 6650 Magnolia Avenue, approximately 0.2 mile north of the site. Children in grades 9 through 12 would attend Cajon High School (public) at 1200 West Hill Drive, approximately 3.2 miles to the southeast of the site (San Bernardino City Unified School District 2016).

According to the SBCUSD's Facilities Department, the generation rates for single-family homes include 0.3310 per unit for elementary school (K–5), 0.1695 per unit for middle school (6–8), and 0.1933 per unit for high school (grades 9–12). Based on these rates, the project will generate 40 elementary school students, 20 middle school students, and 23 high school students, for a total of 83 students. As of the 2014–2015 academic year, the SBCUSD enrolled 49,889 students (California Department of Education 2016). As of the 2013–2014, the SBCUSD had an average daily attendance of 47,221. The additional 83 students will not exceed district enrollment/average daily attendance in previous academic years. Furthermore, the proposed project will represent an increase in the current SBCUSD enrollment of less than 1 percent.

Current state law requires that impacts to current school facilities be mitigated through mandatory development impact fees. The fees enacted in the SBCUSD of \$4.25 per square foot of



assessable space for new residential development and \$0.54 per square foot for new commercial/industrial development will be collected for the proposed project.² Accordingly, implementation of the proposed project would not result in the need to construct new school facility or alter an existing school facility. Therefore, impacts to school services would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.13-12

Would the project:
Result in cumulative impacts related to public services?

Impact Analysis

Fire

Implementation of the proposed project has the potential to create a significant impact on fire protection services. The proposed project will pay fees and taxes that are expected to adequately mitigate the expected increase in fire protection and emergency medical service demand. Compliance with measures established by Federal, State, and local regulations would reduce fire protection impacts to less than significant. In addition, adherence to the *General Plan* goals and policies would further reduce impacts resulting from the proposed project to a less than significant level. As such, implementation of the proposed project would not result in cumulatively considerable fire protection impacts.

Police

Implementation of the proposed project has the potential to create a significant impact on police protection services. The proposed project is projected to generate an additional servicing need of 0.6 additional sworn officers and 0.3 civilian support staff. This increase is not considered substantial. As such, implementation of the proposed project would not result in cumulatively considerable police protection impacts.

Schools

The proposed project would have the potential to generate an additional 83 school-aged children. An additional 83 students would represent a less than 1 percent increase in the number of students attending SBCUSD schools. This increase is not considered substantial. Pursuant to SB 50, payment of fees to the appropriate school district is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental

² SBCUSD developer fees are under review, as of February 26, 2016, and may increase



facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios or other performance objectives for schools. Therefore, the applicant would be required to pay the statutory fees, so that space can be constructed, if necessary, at the nearest sites to accommodate the impact of project-generated students.

Additionally, the City of San Bernardino would be entitled to receive its share of pass-through payments pursuant to Section 33607.5 (b) of the *California Health and Safety Code*. The City of San Bernardino is entitled to elect to receive its share of the 25 percent tax increment pass-through payment authorized by *California Health and Safety Code* Section 33607.5(b) commencing with the first fiscal year the CDC is required to make such payments to the affected taxing entities and continuing each year thereafter. School funds collected associated with the proposed project pursuant to Section 33607.5 are required to be used for schools serving the students generated in the Project Area, schools located within the Project Area, or schools that benefit the Project Area.

Due to the minor increase in students, implementation of the proposed project would not result in significant cumulative impacts in regards to school services and facilities.

Impact Conclusion

Less than cumulatively considerable.

Mitigation Measures

No mitigation measures are required.

Impact 3.13-13

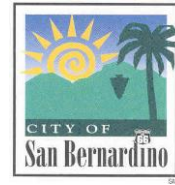
Would the project:

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?

Impact Analysis

The Rancho Palma development includes two planned private parks, a paseo, approximately a half-acre of parkland to be dedicated to Ronald Reagan Park, and a private recreational vehicle storage lot. The private neighborhood park would be approximately 1.4 acres and would offer open play turf areas, pathways, picnic nodes, and a playground area. A horseshoe court or other activity may also be provided. The pocket park would be approximately 0.2 acre and would offer opportunities for passive and/or active recreation, which may include bocce ball or similar activities.

A paseo (approximately 0.1 acre) is planned to include a meandering walkway, landscaping enhancements, and benches. The paseo connection would include gated pedestrian access to the commercial center.



The project also proposes to dedicate 0.5 acre of land to the City to allow for expansion of existing Ronald Reagan Park. This land area is located just north of (and adjacent to) the Cable Creek Channel. Dedication of the land for the park is aimed at assisting the City in providing additional recreational opportunities in the form of public parkland for residents and, in particular, for residents of the Verdemon Heights Community. As shown in [Figure 2-5D, Ronald Reagan Park Expansion Concept](#), it is anticipated that park amenities installed with the proposed project improvements may include an informational kiosk, gazebo, concrete walkway, landscaping enhancements, and a vegetated area for active and/or passive recreation. As the park would be dedicated to the City for public use, the City would be responsible for long-term operation and maintenance requirements. Dedication and improvement of the park would be consistent with the proposed project objective to “increase the Verdemon Heights Community’s recreation opportunities by expanding the size and/or amenities of Ronald Reagan Park.” Additionally, the project would contribute to the City’s General Plan goal (Goal 8.1 of Section 7.1.6, Parks, Recreation, and Trails) of improving “the quality of life in San Bernardino by providing adequate parks and recreation facilities and services to meet the needs of our residents.”

The proposed project would generate additional residents, who would increase the demand for parks and park usage. The proposed project would result in the addition of 120 dwelling units and approximately 419 persons. Based on the City’s parkland ratio of 5 acres per 1,000 residents, the proposed project would result in the need for approximately 91,000 square feet of parkland. The total amount of planned parkland is 96,000 square feet which more than satisfies this development’s need of 5 acres of parkland for every 1,000 residents as outlined in the General Plan.

In addition to the City’s standard of 5 acres of parkland for every 1,000 residents, the General Plan includes a policy to require developers of residential subdivisions to pay fees based on the valuation of the units to fund parkland acquisition and improvements. Dedication of parkland would help to reduce potential impacts of future residential development on parks and recreational facilities. Therefore, recreational impacts would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.13-14

Does the project:

Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Impact Analysis

Proposed project recreational facilities are detailed in the Impact Analysis discussion in [Section 3.13-15](#), above. The project includes a neighborhood park, a mini park, and a paseo. The project



also includes 0.5 acre of dedicated land for the expansion of Ronald Reagan Park. All of these park facilities are within the project site boundary and depicted in [Figures 2-2 and 2-3](#), and more specifically in [Figures 2-5A to 2-5D](#).

Environmental impacts associated with construction of recreation facilities have been addressed throughout this EIR under areas of Air Quality, Biological Resources, Cultural Resources, Noise, and Paleontological Resources. Mitigation has been provided in each applicable section of this EIR to reduce potential significant, short-term construction impacts to below a level of significance. Therefore, impacts due to the construction of recreation facilities necessary to serve the Project would be less than significant.

Impact Conclusion

Less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.13-15

Would the project:

Result in cumulative impacts related to recreation?

Impact Analysis

The proposed project, along with any foreseeable development in the project vicinity, could result in cumulative impacts to recreational facilities and parks; refer also to [Table 2-3](#).

As mitigated, the direct impacts associated with the proposed project will be reduced to a less than significant level. The proposed project will provide the parkland necessary for the additional residents and will not require the construction of any recreational facilities off-site. As a result of parkland included in the development plan, mitigation proposed, and existing federal and state laws, this impact is considered less than cumulatively considerable.

Impact Conclusion

Less than cumulatively considerable.

Mitigation Measures

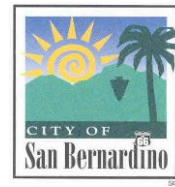
No mitigation measures are required.

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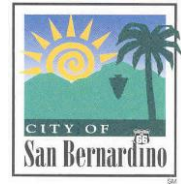
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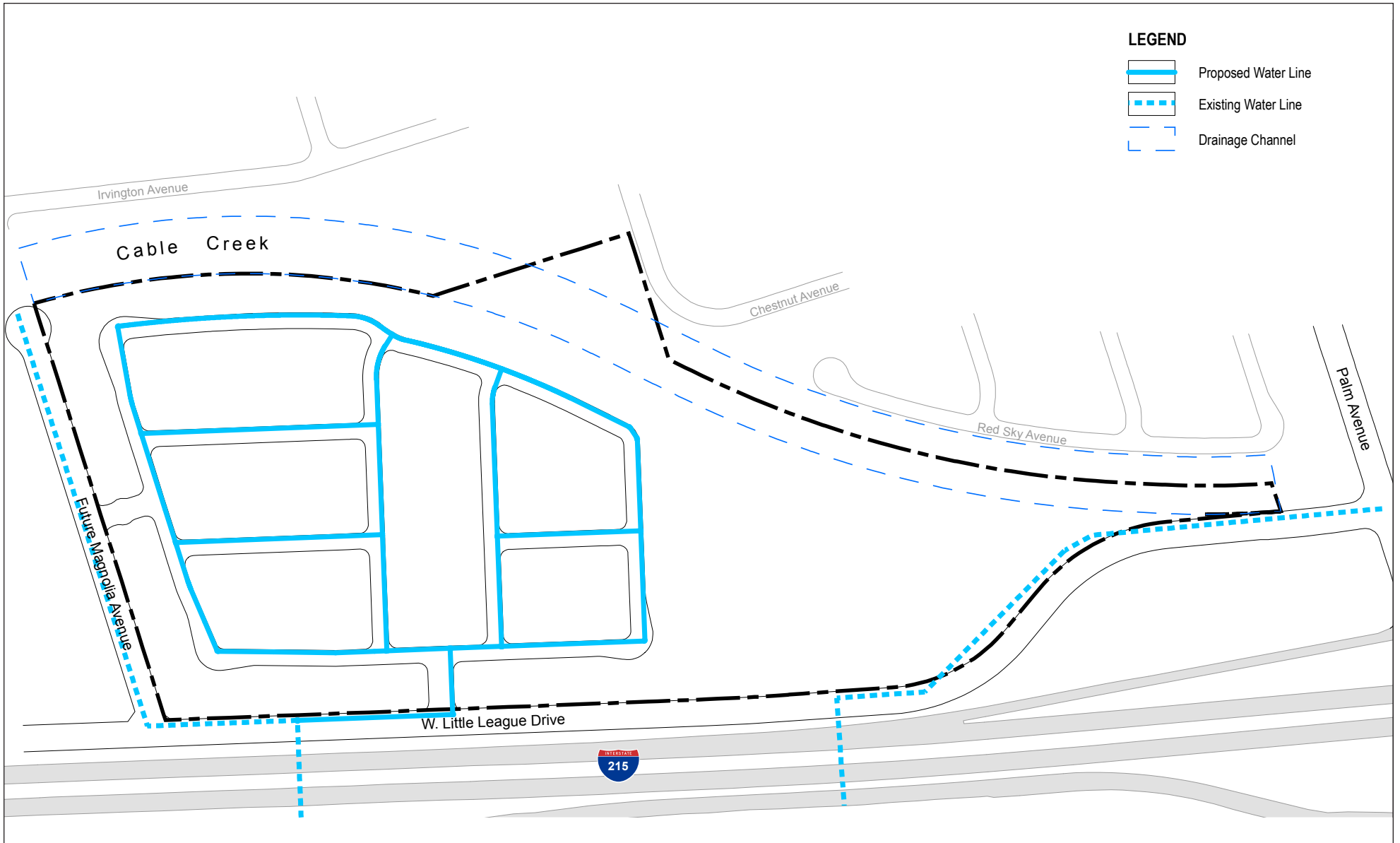
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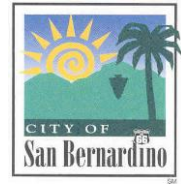
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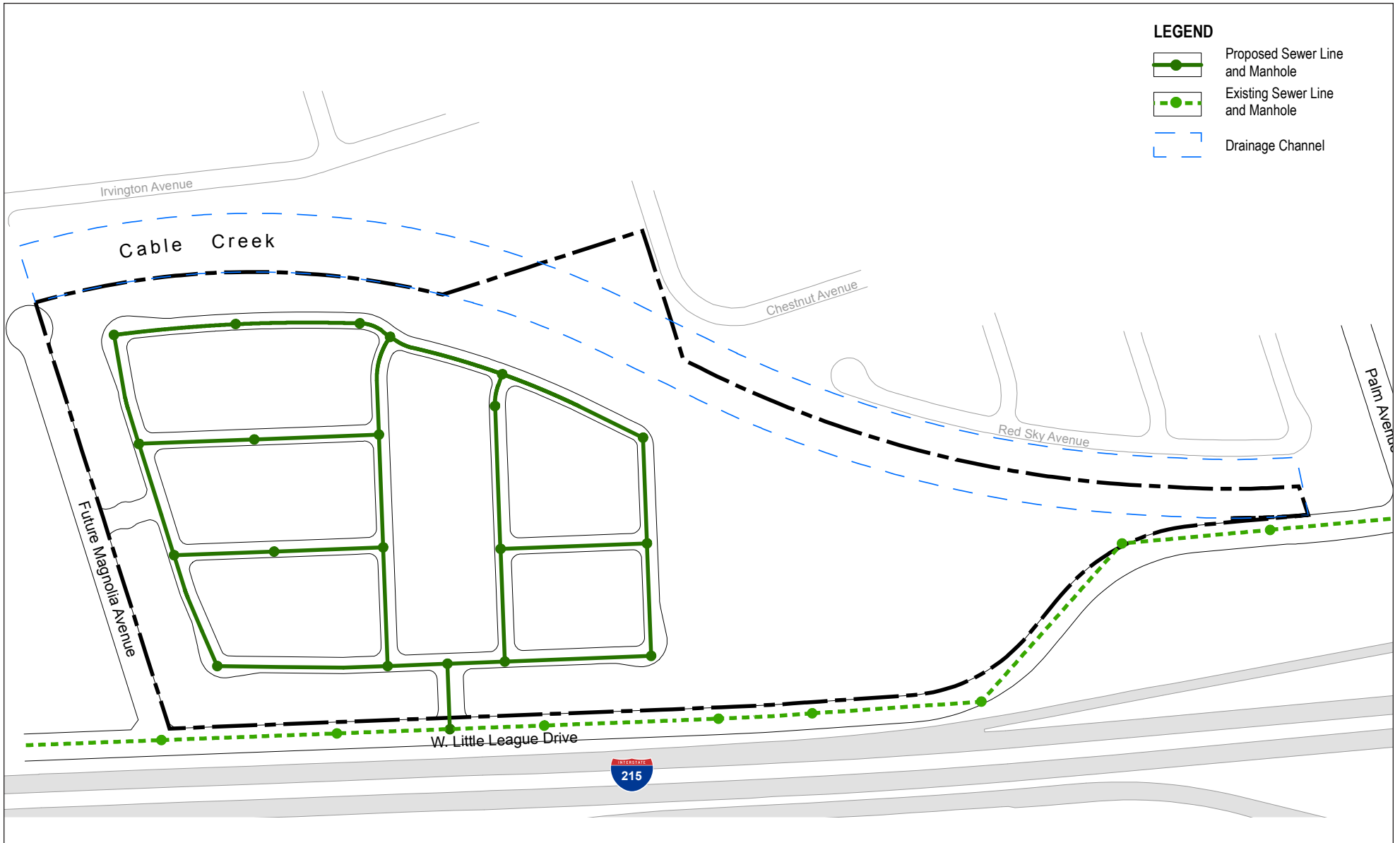
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3.14 Effects Found Not to Be Significant

California Environmental Quality Act (CEQA) Guidelines Section 15128 requires an environmental impact report to “contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR.”

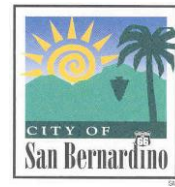
The City of San Bernardino has engaged the public in the scoping of this environmental document. The Notice of Preparation (NOP) was prepared to identify the potentially significant effects of the proposed project and was circulated for public review between March 28 and April 28, 2016. Comments received were considered when identifying the particular issue areas that should receive attention in this Draft EIR. In the course of evaluation, certain impacts were found not to be significant (no impact) or to be less than significant because the characteristics of the proposed project would not create such impacts. This section provides a brief description of such effects, based on a more detailed analysis conducted as part of the EIR preparation process. Note that a number of impacts found to be less than significant are addressed in the various Draft EIR topical sections ([Sections 3.1](#) through [3.13](#)) to provide a more comprehensive discussion as to why impacts are less than significant, in order to better inform decision-makers and the general public.

3.14.1 Agricultural and Forestry Resources

Would the project:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- b) Conflict with existing zoning for agricultural use or a Williamson Act contract.
- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).
- d) Result in the loss of forest land or conversion of forest land to non-forest use.
- e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

The City of San Bernardino does not contain any active farmland or forestland, nor does it support trees that could be commercially harvested. These conditions preclude the possibility of the proposed project converting farmland to non-agricultural use or forestland to non-forest use. The project site is zoned CG-1 (Commercial General), and therefore, is not zoned for agricultural use, nor is it subject to a Williamson Act contract. Therefore, these thresholds are not further discussed in the EIR.



3.14.2 Hazards and Hazardous Materials

Would the project:

- a) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.
- b) For a project in the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.

The San Bernardino International Airport is located at the southeastern edge of the city, approximately 10.6 miles from the project site. No land use compatibility plan currently exists for the airport. Additionally, the proposed project is not located within two miles of a public airport or in the vicinity of a private airport. Therefore, these thresholds are not further discussed in the EIR.

3.14.3 Land Use and Planning

Would the project:

- a) Physically divide an established community.
- b) Conflict with any applicable habitat conservation plan or natural community conservation plan.

As the project site is vacant and is generally surrounded by existing development and will not obstruct traffic or public trails, the proposed project will not physically divide an established community. Therefore, threshold a) is not further discussed in the EIR. There is no habitat conservation plan or natural community conservation plan that affects or is adjacent to the project site. Therefore, threshold b) is not further discussed in the EIR.

3.14.4 Mineral Resources

Would the project:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State.
- b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

The City's General Plan includes goals and policies aimed at the long-term preservation of mineral resources within the city boundaries and Sphere of Influence. Additionally, the General Plan identifies a range of allowed land use types relative to industrial-related employment uses, such as manufacturing, distribution, research and development, office, and mineral extraction, at a range of intensities. The General Plan land use category of Industrial Extractive (IE) allows mineral, sand, and gravel extraction with an approved Mineral Reclamation Plan, in accordance with the California Surface Mining and Reclamation Act of 1975 (SMARA). This land use does not apply to



the subject property or any adjoining lands. The site has not been historically used for mineral resource extraction, nor is it intended for such purposes. Therefore, these thresholds are not further discussed in the EIR.

3.14.5 Noise

Would the project:

- a) 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, exposure of people residing or working in the project area to excessive noise levels.
- b) For a project in the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels.

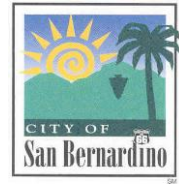
The San Bernardino International Airport is located at the southeastern edge of the city, approximately 10.6 miles from the project site. No land use compatibility plan currently exists for the airport. Additionally, the proposed project is not located within two miles of a public airport or in the vicinity of a private airport. Therefore, these thresholds are not further discussed in the EIR.

3.14.6 Population and Housing

Would the project:

- a) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- b) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

As the project site is vacant, and therefore, no structures will be removed or any existing residents displaced as a result of project implementation. As such, these thresholds are not further discussed in the EIR.



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4.0 ALTERNATIVES

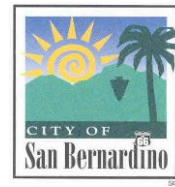
4.1 INTRODUCTION

California Environmental Quality Act (CEQA) Guidelines Section 15126.6 requires the identification and evaluation of reasonable alternatives designed to feasibly achieve the most basic objectives of a project, while avoiding or substantially lessening any of the potential significant environmental effects. In addition, CEQA requires a comparative evaluation of the merits of each project alternative considered, as appropriate.

4.2 PROJECT OBJECTIVES

The following objectives have been identified to guide future development of the proposed project. The objectives also provide a basis for identification of the project alternatives described in this EIR.

1. Establish a mixed-use community for the Verdemonst Heights community with a balance of land uses including commercial, single-family housing, and recreation.
2. Deliver an appropriately sized neighborhood commercial center that provides a mix of retail uses with employment growth and increased sales tax for San Bernardino.
3. Provide new single-family housing in the Verdemonst Heights community with two lot size categories and corresponding home sizes to serve a variety of future residents.
4. Increase the Verdemonst Heights community's recreation opportunities by expanding the size and/or amenities of Ronald Reagan Park.
5. Adopt appropriate standards and design guidelines to implement the development to ensure compatibility with surrounding neighborhoods.
6. Promote a sense of community and character by providing neighborhood signage and monumentation.
7. Create a pedestrian environment with walkable parks and commercial uses.
8. Provide a fiscally sound project that provides for ongoing maintenance and operation of neighborhood parks and streets with the additional sales tax revenues from the commercial uses.
9. Improve circulation in the Verdemonst Heights community with improvements of West Little League Drive and Magnolia Avenue adjacent to the project.
10. Facilitate additional public parking with the improvement of West Little League Drive and Magnolia Avenue.
11. Reduce the need for overnight parking of RV units on the street or driveways with the provision of a RV storage yard.
12. Reduce water consumption through the use of native, drought-tolerant landscaping and "smart" irrigation systems.



13. Promote a “green” project with water- and energy-saving measures as defined in Chapter 5, Sustainable Guidelines, of the Rancho Palma Specific Plan.

4.3 ALTERNATIVES REJECTED FROM FURTHER CONSIDERATION

In accordance with CEQA Guidelines Section 15126.6, an EIR should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the lead agency’s determination. Among the factors that may be used to eliminate alternatives from detailed consideration in and EIR are failure to meet most of the basic project objectives, infeasibility, or inability to avoid significant environmental effects. The following are alternatives that have been rejected by the lead agency and will not be analyzed further in this EIR.

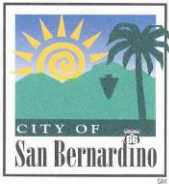
4.3.1 Off-Site Alternative

Off-site alternatives are typically included in an environmental document to avoid, lessen, or eliminate a project’s significant impacts by considering the proposed development in a different location. To be feasible, development of off-site locations must be able to fulfill the project purpose and meet most of the project’s basic objectives. It is anticipated that locating the proposed project on off-site lands in the surrounding vicinity would generally result in similar development potential and associated environmental impacts, depending on the developed or undeveloped nature of the selected site. However, because San Bernardino is highly urbanized and largely built out, impacts relative to biological resources, cultural resources, air quality, greenhouse gas emissions, traffic, etc., are anticipated to be similar to those that would result with the project. Therefore, an off-site alternative may or may not reduce any such impacts as compared to the project as proposed. Further, the subject site is currently under the project applicant’s financial ownership (as compared to potential offsite alternatives), and residential and commercial uses are allowed on the project site with City approval of a Conditional Use Permit. Existing land uses in the neighborhood (residential and commercial uses) on adjacent or nearby lands also represent similar land uses to those proposed with the project; therefore, development as proposed on the subject site would not introduce a new land use in the local setting or result in conflict with regard to operating characteristics. For these reasons, an off-site alternative is considered infeasible pursuant to CEQA Guidelines Section 15126.6(c) and is therefore rejected as a feasible project alternative.

4.3.2 No Development Alternative

The No Development Alternative would result in the project site remaining in its current state as undeveloped land. However, it should be noted that, under existing conditions, the General Plan land use designation and zoning for the site are commercial, thereby indicating that the City anticipates commercial use of the property. As such, development of the site would likely occur in the future.

Although this alternative would avoid all of the significant impacts identified in [Section 3.0](#) of this EIR, the No Development Alternative would not achieve most of the project objectives. Because the site would remain undeveloped, a mixed-use development offering commercial retail uses,



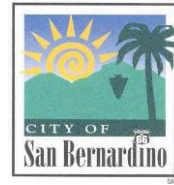
new residential housing opportunities, and/or recreational amenities would not be achieved. No new residential or commercial uses would be included on the site, nor would any economic or employment benefits occur as a result. Further, the public benefit offered by expansion of Ronald Reagan Park would not be achieved. Because the Rancho Palma Specific Plan would not be implemented and no development would be undertaken, the opportunity to provide a development that would respect and contribute to the enhancement of the neighborhood character, supportive of pedestrian needs, would not occur, nor would circulation patterns or available parking in the Verdmont Heights community be improved along West Little League Drive and Magnolia Avenue adjacent to the site. As such, this alternative would not achieve most of the project objectives. Therefore, the No Development Alternative is rejected from further analysis in the EIR.

4.3.3 Increased Residential Density Alternative

The Increased Residential Density Alternative would result in development of the project site in a similar manner to the proposed project with a mixture of residential, commercial, and recreational uses. However, under this alternative, the approximately 28-acre portion of the site (Planning Areas 1 and 2) would be developed with residential land uses at a higher density than that proposed with the project. The project as proposed would allow the future development of a maximum of 120 single-family residential units in Planning Areas 1 and 2. It is assumed that under this alternative, the number of 7,000-square-foot lots would be reduced and the number of 5,000-square-foot lots would be increased to achieve the intended higher density. However, development would still be subject to preparation of a Specific Plan to ensure the density at which the site is developed remains appropriate, with particular respect for surrounding land uses. Additionally, development of Planning Area 3 would be developed with the approximately 98,000 s.f. of commercial land uses, similar to the proposed project. The 0.5-acre RV storage lot would also be eliminated to further accommodate the proposed increase in residential density. The neighborhood/linear park, pocket park, and paseo, as well as dedication of the 0.5-acre portion of land to the City for the future expansion of Ronald Reagan Park, would remain as proposed with the project under this alternative for restricted use by Rancho Palma residents only.

This alternative would still achieve most of the project objectives, including establishing a mixed-use community for the Verdmont Heights community with a balance of land uses including commercial, single-family housing, and recreation, and providing new single-family housing in the Verdmont Heights community with two lot size categories and corresponding home sizes to serve a variety of future residents. Additionally, this alternative would retain the development's ability to achieve the objective of creating a fiscally sound project that provides for ongoing maintenance and operation of neighborhood parks and streets with the additional sales tax revenues generated from the commercial uses.

With the increased residential density, this alternative would result in an increase in potential impacts relative to air quality, hazards/hazardous materials (increase in the number of people exposed to wildfire danger), noise, and traffic and transportation as compared to the proposed project. Further, the alternative would not provide an environmental benefit or achieve additional objectives that the proposed project would not already achieve. For these reasons, the Increased Residential Density Alternative is rejected from further analysis in the EIR.



4.4 ALTERNATIVES TO BE ANALYZED

This analysis focuses on alternatives capable of eliminating significant adverse environmental effects or reducing them to less than significant levels, even if these alternatives would impede, to some degree, the attainment of the proposed project objectives. The following alternatives have been identified for analysis:

- *Alternative 1: No Project Alternative.* Under this alternative, the proposed project would not be adopted, and development would instead occur consistent with that allowed under the existing General Plan land use designation (CG-1) and zoning (CG-1). This alternative serves as the “No Project” Alternative in accordance with CEQA Guidelines Section 15126.6(e).
- *Alternative 2: No Commercial Use Alternative.* Under this alternative, development of the subject site would be limited to residential use only, and no commercial development would occur. However, recreational uses (open space and parks) and the RV storage lot would remain part of the proposed development.
- *Alternative 3: Increased Commercial Use Alternative.* Under this alternative, the project site would be developed with a mix of residential and commercial uses, similar to the project as proposed. However, the area proposed for commercial use would be increased as compared to the project, thereby reducing the overall number of residential dwelling units.

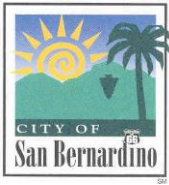
ALTERNATIVES ANALYSIS

Only those impacts found to be significant (or significant and unavoidable) are relevant in making the final determination as to whether an alternative is environmentally superior or inferior to the proposed project. This section therefore considers alternatives to otherwise avoid or minimize these significant impacts.

4.4.1 NO PROJECT ALTERNATIVE

The No Project Alternative assumes that the lead agency would take no action. Under this alternative, the project site would be developed as allowed by the existing General Plan land use designation (CG-1) and zoning (CG-1) that currently apply to the subject site.

Per San Bernardino Municipal Code Section 19.06.010, the CG-1 zone is “intended to provide for the continued use, enhancement, and new development of retail, personal service, entertainment, office and related commercial uses along major transportation corridors and intersections to service the needs of the residents; reinforcing existing commercial corridors and centers and establishing new locations as residential growth occurs. Additionally, this zone permits a maximum density of 47 units per net acre for senior citizen and senior congregate care housing.” Permitted uses (i.e., those uses not subject to an Administrative or Development Permit, Minor Use Permit, or Conditional Use Permit) in the CG-1 zone are identified in Table 06.01, Commercial Zones List of Permitted, Development Permitted and Conditionally Permitted Uses, in the Municipal Code.



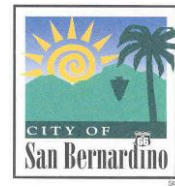
The only permitted uses are previously existing single-family residential uses. All other land uses would require City approval of either a Development Permit or a Conditional Use Permit (CUP). If such approval is sought, the site could be developed at a higher or lower density than the project as proposed (if residential uses are proposed), or at a higher or lower intensity (if commercial uses are proposed). However, it is assumed that even if a mix of commercial and residential uses are proposed with this alternative, development on the site would likely occur at an increased intensity above that which would result with the proposed project due to the nature and intent of the CG-1 zone, which is focused on commercial use types rather than residential development. Uses allowed with City approval of a Development Permit or CUP in the CG-1 zone include but are not limited to administrative and professional offices/services, automotive-related uses, hotels/motels, RV parks, night clubs/bars/lounges, restaurants, auditoriums, banks, medical offices, dry cleaners, day-care facilities, convenience stores, liquor stores, commercial bakeries, funeral parlors, libraries, mixed-use commercial, parking, religious facilities, public utility uses, and veterinary facilities. As indicated in Table LU-2, Land Use Designations, of the General Plan, the CG-1 land use designation allows a floor area ratio (FAR) of 0.7. Therefore, the 38 acres available on the site (does not include the 3.5-acre area comprising the Cable Creek Channel) would allow development of a maximum of 1,158,696 square feet of commercial uses (if only commercial uses are proposed), or 1,060,696 square feet more than proposed with the project. However, considering the existing land use setting which includes residential uses adjacent to the site, it is anticipated that a lower FAR would likely be applied (i.e. a more appropriate FAR would be 0.25 which would yield development of a maximum of 413,820 square feet of commercial uses (if only commercial uses are proposed) on the 38 acres, or 315,820 square feet more than that proposed with the project.¹

This alternative would not result in development of the RV storage lot or any of the other proposed private or public parks or open space. Additionally, the proposed improvements along West Little League Drive and Magnolia Avenue would not occur, although other roadway improvements may be required in support of the land uses ultimately proposed.

AIR QUALITY

The air quality analysis for the proposed project identified that particulate matter (PM₁₀ and PM_{2.5}) emissions during construction would not exceed the South Coast Air Quality Management District's (SCAQMD) pounds per day threshold. Although not required, mitigation is proposed to ensure that any such effects from project construction and operation are reduced to the maximum extent feasible. Construction of the No Project Alternative would likely result in similar air quality impacts as compared to the proposed project because the majority of the site would still be developed in some manner, regardless of the actual land use (similar development area and construction activity). As such, air quality impacts from construction are anticipated to remain less than significant with this alternative, particularly with implementation of the proposed mitigation. Therefore, impacts would be similar to the proposed project.

¹ The proposed project applies an FAR of approximately 0.24 (9.3 acres, or 405,108 s.f. divided by 98,000 s.f. of commercial use = floor area ratio of 0.24).



Emissions resulting from operational activities resulting from the proposed project were found to exceed applicable SCAQMD regional thresholds of significance for emissions of nitrogen oxides (NOx). As such, mitigation is required to reduce such operational impacts to less than significant. With consideration for the intensity of commercial uses that may be developed under this alternative, such uses would generate more vehicular traffic than the residential uses proposed with the project. As a result, this alternative would be anticipated to have greater operational emissions than the proposed project. Similar to the proposed project, this alternative is anticipated to result in operational impacts with regard to air quality. However, due to the increase in vehicular trip generation and the intensity of uses under this alternative, impacts are considered to be greater than those that would result with the project as proposed.

BIOLOGICAL RESOURCES

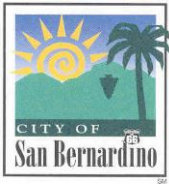
The project site is largely void of biological resources. As such, similar to the proposed project, this alternative would generally not be expected to directly or indirectly impact sensitive wildlife or plant species. The development footprint under this alternative would be assumed similar to that of the proposed project, with the entirety of the property graded and disturbed/developed. As with the proposed project, construction on the subject site under this alternative would have the potential to affect avian species if present during the nesting season, including burrowing owl and California horned lark, if determined to be present at the time development is undertaken. As such, impacts are considered similar to those which would result with the proposed project, and the same mitigation measures as identified with the project would be required to reduce potential effects. Further, if it is determined that jurisdictional wetland habitat is present on the project site, similar impacts would result and mitigation measures would be required to ensure adverse effects on such habitat are minimized to the extent feasible. Impacts with regard to biological resources would therefore be considered similar to those resulting with the proposed project.

CULTURAL RESOURCES

While no cultural resources were identified on any of the parcels evaluated for the proposed project, mitigation measures are required to reduce potential impacts to undiscovered cultural resources. These same measures would be required for any land disturbance activities under this alternative to ensure the long-term protection of such resources. Therefore, cultural resources impacts resulting with this alternative would be similar to those occurring with the proposed project.

GEOLOGY AND SOILS

Southern California, including the project area, is subject to the effects of seismic activity because of the active faults traversing the region. As indicated in [Section 3.6, Geology and Soils](#), the City is located in Seismic Zone 4, a zone with the highest hazard rating, and therefore is susceptible to strong ground shaking activity. The City has been regionally designated as a high severity zone where major probable damage of maximum IX or X, as defined by the Mercalli Intensity Scale, may occur from a maximum expectable earthquake. However, no active or potentially active faults have been previously mapped across the project site, and the site is not located in an Alquist-Priolo Earthquake Fault Zone. Although no active faults traverse the project site, all



development would be required to comply with the requirements of the Alquist-Priolo Fault Zoning Act as well as the California Building Code (CBC), which includes specific design measures intended to maximize structural stability in the event of an earthquake.

Because this alternative would allow development on the project site that includes grading to accommodate buildings, the impacts associated with seismicity, ground failure, liquefaction, and/or expansive or unstable soils would be the same as with the proposed project and would also require the implementation of mitigation measures to reduce potential impacts. Impacts with regard to geology and soils would therefore be similar to those resulting with the proposed project.

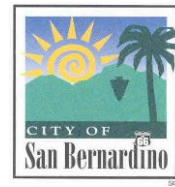
HAZARDS AND HAZARDOUS MATERIALS

Although the project site is located in an urbanized area, portions of the City are subject to a high risk of wildfire occurrence, and the California Department of Forestry and Fire Protection (Cal Fire) Fire Hazard Severity Zone Map database determined that the project site is located in a High Fire Hazard Severity Zone (HFHSZ), which is also a local responsibility area. As such, the risk of wildfire is considered high, and the proposed project is subject to specific requirements as mandated by the San Bernardino City Fire Department to reduce the risk of wildfire occurrence. Because similar hazardous conditions would be present with development of the property under this alternative, such development would be subject to similar mitigation measures intended to reduce potential impacts with regard to wildfire hazards. However, as this alternative would likely result in a reduction of residential land uses on the project site as compared to the proposed project, the number of people subjected to longer-term exposure to such hazardous conditions would be reduced (i.e., residents inhabiting permanent housing over time versus temporary visitors to the commercial uses in this area of the City). As such, it is anticipated that, with the potential elimination or reduction of the number of permanent residences on-site, potential impacts resulting with this alternative with regard to wildfire hazards would be reduced as compared to the proposed project.

NOISE

Construction of the No Project Alternative would likely result in similar noise impacts as compared to the proposed project, as the majority of the site would still be developed in some manner, regardless of what the actual land use is (similar development area and construction activity). As such, it is anticipated that noise impacts from construction would be reduced to less than significant with this alternative with implementation of mitigation measures. Therefore, impacts would be similar to the proposed project.

With the likelihood that the site would be developed at a greater intensity than that which would occur with the proposed project, due to the nature and intent of the CG-1 zone, this alternative would be anticipated to generate more vehicular traffic, increase the intensity of on-site activity (parking lot versus residential lot), and result in other sources of operational noise (mechanical equipment, delivery and service vehicles, shopping cart corrals, loading docks, etc.). As a result, this alternative would be anticipated to generate increased noise levels as compared to the proposed project. Although operational noise impacts were determined to be less than significant with the proposed project, due to the anticipated increase in intensity of uses under this



alternative, noise impacts are considered to be greater than those that would result with the project as proposed.

TRAFFIC AND TRANSPORTATION

The traffic impact assessment (TIA) determined that, for Phase 1 (Year 2018) based on an assessment of Existing Plus Project (E+P; Phase 1); EA (Existing Plus Ambient Growth; Year 2018); and Existing Plus Ambient Growth Plus Project (EAP; Year 2018) traffic conditions, the project's potential impact to the surrounding study area intersections was found to be less than significant; refer to [Appendix 3.12-1, Traffic Impact Assessment](#).

Additionally, for Phase 2 (Year 2019), based on a comparison of Existing and E+P (Project Buildout) traffic conditions, the project's potential impact to the surrounding study area intersections was found to be less than significant. The intersection of University Parkway at Kendall Drive is anticipated to operate at an unacceptable level of service (LOS E) during the PM peak hour under EA (2019) traffic conditions and is anticipated to continue to operate at unacceptable levels during the PM peak hour only with the addition of project buildout traffic. The addition of project traffic is anticipated to increase the volume-to-capacity (V/C) ratio by more than the City's minimum threshold of 0.01 for intersections operating at LOS E or F under pre-project traffic conditions. Payment of the project's fair share contribution toward construction of a second southbound left turn lane at the intersection would reduce the project's contribution to cumulative impacts to less than significant.

The TIA also concluded that portions of Interstate 215 (I-215) would operate at LOS E or F without the project for Horizon Year (2035) conditions. The project's contributions to cumulative impacts under Horizon Year (2035) conditions were less than 1 percent of the total traffic. The California Department of Transportation (Caltrans) recognizes that many of its facilities will operate at LOS E and F even at the ultimate buildout of the identified facility, as would be the case on I-215 under Horizon Year (2035) conditions. Because the City of San Bernardino has no control over state facilities, and because the state facilities funded and planned to be developed under Horizon Year (2035) conditions are already anticipated to operate at LOS E or F even without the proposed project, no further mitigation measures can be imposed on the project to mitigate its contribution to impacts on segments of I-215 under Horizon Year (2035) conditions. Caltrans has exclusive control over state highway improvements. However, as this alternative would be expected to generate more traffic to local and regional roadways including I-215, impacts to transportation would be considered greater than the proposed project.

Although it is difficult to specifically determine uses that would be developed under the No Project Alternative, and therefore the degree of impact related traffic would have on area roadways and intersections, it is anticipated that considering the highest and best use of the property, this alternative would generate additional daily vehicle trips above the number generated by the proposed project. This alternative would be subject to similar mitigation measures to reduce potential impacts, including the requirement to participate in the funding of off-site improvements. However, the amount of payment of such funding may increase with this alternative. It is also anticipated that, similar to the proposed project, no further mitigation measures would be identified that could be imposed to mitigate the alternative's relatively small cumulative contribution to impacts on segments of I-215 under Horizon Year (2035) conditions.



For the reasons above, impacts relative to traffic are considered greater with this alternative than with the proposed project.

SUMMARY

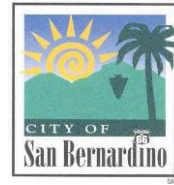
This alternative would have the potential to meet the project objectives of establishing a mixed-use community for the Verdmont Heights community with a balance of land uses including commercial, single-family housing, and recreation, and providing new single-family housing in the Verdmont Heights community with two lot size categories and corresponding home sizes to serve a variety of future residents. However, this would only be achieved if residential uses were actually proposed. Similarly, the objective of reducing the need for overnight parking of RV units on the street or driveways could only be achieved if an RV storage lot is developed, and the objective of increasing the Verdmont Heights community's recreation opportunities by expanding the size and/or amenities of Ronald Reagan Park could only be achieved if such use of a portion of the site is proposed. Several of the other more general project objectives, including reducing water consumption through the use of native, drought-tolerant landscaping and "smart" irrigation systems, and promoting a "green" project with water- and energy-saving measures, could be achieved whether the site is developed with residential, commercial, or recreational uses. Improvements in parking and/or circulation on area roadways would also be dependent on the type and intensity of future land uses proposed.

As shown in [Table 4-1, Comparison of Alternative Project Impacts to the Proposed Project](#), the No Project Alternative would result in similar impacts with regard to biological resources, cultural resources, and geology and soils, as compared to the proposed project. However, this alternative would result in greater impacts related to air quality, noise, and traffic and transportation. Only significant impacts relative to hazards and hazardous materials would be reduced with the No Project Alternative, as compared to the proposed project.

4.4.2 NO COMMERCIAL USE ALTERNATIVE

As shown in [Table 2-1, Land Use Summary](#), of this EIR, approximately 9.3 acres of the property (Planning Area 3) would be developed with 98,000 square feet of commercial development with the project as proposed. Under the No Commercial Use Alternative, this acreage would instead be developed with residential uses on 5,000-square-foot lots. Assuming roughly one-third of the 9.3-acre land area would be used to support on-site roadway and landscaping improvements, it is estimated that the remaining acreage (approximately 270,072 square feet) could be developed with up to 54 residential lots of 5,000 square feet each. Development at this density would be reflective of that proposed for the adjacent Planning Area 2 under the proposed project (and that would also occur under this alternative).

This alternative would still result in development of the RV storage lot (Planning Area 2), and the proposed public park (0.5 acre), neighborhood/linear park (1.4 acres), and Cable Creek Channel open space (3.5 acres) would also remain as part of this alternative. This alternative would still require approval of a CUP to allow residential uses on-site, and a Specific Plan would be prepared to guide the overall character and appearance of development. All other infrastructure improvements (utilities, roadway improvements, etc.) would remain the same as those which would occur with the project as proposed.



AIR QUALITY

Construction of the No Commercial Use Alternative would likely result in similar air quality impacts as compared to the proposed project because the majority of the site would still be developed in some manner, regardless of the actual land use (similar development area and construction activity). As such, air quality impacts from construction are anticipated to remain less than significant with this alternative, particularly with implementation of the proposed mitigation. Therefore, impacts would be similar to the proposed project.

With elimination of the higher-intensity commercial uses under this alternative, the residential uses would generate less vehicular traffic as compared to the mix of residential and commercial uses proposed with the project. Similar to the proposed project, this alternative is anticipated to result in operational air quality impacts with regard to NO_x or other criteria pollutants. However, due to the decrease in vehicular trip generation and the intensity of uses under this alternative, (homes generate less traffic than commercial development) operational impacts are considered to be reduced compared to those that would result with the project as proposed. However, similar mitigation measures would be required to reduce such impacts to less than significant.

BIOLOGICAL RESOURCES

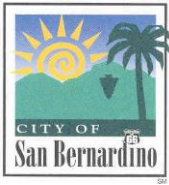
Because the project site is largely void of biological resources, this alternative would generally not be expected to directly or indirectly impact sensitive wildlife or plant species. The development footprint under this alternative is assumed to be similar to that of the proposed project, with the entirety of the property graded and disturbed/developed. Construction would have the potential to affect avian species, including burrowing owl and California horned lark, if determined to be present at the time when development is undertaken, similar to the proposed project. As such, impacts on biological resources under this alternative are considered to be similar to those of the proposed project, and the same mitigation measures as identified with the project would be required to reduce potential effects. Similar impacts with regard to potential effects on any jurisdictional resources, if identified, would also result with this alternative, and mitigation measures would be incorporated. Therefore, this alternative would result in similar impacts on biological resources as compared the proposed project.

CULTURAL RESOURCES

While no cultural resources were identified on any of the parcels evaluated for the proposed project, mitigation measures are proposed to reduce potential impacts to undiscovered cultural resources. These same measures would be required for any land disturbance activities under this alternative. Therefore, cultural resources impacts resulting with this alternative would be similar to those occurring with the proposed project.

GEOLOGY AND SOILS

Under this alternative, similar conditions relative to hazards resulting from a seismic event would occur, as compared to the proposed project, due to the project site's location. Because this alternative would allow development on the subject site that would include grading to accommodate structures, impacts associated with seismicity, ground failure, liquefaction, and/or expansive or unstable soils would be the same as with the proposed project and would also



require the implementation of mitigation measures to reduce potential impacts. Impacts with regard to geology and soils would therefore be similar to those resulting with the proposed project.

HAZARDS AND HAZARDOUS MATERIALS

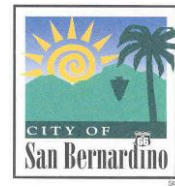
Although the project site is located in an urbanized area, portions of the City are subject to a high risk of wildfire occurrence, and the Cal Fire Fire Hazard Severity Zone Map database determined that the project site is located in a HFHSZ, which is also a local responsibility area. As such, the risk of wildfire is considered to be high, and future development is subject to specific requirements as mandated by the San Bernardino City Fire Department to reduce the risk of wildfire occurrence. Because such hazardous conditions would be present with development of the site under this alternative, development would also be subject to similar mitigation measures intended to reduce potential impacts with regard to wildfire hazards.

This alternative would remove the commercial uses proposed with the project and would instead increase the number of residential units on-site, thereby increasing the number of people that would be exposed to hazardous conditions relative to wildfire hazards for an extended, more permanent period of time (versus those who would periodically visit the commercial uses). As such, this alternative would have a greater potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Impacts resulting with this alternative with regard to wildfire hazards would therefore be increased as compared to the proposed project.

NOISE

Construction of the No Commercial Use Alternative would result in similar noise impacts as compared to the proposed project, as the majority of the site would still be developed (similar development area and construction activity). As such, it is anticipated that noise impacts from construction would be reduced to less than significant with this alternative with implementation of the proposed mitigation. Therefore, impacts would be similar to the proposed project.

With elimination of the commercial uses, it is anticipated that potential operational noise effects resulting under this alternative would be reduced as compared with the proposed project. This alternative would be anticipated to generate fewer vehicular traffic trips, and therefore reduced vehicular noise, and result in development of the site with a use of lesser intensity and operational activity. Additionally, many potential sources of operational noise (mechanical equipment, delivery and service vehicles, shopping cart corrals, loading docks, etc.) that would occur with the commercial uses as proposed by the project would be eliminated with development of the site with only residential uses under the No Commercial Use Alternative. As a result, this alternative would be anticipated to generate decreased operational noise levels as compared to the proposed project. Although operational noise impacts were determined to be less than significant with the proposed project, due to the anticipated decrease in intensity of uses under this alternative, noise impacts are considered to be reduced as compared to the project as proposed.



TRAFFIC AND TRANSPORTATION

The No Commercial Use Alternative would reduce the number of overall average daily traffic (ADT) generated by development of the subject site as compared to the proposed project, as an all-residential land use would represent a less intensive development than the mix of residential and commercial uses that would result with implementation of the proposed project. However, it is anticipated that this alternative would result in similar impacts under the Year 2018 (less than significant) and Year 2019 (less than significant with mitigation) scenarios. Therefore, although traffic generation would be reduced under the No Commercial Use Alternative, impacts would be similar to the proposed project, and similar mitigation measures would be required.

Similarly, potential traffic impacts on I-215 would be reduced under this alternative. Such contributions to cumulative impacts on the identified segments under Horizon Year (2035) conditions would remain less than 1 percent of the total traffic. However, similar to the proposed project, no further mitigation measures could be imposed to mitigate the cumulative contribution to impacts on segments of I-215 under Horizon Year (2035) conditions with development of this alternative.

Therefore, although this alternative would result in similar impacts and require similar mitigation as compared to the proposed project, including the requirement to participate in the funding of off-site improvements, this alternative would reduce the degree to which such effects would occur by reducing overall traffic generation rates and contribution of traffic trips to the surrounding circulation system. However, with elimination of the commercial land uses, impacts relative to traffic are considered lesser with this alternative, as compared to the proposed project.

SUMMARY

This alternative would achieve the majority of the project objectives by providing new single-family housing in the Verdemon Heights community with two lot size categories and corresponding home sizes to serve a variety of future residents and would increase the Verdemon Heights community's recreation opportunities by expanding the size and/or amenities of Ronald Reagan Park. Further, through preparation of a Specific Plan, this alternative could achieve the objectives of adopting appropriate standards and design guidelines to implement the development to ensure compatibility to surrounding neighborhoods; promoting a sense of community and character by providing neighborhood signage and monumentation; improving circulation in the Verdemon Heights community with improvements of West Little League Drive and Magnolia Avenue adjacent to the project; facilitating additional public parking with the improvement of West Little League and Magnolia Avenue; and reducing the need for overnight parking of RV units on the street or driveways with the provision of a RV storage yard. Additionally, this alternative would reduce water consumption through the use of native, drought-tolerant landscaping and "smart" irrigation systems, and promote a "green" project with water- and energy-saving measures as defined in the Specific Plan.

However, as no commercial uses would be proposed, this alternative would not establish a mixed-use community for the Verdemon Heights community with a balance of land uses including commercial, single-family housing, and recreation; deliver an appropriately sized neighborhood commercial center that provides a mix of retail uses with employment growth and increased sales



tax for San Bernardino; create a pedestrian environment with walkable parks and commercial uses; or, provide a fiscally sound project that provides for ongoing maintenance and operation of neighborhood parks and streets with the additional sales tax revenues from the commercial uses.

As shown in [Table 4-1, Comparison of Alternative Project Impacts to the Proposed Project](#), the No Commercial Use Alternative would result in similar impacts to biological resources, cultural resources, and geology and soils and would increase potential impacts relative to hazards and hazardous materials, as compared to the proposed project. However, this alternative would reduce potential impacts relative to air quality, noise, and traffic and transportation as compared to the proposed project.

4.4.3 INCREASED COMMERCIAL USE ALTERNATIVE

The Increased Commercial Use Alternative would result in an increase in the proposed commercial uses on the subject site. To allow an increase in on-site commercial uses, the proposed residential development in Planning Area 2 would instead be developed with commercial uses under this alternative. As such, this alternative would remove approximately 11.3 acres from residential use, reducing the overall number of planned residential units to 63 (to be developed in Planning Area 1 under the proposed project and with this alternative). As with the proposed project, the 63 residential units would be developed on 7,000-square-foot lots.

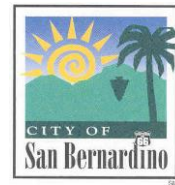
The overall commercial area would total approximately 20.6 acres (Planning Areas 2 and 3, 11.3 and 9.3 acres, respectively). As indicated in Table LU-2, Land Use Designations, of the General Plan, the CG-1 land use designation allows a floor area ratio (FAR) of 0.7. However, considering the existing land use setting which includes residential uses adjacent to the site, it is anticipated that a lower FAR would likely be applied (i.e. a more appropriate FAR would be 0.25 which would yield development of a maximum of 224,334 square feet of commercial uses (if only commercial uses are proposed) on the 20.6 acres, or 126,334 square feet more than that proposed with the project.²

With 63 residential units, 1.1 acres of parkland are required per City code; this would include Public Park (0.5 acre) and neighborhood/linear park (0.6 acre). This alternative would not result in development of the RV storage lot; however, Cable Creek Channel open space (3.5 acres) would remain as part of this alternative. This alternative would require approval of a CUP to allow the residential uses on-site, and a Specific Plan would be prepared to guide the overall character and appearance of development. All other infrastructure improvements (utilities, roadway improvements, etc.) would remain the same as those which would occur with the project as proposed.

AIR QUALITY

Construction of the Increased Commercial Use Alternative would likely result in similar air quality impacts as compared to the proposed project, as the majority of the site would still be developed in some manner, regardless of the actual land use (similar development area and construction

² The proposed project applies an FAR of approximately 0.24 (9.3 acres, or 405,108 s.f. divided by 98,000 s.f. of commercial use = floor area ratio of 0.24).



activity). As such, air quality impacts from construction are anticipated to remain less than significant with this alternative, particularly with implementation of the proposed mitigation. Therefore, impacts would be similar to the proposed project.

With development of Planning Area 2 with a higher-intensity (commercial) use, as compared to the proposed project, the development would generate increased daily vehicle trips and therefore would increase potential operational air quality impacts with regard to NO_x and/or other criteria pollutants. As such, with the increase in vehicular trip generation and intensity of uses under this alternative, operational impacts are considered to be greater as compared to those that would result with the project as proposed. Similar mitigation measures would be required to reduce operational impacts to less than significant, as would occur with the proposed project.

BIOLOGICAL RESOURCES

Because the project site is largely void of biological resources, similar to the proposed project, this alternative would generally not be expected to directly or indirectly impact sensitive wildlife or plant species. The development footprint under this alternative would be assumed similar to that of the proposed project, with the entirety of the property graded and disturbed/developed. As with the proposed project, construction on the subject site under this alternative would have the potential to affect avian species, including burrowing owl and California horned lark, if determined to be present at the time development is undertaken. As such, impacts are considered similar to those which would result with the proposed project, and the same mitigation measures as identified with the project would be required to reduce potential effects. Further, if it is determined that jurisdictional wetland habitat is present on-site, similar impacts and mitigation measures would be required to ensure adverse effects on such habitat are minimized to the extent feasible. Impacts with regard to biological resources would therefore be considered similar to those resulting with the proposed project.

CULTURAL RESOURCES

While no cultural resources were identified on any of parcels evaluated for the proposed project, mitigation measures are proposed to reduce potential impacts to undiscovered cultural resources. These same measures would be required for any land disturbance activities under this alternative. Therefore, cultural resources impacts resulting with this alternative would be similar to those occurring with the proposed project.

GEOLOGY AND SOILS

Under this alternative, similar conditions relative to hazards resulting from a seismic event would occur, as compared to the proposed project, due to the project site's location. Because this alternative would allow development on the subject site that would include grading to accommodate structures, impacts associated with seismicity, ground failure, liquefaction, and/or expansive or unstable soils would be the same as with the proposed project and would also require the implementation of mitigation measures to reduce potential impacts. Impacts with regard to geology and soils would therefore be similar to those resulting with the proposed project.



HAZARDS AND HAZARDOUS MATERIALS

Although the project site is located in an urbanized area, as mentioned above, the risk for wildfire is considered to be high, and the project is subject to specific requirements as mandated by the San Bernardino City Fire Department to reduce the risk of wildfire occurrence. Similar hazardous conditions would be present with development of the site under this alternative, and development would also be subject to similar mitigation measures intended to potential impacts with regard to wildfire hazards. However, because this alternative would increase the amount of commercial uses on the site, the number of potential residential units would be decreased, thereby reducing the number of people potentially permanently exposed to such hazards for extended periods of time. Although the amount of commercial uses would be increased, it is anticipated that visitors to such uses would only spend a limited amount of time on-site, thereby reducing their potential exposure to a high risk of wildfire. As such, by decreasing the number of residential units proposed, the Increased Commercial Use Alternative would reduce potential impacts with regard to wildfire risk as compared to those resulting with the proposed project.

NOISE

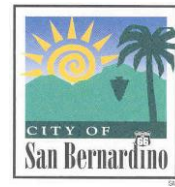
Construction of the Increased Commercial Use Alternative is anticipated to result in similar noise impacts as compared to the proposed project because the majority of the site would still be developed in some manner, regardless of what the actual land use is (similar development area and construction activity). As such, it is anticipated that noise impacts from construction would be reduced to less than significant with this alternative with implementation of the proposed mitigation. Therefore, impacts would be similar to the proposed project.

Because the site would be developed at a greater intensity than that which would occur with the proposed project, due to the increase in commercial land uses, this alternative would be anticipated to generate more vehicular traffic, increase the intensity of on-site activity (parking lot versus residential lot), and result in other sources of operational noise (mechanical equipment, delivery and service vehicles, shopping cart corrals, loading docks, etc.). As a result, this alternative would be anticipated to generate increased noise levels as compared to the proposed project. Although operational noise impacts were determined to be less than significant with the proposed project, due to the anticipated increase in intensity of uses under this alternative, noise impacts are considered to be greater than those that would result with the project as proposed.

TRAFFIC AND TRANSPORTATION

The Increased Commercial Use Alternative would result in an increase in ADT generated by development of the subject site as compared to the proposed project, as a more intensive land use would occur. However, it is anticipated that this alternative would result in similar impacts under the Year 2018 (less than significant) and Year 2019 (less than significant with mitigation) scenarios, and similar mitigation measures would be required.

Potential cumulative traffic impacts on I-215 would be incrementally increased under this alternative. Such contributions to traffic levels along identified segments of I-215 under Horizon Year (2035) conditions would remain relatively minimal as with the proposed project (anticipated to be less than 1 percent of the total traffic). However, similar to the proposed project, no further



mitigation measures could be imposed to mitigate such a cumulative impact on segments of I-215 under Horizon Year (2035) conditions with development of this alternative.

Therefore, although this alternative would result in similar impacts and require similar mitigation as compared to the proposed project, including the requirement to participate in the funding of off-site improvements, this alternative would increase the degree to which such effects would occur by increasing overall traffic generation rates and contribution of traffic trips to the surrounding circulation system. Impacts relative to traffic are therefore considered greater with this alternative, as compared to the proposed project.

SUMMARY

This alternative would meet all of the project objectives with the exception of providing new single-family housing in the Verdemon Heights community with two lot size categories and corresponding home sizes to serve a variety of future residents, as only residential lots of 7,000 square feet would be offered. Mainly, development under this alternative would achieve the objective of providing a mixed-use community for the Verdemon Heights community with a balance of land uses including commercial, single-family housing, and recreation. Additionally, this alternative would deliver an appropriately sized neighborhood commercial center that provides a mix of retail uses with employment growth and increased sales tax for San Bernardino, while increasing the Verdemon Heights community's recreation opportunities by expanding the size and/or amenities of Ronald Reagan Park and creating a pedestrian environment with walkable parks and commercial uses. A Specific Plan would be prepared with appropriate standards and design guidelines to ensure the development's compatibility with surrounding neighborhoods and promotion of a sense of community and character by providing neighborhood signage and monumentation.

As shown in [Table 4-1, Comparison of Alternative Project Impacts to the Proposed Project](#), the No Commercial Alternative would result in similar impacts to biological resources, cultural resources, and geology and soils, and would increase impacts relative to air quality, noise, and traffic and transportation as compared to the proposed project. However, this alternative would result in reduced impacts to hazards and hazardous materials as compared to the proposed project.

4.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6 indicates that if the No Project Alternative is the environmentally superior alternative, the EIR must also identify an environmentally superior alternative among the other alternatives. The context of an environmentally superior alternative is based on consideration of several factors, including the proposed project's objectives and the alternative's ability to fulfill the goals while reducing potential impacts to the surrounding environment.

[Table 4-1, Comparison of Alternative Project Impacts to the Proposed Project](#), summarizes the potential impacts of the alternatives evaluated in this section as compared to the potential impacts of the proposed project. As demonstrated in [Sections 3.1 through 3.13](#) of this EIR, the proposed project would result in significant impacts with regard to air quality, biological

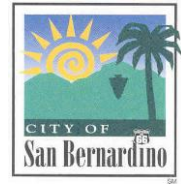


resources, cultural resources, geology and soils, hazards and hazardous materials, noise, traffic and transportation, and utilities, public services, and recreation.

As shown in [Table 4-1](#) and summarized above, impacts resulting from the No Project Alternative and the Increased Commercial Use Alternative would be largely similar to or greater than the proposed project. However, the No Commercial Use Alternative would achieve reduced impacts related to air quality, noise, and traffic and transportation, thereby making it environmentally superior to the proposed project with regard to these issue areas. Therefore, the No Commercial Use Alternative is considered the Environmentally Superior Alternative. However, this alternative would not satisfy the basic project objectives of providing a mixed use community including a commercial center.

Table 4-1. Comparison of Alternative Project Impacts to the Proposed Project

Environmental Issue Area	No Project Alternative	No Commercial Use Alternative	Increased Commercial Use Alternative
Air Quality	+	-	+
Biological Resources	=	=	=
Cultural Resources	=	=	=
Geology and Soils	=	=	=
Hazards and Hazardous Materials	-	+	-
Noise	+	-	+
Traffic and Transportation	+	-	+
Overall	+	-	+
Notes: + means impacts resulting with this alternative would be greater than those resulting with the proposed project. = means impacts resulting with this alternative would be similar to those resulting with the proposed project. - means impacts resulting with this alternative would be less than those resulting with the proposed project.			



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5.0 Other CEQA Considerations

This section discusses additional topics statutorily required by CEQA, including growth-inducing impacts, significant irreversible environmental changes, and irretrievable commitment of resources.

5.1 Growth-Inducing Impacts

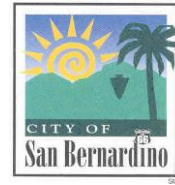
CEQA Guidelines Section 15126.2(d) requires that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by CEQA Guidelines Section 15126.2(d) as follows:

...the way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth... Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also...the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand. Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. For example, a project providing an increased water supply in an area where water service historically limited growth could be considered growth-inducing.

The CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

The CEQA Guidelines state that it is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment (CEQA Guidelines Section 15126.2[d]). However, growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans describe land use development patterns and growth policies that allow the orderly expansion of urban development supported by adequate urban public



services, such as water supply, roadway infrastructure, sewer service, and solid waste service. A project that would induce “disorderly” growth (growth that conflicts with local land use plans) could indirectly cause additional adverse environmental impacts and other public services impacts. Thus, to assess whether a growth-inducing project would result in adverse secondary effects, it is important to assess the degree to which the growth accommodated by a project would or would not be consistent with applicable land use plans.

5.1.1 Components of Growth

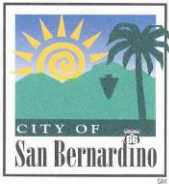
The timing, magnitude, and location of land development and population growth in a community or region are based on various interrelated land use and economic variables. Key variables include regional economic trends, market demand for residential and nonresidential uses, land availability and cost, the availability and quality of transportation facilities and public services, proximity to employment centers, the supply and cost of housing, and regulatory policies or conditions.

PROJECT-SPECIFIC GROWTH-INDUCING IMPACTS

The Rancho Palma project would have the potential to result in economic and/or population growth through the construction of the proposed commercial and residential uses, either directly or indirectly. The project as designed would allow future construction of up to 120 new residential units and up to 98,000 square feet of commercial space. The proposed uses are allowed under the existing General Plan land use designation and zoning with approval of a Conditional Use Permit (CUP). Therefore, the project does not propose a land use inconsistent with that intended by the City and would not result in development at a greater intensity than anticipated. As such, the project would not remove a potential obstacle to population growth. It is not anticipated that the proposed project would directly or indirectly induce growth by causing intensification of land uses in the immediate vicinity, and none of the improvements proposed by the project would enable such intensification that could not already occur under present conditions, due to the location of the project in an urbanized area of the city and similar to development on adjacent lands.

Development of the project site would result in the improvement and extension of infrastructure facilities located in and/or adjoining the project site. Under typical conditions, any time utility lines (water, sewer) or other infrastructure or services (e.g., fire protection services) are expanded, growth inducement may potentially occur, as such improvements allow not only the development responsible for expanding the infrastructure but also any other projects proposed in the surrounding area as a result of the availability of new infrastructure. However, in the case of the proposed project, the surrounding area is already developed with similar residential and commercial uses that are currently served by existing infrastructure and adequate public services (e.g., required fire service response times can be met without new or expanded facilities or personnel). As such, the project would not be expected to induce growth as a result of new infrastructure or services. Refer also to [Section 2.0, Project Description](#), which describes that proposed infrastructure improvements proposed and/or required to serve the project site.

Additionally, all future discretionary projects in the project area would be processed through the City and evaluated for consistency with the General Plan, as appropriate. Such projects would be



evaluated for growth-inducing effects and their potential to enable or encourage growth not intended or anticipated with buildout of the General Plan.

GROWTH EFFECTS OF THE PROJECT

The proposed project would result in an increase in San Bernardino's population. This population would in turn result in increased traffic, air pollutant and greenhouse gas emissions, operational and traffic noise, and demand for public utilities and services. Environmental effects of developing the project site include potential effects on special-status species and their habitat, potential destruction or damage to cultural resources, increased erosion and runoff affecting soil stability and water quality, changes to drainage patterns and runoff, potential land use conflicts, increased light and glare, and changes to visual character. However, these issues are evaluated in this EIR in [Sections 3.1](#) through [3.13](#). Mitigation measures are identified where appropriate to reduce such effects.

5.2 Significant Environmental Effects that Cannot Be Avoided if the Project is Implemented

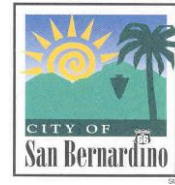
CEQA Guidelines Section 15126(b) requires that an EIR disclose the significant environmental effects of a project which cannot be avoided if the proposed project is implemented. As described in detail in [Section 3.0](#) of this EIR, the proposed project is not anticipated to result in impacts on the environment that cannot be reduced to below a level of significance after implementation of relevant standard conditions of approval, compliance with applicable regulations, and/or application of feasible mitigation measures.

5.3 Significant Irreversible Environmental Changes

CEQA Sections 21100(b)(2) and 21100.1(a) require that EIRs prepared for the adoption of a plan, policy, or ordinance of a public agency include a discussion of significant irreversible environmental changes of project implementation. In addition, CEQA Guidelines Section 16126.2(c) describes irreversible environmental changes as:

Uses of nonrenewable resources during the initial and continued phases of a project may be irreversible since a large commitment of such resources makes removal or non-use thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as access improvements that provide access to a previously inaccessible area) generally commit future generations to similar uses. Additionally, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Long-term irreversible environmental changes would include a change in the land use and visual character of the site (undeveloped to developed), an increase in local and regional traffic and associated air pollutant and greenhouse gas emissions and noise level increases, an increase in the volumes of solid waste and wastewater generated in the area, and an increase in water consumption.



Additionally, development of the project site would irretrievably commit building materials and energy to the construction and maintenance of buildings and infrastructure proposed. Nonrenewable and limited resources that would likely be consumed as part of project site development would include but are not limited to oil, natural gas, gasoline, lumber, sand and gravel, asphalt, water, steel, and similar materials. In addition, the project site would result in an increased demand on public services and utilities (e.g., water supplies); refer also to [Section 3.13, Utilities, Public Services, and Recreation](#), of this EIR.

The use of natural resources in the form of construction materials and energy resources would not have a substantial, measureable effect on the availability of such resources, including nonrenewable resources such as fossil fuels. Project construction and operation would not involve the use of substantial amounts of nonrenewable energy. Further, the Rancho Palma Specific Plan requires that the project comply with California's Green Building Standards Code (CALGreen), which would reduce the amount of energy the proposed commercial and residential land uses would require for building operation, thereby reducing demands on nonrenewable fossil fuels.

The project would also be subject to compliance with applicable regulatory requirements implemented by the State of California and the South Coast Air Quality Management District (SCAQMD) to reduce the project's demand for energy resources; refer to [Section 3.2, Air Quality](#), and [Section 3.6, Greenhouse Gas Emissions](#). The Rancho Palma Specific Plan also includes measures to reduce long-term water and energy demands generated by the proposed development. Therefore, it is not anticipated that the proposed project would result in the wasteful consumption of substantial amounts of energy or nonrenewable resources.

5.4 Energy Conservation

5.4.1 Introduction

Public Resources Code Section 21100(b)(3) and CEQA Guidelines Section 15126.4 require EIRs to describe, where relevant, the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, largely in response to the oil crisis of the 1970s, the California legislature adopted Assembly Bill (AB) 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct state responses to energy emergencies, and—perhaps most importantly—promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to require EIRs to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F of the CEQA Guidelines.

CEQA Guidelines Appendix F is an advisory document that assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. For the reasons set forth below, this EIR concludes that the proposed project would not result in this type of energy consumption and therefore would not create a significant impact on energy resources.



5.4.2 Applicable Regulations

STATE

California Building Energy Efficiency Standards

In general, the California Building Energy Efficiency Standards require the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The California Energy Commission recently adopted changes to the 2013 Building Energy Efficiency Standards contained in the California Code of Regulations, Title 24, Part 6 (also known as the California Energy Code) and associated administrative regulations in Part 1 (collectively referred to here as the standards). The amended standards took effect in the summer of 2014. The 2013 Building Energy Efficiency Standards are 25 percent more efficient than previous standards for residential construction and 30 percent better for nonresidential construction. The standards offer builders better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses. Energy-efficient buildings require less electricity; increased energy efficiency reduces fossil fuel consumption.

California Green Building Standards

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code was adopted in 2013 and went into effect July 1, 2014.

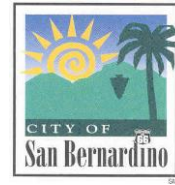
California Environmental Quality Act Guidelines

CEQA Guidelines Appendix F, Energy Conservation, requires consideration of project impacts on energy and focuses particularly on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (Public Resources Code Section 21100[b][3]). The potentially significant energy implications of a project must be considered in an EIR to the extent relevant and applicable to the project.

LOCAL

The City of San Bernardino General Plan Energy and Water Conservation Element contains the following policies concerning energy conservation.

Policy 13.1.2 Ensure the incorporation of energy conservation features in the design of all new construction and site development in accordance with State Law.



Policy 13.1.7 Ensure that new development consider the ability of adjacent properties to utilize energy conservation design.

5.4.3 Environmental Setting

ELECTRICITY/NATURAL GAS SERVICES

Southern California Edison (SCE) provides electrical services in San Bernardino through State-regulated public utility contracts. The Southern California Gas Company provides natural gas services to the city. Electricity and natural gas service is available to locations where commercial land uses could be developed.

The City's ongoing development review process includes a review and comment opportunity for privately owned utility companies, including SCE and the Southern California Gas Company, to allow informed input from each utility company on all development proposals. The input facilitates a detailed review of all projects by service purveyors to assess the potential demands for utility services on a project-by-project basis.

The ability of utility providers to provide services concurrently with each project is evaluated during the development review process. Utility companies are bound by contract to update energy systems to meet any additional demand.

ENERGY CONSUMPTION SETTING

Total energy usage in California was 7,641 trillion British thermal units (BTUs) in 2012, which equates to an average of 201 million BTUs per capita. Of California's total energy usage, the breakdown by sector is 38.5 percent transportation, 22.8 percent industrial, 19.3 percent commercial, and 19.2 percent residential. Electricity and natural gas in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use (EIA 2015). In 2014, taxable gasoline sales (including aviation gasoline) in California accounted for 14,921,441,859 gallons of gasoline (BOE 2016).

The electricity consumption attributable to residential and nonresidential land uses in San Bernardino County from 2007 to 2014 is shown in [Table 5-1](#). As indicated, the demand has remained relatively constant, with no substantial increase, even as the population has increased.



Table 5-1. Residential and Nonresidential Electricity Consumption in San Bernardino County 2007–2014

Year	Residential & Nonresidential Electricity Consumption (in millions of kilowatt-hours)
2007	14,799
2008	14,802
2009	13,767
2010	13,476
2011	13,719
2012	14,357
2013	14,345
2014	14,718

Source: ECDMS 2015

The natural gas consumption attributable to residential and nonresidential land uses in San Bernardino County from 2007 to 2014 is shown in [Table 5-2](#). Similar to electricity consumption, the demand has remained relatively constant, with no substantial increase, even with an increase in population.

Table 5-2. Residential and Nonresidential Natural Gas Consumption in San Bernardino County 2007–2014

Year	Residential & Nonresidential Natural Gas Consumption (in millions of therms)
2007	527
2008	496
2009	463
2010	501
2011	516
2012	486
2013	503
2014	450

Source: ECDMS 2015

Automotive fuel consumption in San Bernardino County from 2007 to 2015 is shown in [Table 5-3](#). (projections for the year 2016 are also shown). As shown, automotive fuel consumption has declined in the county since 2007.

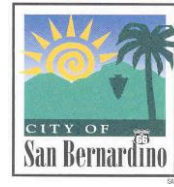


Table 5-3. Automotive Fuel Consumption in San Bernardino County 2007–2016

Year	Automotive Fuel Consumption
2007	809,883,535
2008	761,400,220
2009	732,024,290
2010	735,350,900
2011	725,542,985
2012	712,950,850
2013	703,243,675
2014	710,280,145
2015	720,500,510
2016 (projected)	726,602,580

Source: CARB 2016

5.4.4 Energy Consumption

PROPOSED PROJECT

A project may create a significant environmental effect if it results in the inefficient, wasteful, and unnecessary consumption of energy. The analysis focuses on the three sources of energy that are relevant to the proposed project: electricity, natural gas, and transportation fuel for vehicle trips associated with new development, as well as the fuel necessary for project construction.

The analysis of electricity/natural gas usage is based on California Emissions Estimator Model (CalEEMod) air quality and greenhouse gas emissions modeling conducted by Urban Crossroads (2015), which quantifies energy use for occupancy. The results of the CalEEMod modeling are included in [Appendix 3.6-1](#) of this EIR. Modeling was based primarily on the default settings in the computer program for San Bernardino County. The amount of operational fuel use was estimated using the California Air Resources Board’s EMFAC2014 computer program, which provides projections for typical daily fuel usage in San Bernardino County. The amount of construction-related fuel use was estimated using ratios provided in the Climate Registry (2015) General Reporting Protocol for the Voluntary Reporting Program, Version 2.1. The results of EMFAC2014 modeling and construction fuel estimates are included in [Appendix 3.6-1](#) of this EIR.

Energy consumption associated with the proposed project is summarized in [Table 5-4](#).

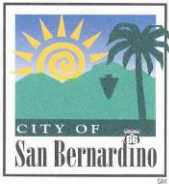


Table 5-4. Rancho Palma Energy Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Electricity Consumption ¹	2,632,237 kilowatt-hours	0.02%
Natural Gas Consumption ¹	42,794 therms	0.01%
Automotive Fuel Consumption ²		
Project Construction	170,148 gallons	0.1%
Project Operations	661,230 gallons	
Total	831,378 gallons	
Sources: ¹ Urban Crossroads 2015; ² EMFAC2014 (CARB 2014) Notes: The project increases in electricity and natural gas consumption are compared with all of the residential and nonresidential buildings in San Bernardino County in 2014. The project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2015.		

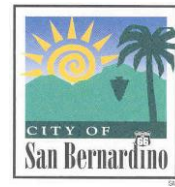
As shown in [Table 5-4](#), the increase in electricity usage as a result of the project would constitute an approximate 0.02 percent increase in the typical annual electricity consumption and an approximate 0.01 percent increase in the typical annual natural gas consumption attributable to all residential and nonresidential buildings in San Bernardino County. The increase in automotive fuel, including the one-time construction of the project, would increase use in the county by 0.1 percent.

The Rancho Palma project would be required to comply with Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Implementation of the Title 24 standards significantly reduces energy usage. Furthermore, the electricity provider in San Bernardino County, SCE, is subject to California’s Renewables Portfolio Standard (RPS). The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 50 percent of total procurement by 2030. Renewable energy is generally defined as energy that comes from resources which are naturally replenished within a human timescale such as sunlight, wind, tides, waves, and geothermal heat. The increase in reliance of such energy resources further ensures projects will not result in the waste of the finite energy resources.

SCE currently provides electrical services to San Bernardino, while natural gas is provided by the Southern California Gas Company. These utility companies would continue to provide these services and are required by the California Public Utilities Commission to update existing systems to meet any additional demand.

In terms of automotive fuel consumption, the project would provide a commercial retail shopping center in close proximity to residential development, which would minimize vehicle travel distances and thus fuel consumption. The project would also provide goods and services at a local site, thereby reducing the number of vehicle trips currently being made to shop for the same goods and services in neighboring cities.

As shown in [Table 5-4](#), the increase in electricity, natural gas, and automotive fuel consumption over existing conditions is minimal (less than 1 percent). For the reasons described above, the proposed project would not place a substantial demand on regional energy supply or require



significant additional capacity; significantly increase peak and base period electricity demand; cause wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, and/or maintenance; or preempt future energy development or future energy conservation.

5.4.5 Cumulative Effects

Cumulative development in San Bernardino may require the extension of existing lines, and new transmission facilities and substations would be needed. While the proposed project would increase the demand on electricity and natural gas services, the demand would not be substantial in relation to the total amount of energy available, and service is readily available at adjacent locations that are already developed with urban uses.

The proposed project would not substantially contribute to the need for increasing the capacity of or constructing new off-site facilities to serve the project, in combination with other development in the city. Impacts would be less than cumulatively considerable.

Energy in the city is obtained from a variety of sources owned and operated by other entities, including combustion (natural gas), hydroelectric facilities, and geothermal projects. Future development in the region would increase residential and commercial needs for electricity and natural gas. Given the regional and in some cases national nature of the electrical and natural gas transmission systems, and the variety of sources of energy, it would be speculative to address the likely future sources of energy and the impacts of increasing demand for any particular source of energy (e.g., hydroelectric, coal) or changes in the types of energy sources available. Utility providers have the ability to comment on and review all development proposals to ensure adequate service can be provided prior to development approval.

The project, in combination with other existing, planned, proposed, approved, and reasonably foreseeable development in the city, would not result in the inefficient, wasteful, and unnecessary consumption of energy.

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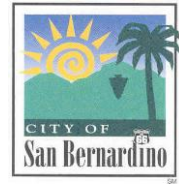
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