FIGURE 3: SITE PLAN

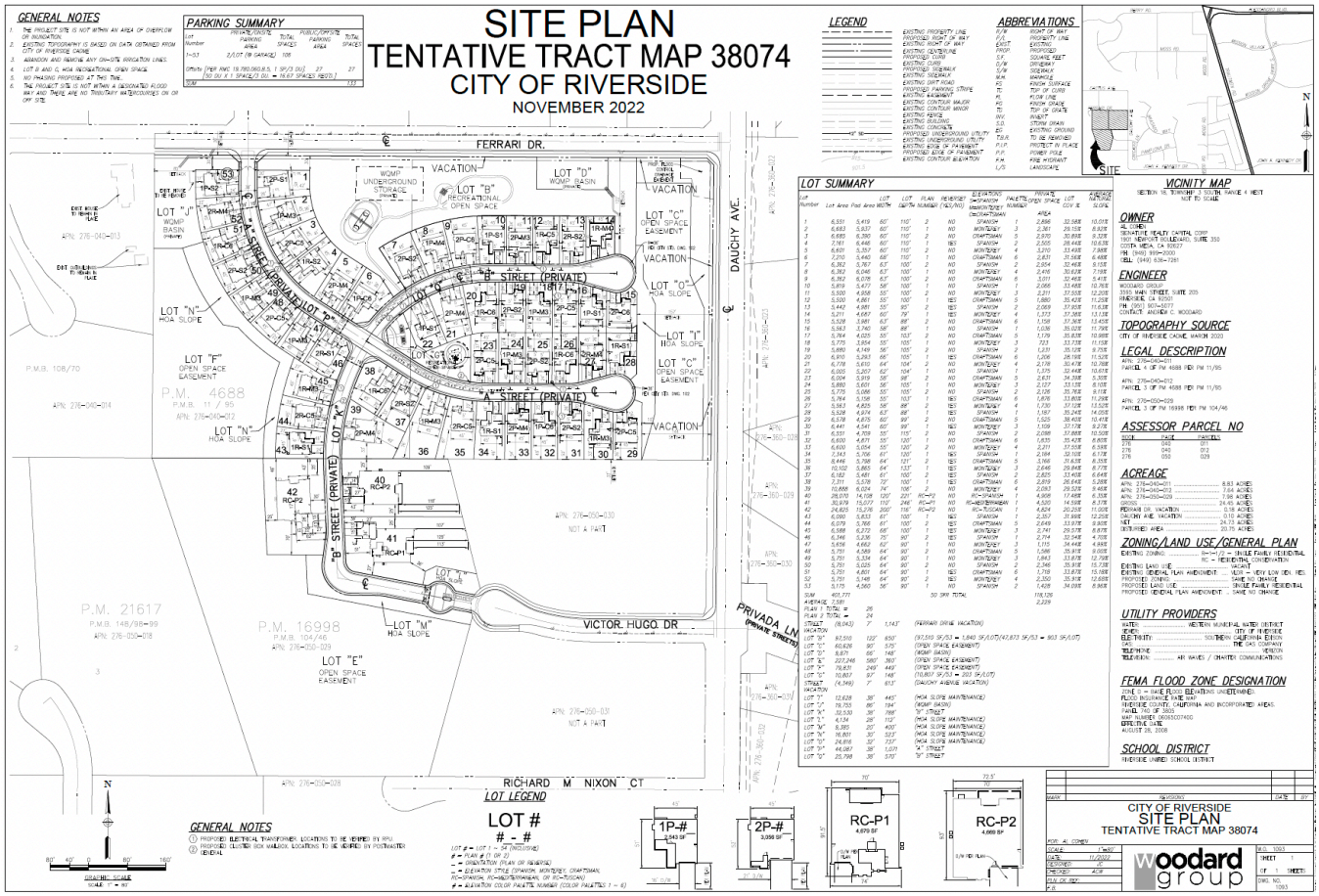
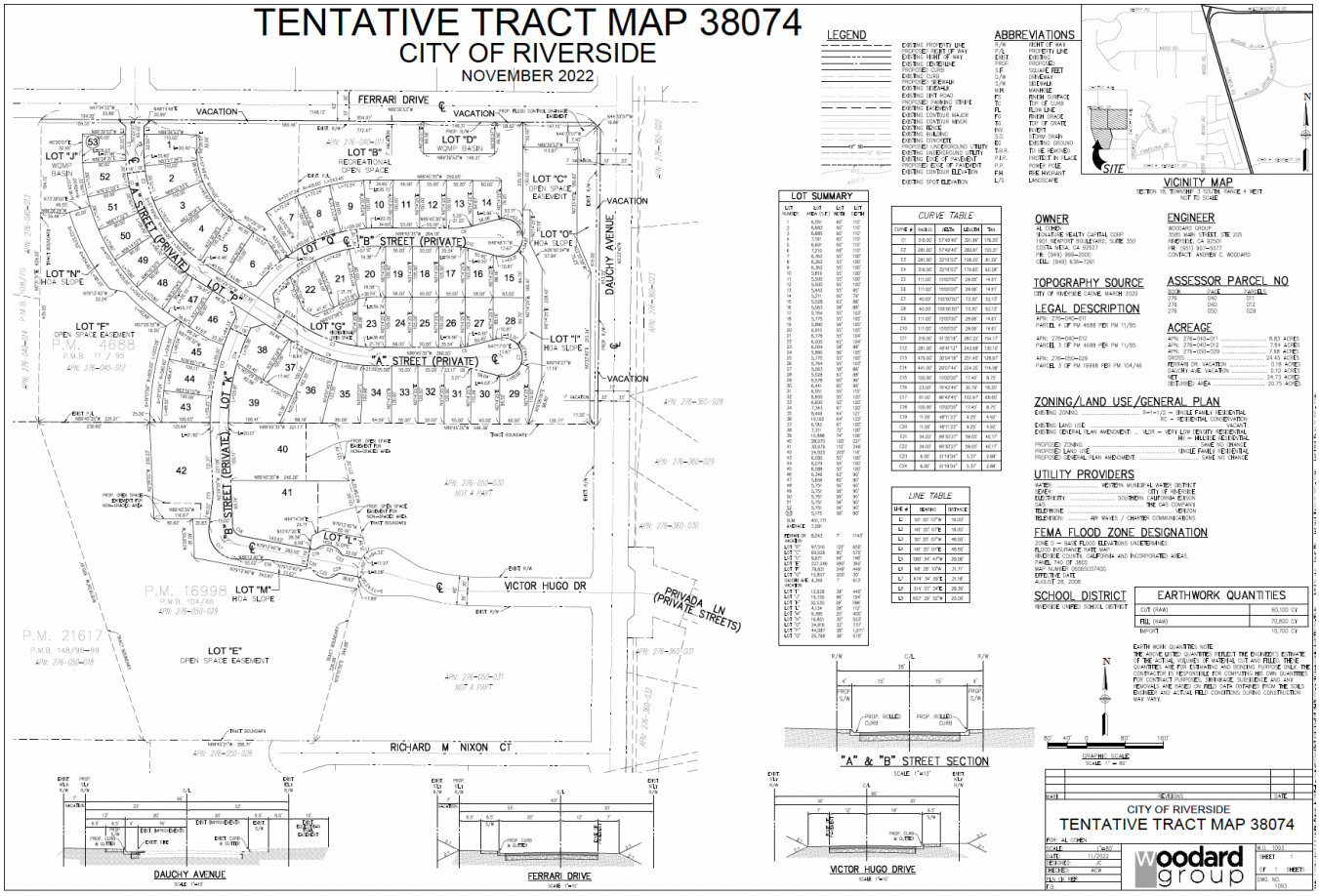


FIGURE 4: TENATIVE TRACT MAP



ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture & Forest Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☒ Transportation	☒ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation which reflects the independent judgment of the City of Riverside, it is recommended that:

The City of Riverside finds that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

The City of Riverside finds that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. ☒

The City of Riverside finds that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

The City of Riverside finds that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

The City of Riverside finds that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

Signature _____ Date _____

Printed Name & Title Alyssa Berlino, Associate Planner For City of Riverside

CITY OF RIVERSIDE

COMMUNITY & ECONOMIC DEVELOPMENTDEPARTMENT **PLANNING DIVISION**

ENVIRONMENTAL INITIAL STUDY

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a. **Earlier Analysis Used.** Identify and state where they are available for review.

   b. **Impacts Adequately Addressed.** Identify which effects from the above checklist were with in the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c. **Mitigation Measures.** For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measure which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) The explanation of each issue should identify:

   a. the significance criteria or threshold, if any, used to evaluate each question; and

   b. the mitigation measure identified, if any, to reduce the impact to less than significance.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

1a. Response: ***(Source: General Plan 2025 Figure CCM-4 – Master Plan of Roadways, General Plan 2025 FPEIR Figure 5.1-1 – Scenic and Special Boulevards and Parkways, Table 5.1-A – Scenic and Special Boulevards, and Table 5.1-B – Scenic Parkways)***

Less Than Significant Impact. The City's General Plan 2025 policies aim at balancing development interests with broader community preservation objectives. The General Plan identifies hillsides and ridgelines in the City, as well as the City's natural terrain and vegetation, as scenic vistas. For example, the La Sierra/Norco Hills, Sycamore Canyon Wilderness Park, Box Springs Park, and the peaks of Box Springs Mountain, Mt. Rubidoux, Arlington Mountain, Alessandro Heights and the La Sierra/ Norco Hills provide scenic viewpoints of the City and the region. Although the average natural slope of the project site is over 15%, the steepest slopes as well as natural drainage areas have been avoided as much as possible. The site and immediate vicinity are not designated by the City's General Plan for the preservation of scenic views.

The project consists of a clustered planned residential development in the southeast area of the City, and not adjacent to any scenic boulevards or parkways. The nearest scenic resource in proximity to the site is the Sycamore Canyon Wilderness Park located approximately 1.6 miles to the northeast of this project. Other features in the general vicinity include Lake Mathews approximately 6.3 miles to the southwest and the Temescal Mountains approximately 7.8 miles to the southwest, and the Santa Ana Mountains approximately 15.3 miles to the southwest. The scenic features described above are not visible from the Project site. Views from public areas in the vicinity of the Project site include single-family residences and vacant land. Therefore, impacts are considered **less than significant impacts**.

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

1b. Response: ***(Source: General Plan 2025 Figure CCM-4 – Master Plan of Roadways, General Plan 2025 FPEIR Figure 5.1-1 – Scenic and Special Boulevards, Parkways, Table 5.1-A – Scenic and Special Boulevards, Table 5.1-B – Scenic Parkways, the City's Urban Forest Tree Policy Manual, Title 20 – Cultural Resources and, Title 19 – Article V – Chapter 19.100 – Residential Zones - RC Zone)***

Less Than Significant Impact. There are no scenic highways within the City that could potentially be impacted. As well, there are no rock outcroppings in the area of proposed development, or historic buildings on the Project site or within view of this Project. Since there no scenic resources in the area of proposed development, any potential adverse direct, indirect or cumulative impacts from this project will be **less than significant impact**.

c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site the site and its surroundings? (Public views are those that are experienced from a publicly-accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

1c. Response: ***(Source: General Plan 2025, General Plan 2025 FPEIR, Zoning Code, Citywide Design and Sign Guidelines)***

Less Than Significant Impact. The Project site is located in the southeast portion of the City, and is currently vacant except for one abandoned farm house and ancillary structures, which will be removed as part of this development. The proposed Project consists of 53 single-family residential units, internal circulation (private roads), and 2 common open space recreation areas. Implementation of the Project would continue the pattern of residential development in accordance with the City's General Plan and Zoning designations of the Project site.

The Project Applicant is requesting a Planned Residential Development (PRD) Permit pursuant to Section 19.780.010 of the Municipal Code to allow for flexibility and creativity in design of the single-family residential development planned for the Project site. The proposed Project would meet all development standards of the Riverside Municipal Code.

The City of Riverside adopted the *Riverside Citywide Design Guidelines and Sign Guidelines* in 2007. Chapter III, Section A of the document provides residential design guidelines for single-family residential design. As part of the City's entitlement process, the Project Applicant is required to implement design features to comply with City requirements in providing development of scenic quality. The Project has been designed to be compatible with the surrounding area and does not conflict with applicable zoning and other regulations regarding scenic quality. The project has been designed to be secluded from the surrounding area. Therefore, it will not degrade the existing visual character of the area and will have a **less than significant impact** directly, indirectly or cumulatively to the visual character or quality of the neighborhood.

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

1d. Response: ***(Source: General Plan 2025, General Plan 2025 FPEIR, Project information)***

Less Than Significant Impact. The Project site is located in an area with existing outdoor lighting sources. Currently, sources of nighttime light originate from surrounding residential uses, streetlights to the east, and the single-family residential neighborhood to the east of the site (across Dauchy Avenue). The proposed lighting on the Project site would include lights from inside and outside the homes, entrance lighting, accent lights on common use landscaping features, lighting at the recreation areas, and streetlights, typical of a single-family residential neighborhood. The proposed lighting would be directed, oriented, and shielded to prevent light from shining onto adjacent properties. No lighting exists on the Project site under existing conditions as the site is mostly vacant. Once developed, new light sources will be located on the Project site; however, the lights would be similar to those of the surrounding uses and would not adversely affect day or nighttime views in the area. Any new lighting proposed or required for the Project would be in accordance with *Section 19.590.070 – Light and Glare* and the provisions of *Chapter 19.556 Outdoor Lighting* of the City's Municipal Code. Additionally, any exterior building materials would be constructed in accordance with Chapter 19.710 – Design Review of the City's Municipal Code to ensure that building materials in the development of the Project are not glare producing.

In 1988, the County of Riverside adopted Ordinance No. 7447, which reflects Riverside County Ordinance No. 655 regulating light pollution in areas subject to interference with Mt. Palomar Observatory. Ordinance No. 655 established two zones based on radial distance from the Mt. Palomar Observatory: Zone A and Zone B. Zone A is defined as a circular area within a 15-mile radius of the observatory and Zone B is defined as a circular area within a 45-mile radius off the observatory. Figure 5.1-2 of the General Plan 2025. FPEIR indicates that the Project site is located within Zone B of the Mt. Palomar Nighttime Lighting Policy Area. For developments in these zones, Ordinance 655 requires the use of low-pressure sodium fixtures, limits hours of use, prohibits certain types of lights, and requires hooded fixtures. The Project Applicant would comply with the outdoor lighting standards pursuant to Chapter 19.556 of the Riverside Municipal Code which are applicable to Ordinance No. 7447 in protecting nighttime zone areas of Mt. Palomar Observatory. As such, implementation of the proposed would be designed as to not obstruct Mt. Palomar Observatory views. Therefore, the Project will have a **less than significant impact** directly, indirectly, or cumulatively to the light or glare in the area.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
2. AGRICULTURE AND FOREST RESOURCES:				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information complied by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and the forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. 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?	☐	☐	☐	☒

2a. Response: ***(Source: General Plan 2025 – Figure OS-2 – Agricultural Suitability & General Plan 2025 FPEIR – Appendix I – Designated Farmland Table)***

No Impact. A review of Figure OS-2 – Agricultural Suitability of the General Plan 2025 reveals that the project site is designated as "Other Land" and not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and is not adjacent to or in proximity to any land classified as, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Figure OS-2 was prepared pursuant to the California Department of Conservation, Farmland Mapping and Monitoring Program. Therefore, the project will have **no impact** directly, indirectly or cumulatively to agricultural uses.

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

2b. Response: ***(Source: General Plan 2025 – Figure OS-3 - Williamson Act Preserves, General Plan 2025 FPEIR – Figure 5.2-4 – Proposed Zones Permitting Agricultural Uses, and Title 19)***

No Impact. A review of Figure 5.2-2 – Williamson Act Preserves of the General Plan 2025 FPEIR reveals that the project site is not located within an area that is affected by a Williamson Act Preserve or under a Williamson Act Contract. Moreover, the project site is not zoned for agricultural use and is not next to land zoned for agricultural use; therefore, the project will have **no impact** directly, indirectly or cumulatively.

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒

2c. Response: ***(Source: GIS Map – Forest Data)***

No Impact. The City of Riverside has no forest land that can support 10-percent native tree cover nor does it have any timberland. The Project site is not zoned for forest land, timberland, or timberland zoned Timberland Production; as such, implementation of the Project would not conflict with such zoning designations. Therefore, **no impacts** will occur from this project directly, indirectly or cumulatively.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

2d. Response: ***(Source: GIS Map – Forest Data)***

No Impact. The City of Riverside has no forest land that can support 10-percent native tree cover nor does it have any timberland, therefore **no impacts** will occur from this project directly, indirectly or cumulatively.

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?	☐	☐	☒	☐

2e. Response: (Source: General Plan – Figure OS-2 – ***Agricultural Suitability, Figure OS-3 – Williamson Act Preserves*****, General Plan 2025 FPEIR –** ***Appendix I – Designated Farmland, Title 19 – Article V – Chapter 19.100 – Residential Zones – RC Zone and RA-5 Zone and GIS Map – Forest Data)***

Less Than Significant Impact. The project site is designated as "Other Land", and not designated as, or in close proximity to any land classified as Prime Farmland, Unique Farmland, and does not support agricultural resources or operations. The project will not result in the conversion of designated farmland to non-agricultural uses. In addition, there are no agricultural resources or operations, including farmlands within proximity of the project site. Therefore, **less than significant impacts** will occur from this project directly, indirectly or cumulatively to conversion of Farmland, to non-agricultural use or to the loss of forest land.

3. AIR QUALITY.				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

3a. Response: ***(Source: South Coast Air Quality Management District's 2007 Air Quality Management Plan (AQMP))***

Less Than Significant Impact. The Project site is located in the South Coast Air Quality Basin (Basin) and is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The SCAQMD and the Southern California Association of Governments (SCAG) are responsible for formulating and implementing the Air Quality Management Plan (AQMP), which has a 20-year horizon for the Basin. The current regional air quality plan is the Final 2016 AQMP adopted by the SCAQMD on March 10, 2017. The Final 2016 AQMP proposes policies and measures currently contemplated by responsible agencies to achieve federal standards for healthful air quality in the Basin and those portions of the Salton Sea Air Basin that are under SCAQMD jurisdiction. This Final Plan also addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. This Final Plan builds upon the approaches taken in the 2012 AQMP for the Basin for the attainment of the federal ozone air quality standard. The Basin is currently a federal and State nonattainment area for particulate matter less than 10 microns in size (PM_{10}) particulate matter less than 2.5 microns in size ($PM_{2.5}$) and ozone.

For a project to be consistent with the AQMP adopted by the SCAQMD, the pollutants emitted from the project should not exceed the SCAQMD daily threshold or cause a significant impact on air quality, or the project must already have been included in the AQMP projections. However, if feasible mitigation measures are implemented and shown to reduce the impact level from significant to less than significant, a project may be deemed consistent with the AQMP. The AQMP uses the assumptions and projections of local planning agencies to determine control strategies for regional compliance status. Since the AQMP is based on the local General Plan, projects that are deemed consistent with the General Plan are found to be consistent with the AQMP. The City's General Plan is consistent with the SCAG Regional Comprehensive Plan

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Guidelines and the SCAQMD AQMP. As is discussed in Section 11 of this Initial Study, this Project is consistent with the General Plan land use designations on the Project site; therefore, the Project is consistent with the AQMP growth projections.

Projects that are consistent with the projections of employment and population forecasts identified by the Southern California Association of Governments (SCAG) are considered consistent with the AQMP growth projections, since these forecast numbers were used by SCAG's modeling section to forecast travel demand and air quality for planning activities such as the Regional Transportation Plan (RTP), the SCAQMD's AQMP, Regional Transportation Improvement Program (TRIP), and the Regional Housing Plan. This project is consistent with the projections of employment and population forecasts identified by the Southern California Association of Governments (SCAG) that are consistent with the General Plan 2025 "Typical Growth Scenario." Since the project is consistent with the General Plan 2025, it is also consistent with the AQMP. The project will have a **less than significant impact** directly, indirectly, and cumulatively to the implementation of an air quality plan.

b. 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?	☐	☐	☒	☐

3b. Response: ***(Source: General Plan 2025 FPEIR Table 5.3-B SCAQMD CEQA Regional Significance Thresholds, South Coast Air Quality Management District's 2016 Air Quality Management Plan, CalEEMod 2017 Model,) EMFAC 2021 Model and Air Quality Analysis prepared by Urban Crossroads on March 17, 2023)***

Less Than Significant Impact. The information in this section is based on the Air Quality impact analysis that was conducted in the *Air Quality Analysis* Technical Report prepared for the Project by Urban Crossroads (March 17, 2023).

The Environmental Protection Agency has established National Ambient Air Quality Standards (NAAQS) for several common pollutants: Carbon Dioxide (CO), Lead (Pb), O_3 (Ozone), Particulate Matter (PM_{10} and $PM_{2.5}$), Nitrous Oxide (NO_2), and Sulfur Dioxide (SO_2). Of those, the South Coast Air Quality Management District (SCAQMD) has determined that this area is in a non-attainment area for O_3 (1-hour and 8-hour standard), PM_{10} and $PM_{2.5}$.

Construction Emissions

Construction activities produce combustion emissions from various sources (e.g., demolition, site preparation, grading, utility engines, tenant improvements, and motor vehicles transporting the construction crew). Exhaust emissions from construction activities envisioned on site would vary daily as construction activity levels change. The use of construction equipment on the Project site would result in localized exhaust emissions. The criteria pollutants of primary concern within the Project area include O_3-precursor pollutants (i.e. ROG and NO_X) and PM_{10} and $PM_{2.5}$. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD's thresholds of significance.

The construction calculations prepared for the Project assumed that dust control measures (watering a minimum of three times daily) would be employed to reduce emissions of fugitive dust during site grading. Further, all construction would need to comply with SCAQMD Rule 403 regarding emission of fugitive dust as well as Rules 402, 445 and 1113. The most recent version of CalEEMod (2016.3.2) was used to calculate the construction emissions. As shown in Table 3-2, all criteria pollutant construction emissions would remain below their respective thresholds. The proposed Project construction emissions would not worsen ambient air quality, create additional violations of federal and State standards, or delay SCAB's goal for meeting attainment standards. No exceedances of any criteria pollutants are expected during construction; therefore, project-related short-term construction air quality impacts would be **less than significant** and no mitigation is required.

Table 3-2: Construction-Related Emissions*

Construction Year	Pollutant

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

	Reactive (Volatile) Organic Gasses (Compounds) (ROG / VOC)*	Nitrogen Oxide (NO_x)	Carbon Monoxide (CO)	Sulfur Dioxide (SO_2)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
2022	18.59	57.16	38.06	0.08	22.98	12.54
2023	18.59	57.16	38.06	0.08	22.98	12.54
SCAQMD Threshold	***75***	***100***	***550***	***150***	***150***	***55***
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: SCAQMD Rule 403 Fugitive Dust applied. The Rule 403 reduction/credits include the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stock piles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.

*The greater of Summer or Winter emissions is shown

Operational Emissions

Long-term air pollutant emissions impacts are those associated with stationary sources and mobile sources involving project-related changes. The proposed Project would result in net increases in both stationary-and-mobile source emissions. The stationary-source emissions would come from many sources, including motor vehicle use, the use of consumer products, landscaping equipment, general energy, and solid waste. Long-term operational emissions attributable to the Project are summarized in Table 3-4: Operational Emissions. Each of these sources are described below; none of the criteria pollutants would exceed SCAQMD emission thresholds. Therefore, project-related long-term air quality impacts would be **less than significant** and no mitigation is required.

Table 3-3: Operational Emissions*

Source	Emissions (Pounds per Day)					
	Reactive (Volatile) Organic Gasses (Compounds) (ROG / VOC)	Nitrogen Oxide (NO_x)	Carbon Monoxide (CO)	Sulfur Oxides (SO_x)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
Summer						
Area Source Emissions	2.28	0.85	4.72	0.01	0.09	0.09
Energy Emissions	0.03	0.24	0.10	0.00	0.02	0.02
Mobile Source Passenger Cars	1.44	3.75	13.78	0.04	3.82	1.05
Total Maximum Daily Emissions	**3.74**	**4.83**	**18.60**	**0.05**	**3.93**	**1.16**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Winter						
Area Source Emissions	2.28	0.85	4.72	0.01	0.09	0.09
Energy Emissions	0.03	0.24	0.10	0.00	0.02	0.02
Mobile Source Passenger Cars	1.29	3.89	11.88	0.04	3.82	1.05
Total Maximum Daily Emissions	**3.6**	**4.97**	**16.70**	**0.04**	**3.93**	**1.16**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2.

The project would contribute to criteria pollutants to the area during project construction. A number of individual projects in the area may be under construction simultaneously with the proposed Project. Depending on construction schedules and actual implementation of projects in the area, generation of fugitive dust and pollutant emissions during construction could result in substantial short-term increases in air pollutants. However, each project would be required to comply with the SCAQMD's standard construction measures. The proposed Project's short-term construction CO, NO_2, PM_{10}, and $PM_{2.5}$ emissions would not exceed the LSTs. Therefore, construction of the proposed Project would have a **less than significant impact** with regard to regional and localized emissions and impacts would not be cumulatively considerable. Therefore, cumulative air quality emissions impacts are **less than significant**. No mitigation is required.

c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

3c. Response: ***(Source: General Plan 2025 FPEIR Table 5.3-B SCAQMD CEQA Regional Significance Thresholds, South Coast Air Quality Management District's 2016 Air Quality Management Plan, CalEEMod, and Air Quality Analysis prepared by Urban Crossroads on July 6, 2021)***

Less Than Significant Impact. The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, childcare centers, and athletic facilities can also be considered as sensitive receptors.

Adjacent to the Project to the north is an approved, but not developed residential subdivision. To the west, and south are occupied large-lot residential properties. To the east is an existing residential master-planned community. Within a one-mile radius of the Project lies several hundreds of residential homes, along with parks, and several schools.

The closest sensitive receptor is a single-family residence located approximately 35 feet west of the Project site.

Results of the air quality analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial criteria pollutant concentrations during Project construction.

Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during operational activity. Further Project traffic would not create or result in a CO "hotspot." Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

The Project would not expose sensitive receptors to substantial pollutant concentrations and a **less than significant impact** would occur directly, indirectly, or cumulatively for this project. No mitigation is required.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

3d. Response: ***(Source: Air Quality Analysis prepared by Urban Crossroads on July 6, 2021)***

Less Than Significant Impact. While exact quantification of objectionable odors cannot be determined due to the subjective nature of what is considered "objectionable," land uses generally associated with long-term (i.e., operational) objectionable odors include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting operations, refineries, landfills, dairies, and/or various heavy industrial uses. The occupation of the future residential homes is not typically associated with the generation of objectionable odors.

Construction equipment exhaust, the application of architectural coatings, and the installation of asphalt surfaces may create odors in the Project vicinity during its construction. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. The Project would be required to comply with SCAQMD Rule 1113 standards for paint applications and Rule 1108 standards regarding application of asphalt as a matter of regulatory policy.

Potential sources of project-generated operational odors include disposal of miscellaneous domestic refuse. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402, which prohibits nuisance air pollutants, to prevent occurrences of public nuisances.

Through compliance with SCAQMD Rules 1108, 1113, and 402, the Project would not involve any substantial short-term or long-term sources of odors, the project will not cause objectionable odors affecting a substantial number of people and a **less than significant impact** directly, indirectly and cumulatively will occur.

4. BIOLOGICAL RESOURCES. Would the project:				
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 Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

4a. Response: ***(Source: General Plan 2025 – Figure OS-6 – Stephen's Kangaroo Rat (SKR) Core Reserve and Other Habitat Conservation Plans (HCP), Figure OS-7 – MSHCP Cores and Linkages, Figure OS-8 – MSHCP Cell Areas, General Plan 2025 FPEIR Figure 5.4-2 – MSHCP Area Plans, Figure 5.4-4 - MSHCP Criteria Cells and Subunit Areas, Figure 5.4-6 – MSHCP Narrow Endemic Plant Species Survey Area, Figure 5.4-7 – MSHCP Criteria Area Species Survey Area, Figure 5.4-8 – MSHCP Burrowing Owl Survey Area and MSHCP Burrowing Owl Survey Area, Western Riverside County Multiple Species Habitat Conservation Plan Compliance Analysis for the 24.43-Acre Dauchy Avenue Project Site, City of Riverside, Western Riverside County, California conducted by Cadre Environmental on March 28, 2023, MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP), Dauchy Avenue Tentative Tract Map No. 38074, City of Riverside, Western Riverside County, California by Cadre Environmental dated March 28, 2023; Riverside Conservation Agency GIS Data downloads 2020)***

Less Than Significant with Mitigation. The technical studies associated with this Project, the MSHCP Burrowing Owl Study, the MSHCP compliance analysis, and the DBESP were all conducted in 2020 to ensure the project was consistent with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) and to analyze potential impacts to biological resources.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

The Project site is located within the boundaries of the MSHCP. All projects within the MSHCP are required to analyze their consistency with the MSHCP, including conducting analyses of species on designated parcels across the Plan Area, such as criteria area/narrow endemic plant species or animals like burrowing owl. These analyses usually include preparation of specific habitat assessments for target organisms. If a given property is found to be suitable for specified species to occur, then focused surveys are often required for the specific species. The Riverside County Regional Conservation Authority (RCA) MSHCP Information Map outlines, on a parcel-by-parcel basis, those properties that require habitat assessment and focused surveys. The only species requiring specific analysis for the Project site is the burrowing owl. When development or a property is proposed, the City of Riverside is also required to consult the RCA's MSHCP Information Map to determine the following:

- If a property is located within an MSHCP-designated Cell Group or Criteria Cell (which the Project site is not); and

  If it is in either a Cell or Cell Group then there would be a Conservation Description that outlines how conservation should be organized in that particular area (not applicable to the Project site)

Sensitive Plant Communities - No sensitive plant communities were documented within the Project Site.

Sensitive Plant Species - The Project Site does not occur within an MSHCP predetermined Survey Area for criteria area plant species and does not occur within a predetermined Survey Area for narrow endemic plant species.

Sensitive Wildlife Species - The Project Site does not occur within a predetermined Survey Area for amphibians and does not occur within a predetermined Survey Area for mammals.

The Project Site, however, occurs completely within a predetermined Survey Area for the burrowing owl (*Athene cunicularia*). Suitable burrowing owl burrows potentially utilized for refugia and/or nesting were documented within and adjacent to the property including foraging habitat documented throughout the Project Site. Based on the presence of suitable habitat, focused MSHCP burrowing owl surveys were completed to document the presence/absence and status of the species within and adjacent to the Project Site. A focused burrowing owl survey and habitat assessment was conducted on the Project site in the spring of 2021 and concluded that no burrowing owls were detected on the Project site. Although no burrowing owls were detected on the Project site, the focused burrowing owl survey and habitat assessment recommended conducting a pre-construction survey within 30 days prior to ground disturbance activities (and in accordance with MSHCP requirements) as suitable habitat was located on site.

A 30-day MSHCP preconstruction survey will also be required immediately prior to the initiation of construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP .

The blue-line drainage and associated southern willow scrub/giant reed vegetation located within and adjacent to the western boundary represents suitable habitat for the least Bell's vireo (*Vireo bellii pusillus*), and moderate to low quality habitat for the southwestern willow flycatcher (*Empidonax traillii extimus*) and western yellow-billed cuckoo (*Coccyzus americanus*). No impacts to these vegetation communities within the western drainage (Prenda Arroyo) are proposed or will occur as a result of project initiation (**MM BIO–2, HOA Conservation Easement)**.

Implementation of the proposed Project would affect MSHCP-covered and state/federally listed plant and animal species. As a condition of approval, the Project Applicant will pay the appropriate MSHCP mitigation fee that will contribute to conservation and management of conservation for all MSHCP-covered organisms. Additionally, in order to reduce such impacts, implementation of **Mitigation Measures BIO-1** through **BIO-5** would be required. With implementation of these mitigation measures, impacts would be **less than significant**.

A total of 16.75 acres of vegetation communities will be directly impacted as a result of project implementation as summarized in Table 4-1, *Vegetation Community Impact Acreages*. Removal of these vegetative communities may potentially affect sensitive plant and animal species which are State, federally, and MSHCP protected. Direct impacts to all vegetation

communities will be mitigated to a level of less than significant by implementing Nesting Bird & Raptor CDFG Code Compliance.

Table 4-1 Vegetation Community Impact Acreages

Vegetation Community	Project Site Acres	Offsite Impact Area Acres	Project Site Impact Acres	Total Impact Acres
Disturbed / Non-Native Grassland	20.38	2.95	12.58	15.53
Riversidean Sage Scrub	2.60	0.21	0.29	0.50
Giant Reed (Arundo donax)	0.58	0	0	0.00
Southern Willow Scrub	0.56	0	0.03	0.03
Developed	0.53	0.26	0.53	0.79
Blue Elderberry Scrub	0.05	0	0	0
Mule Fat Scrub	0.01	0.01	0.01	0.02
Coyote Brush Scrub	0.01	0	0	0
Ornamental	0.01	0	0	0
TOTAL	**24.73**	**3.43**	**13.44**	**16.87**

The Project Site falls within the SKR Fee Area outlined in the Riverside County SKR HCP. The project applicant shall pay the fees pursuant to County Ordinance 663.10 for the SKR HCP Fee Assessment Area as established and implemented by the County of Riverside

MM BIO-1, Riverpark Mitigation Bank

Permanent impacts to 0.096-acres of jurisdictional features will be mitigated at a 2:1 ratio through the purchase of 0.192 acres of re-establishment credits at the Riverpark Mitigation Bank. An agreement for sale of credits from the Riverpark Mitigation Bank will be submitted to the City of Riverside prior to grading permit issuance.

MM BIO–2, Open Space Conservation Easement

Prior to grading permit issuance, an Open Space Easement will be established between the proposed development and western blue-line drainage. An open space conservation easement managed by a conservation entity shall be placed on a minimum of 7.46-acres onsite including all regions of the western blue-line drainage and adjacent upland habitats.

MM BIO-3, Erosion Control

Prior to the initiation of construction, the construction contractor shall install temporary erosion control measures around avoided drainages and conservation areas to reduce impacts to onsite drainages and open space habitat from the excess sedimentation, siltation and erosion. These measures shall consist of the installation of silt fencing, coirs, berms, or dikes to protect storm drain inlets and drainages.

MM BIO-4, Construction Mitigation

During construction of the Project, the construction contractor shall implement the following measures during construction to avoid impacts to Unnamed Drainage A and its single tributary, and western blue-line drainage and its associated tributaries:

- No changing of oil or other fluids, or discarding of any trash or other construction waste materials shall occur on the Project Site.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

- Any equipment or vehicles driven and/or operated within or adjacent to onsite drains shall be checked and maintained daily, to prevent leaks of materials into onsite drainages. No equipment maintenance shall be conducted near onsite drains.

MM BIO-5, Agency Approvals

Prior to grading permit issuance, no impacts shall occur to onsite drainages until appropriate permits have been obtained from the US Army Corps of Engineers (Corps) Section 404 Nation Wide Permit, Regional Water Quality Control Board (RWQCB) Section 401 Water Quality Certificate, and/or California Department of Fish and Wildlife (CDFW) Section 1602 Streambed Alteration Agreement. Specifically, the following permits or certifications will be required:

- USACE Section 404 Nation Wide Permit
- RWQCB 401 Water Quality Certificate
- CDFW Section 1602 Streambed Alteration Agreement

With implementation of **Mitigation Measures BIO-1** through **BIO-5** the proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Impacts would be **less than significant with mitigation incorporated.**

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 Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

4b. Response: ***(Source: General Plan 2025 – Figure OS-6 – Stephen's Kangaroo Rat (SKR) Core Reserve and Other Habitat Conservation Plans (HCP), Figure OS-7 – MSHCP Cores and Linkages, Figure OS-8 – MSHCP Cell Areas, General Plan 2025 FPEIR Figure 5.4-2 – MSHCP Area Plans, Figure 5.4-4 - MSHCP Criteria Cells and Subunit Areas, Figure 5.4-6 – MSHCP Narrow Endemic Plant Species Survey Area, Figure 5.4-7 – MSHCP Criteria Area Species Survey Area, Figure 5.4-8 – MSHCP Burrowing Owl Survey Area, MSHCP Section 6.1.2 - Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, a Western Riverside County Multiple Species Habitat Conservation Plan Compliance Analysis for the 24.43-Acre Dauchy Avenue Project Site, City of Riverside, Western Riverside County, California conducted by Cadre Environmental on September 15, 2021 and updated on March 28, 2023, MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP), Dauchy Avenue Tentative Tract Map No. 38074, City of Riverside, Western Riverside County, California by Cadre Environmental dated April 2022 and updated on March 28, 2023.***

Less Than Significant with Mitigation. Riverine/riparian areas and vernal pools are defined in Section 6.1.2 of the MSHCP as follows: *Riparian/Riverine Areas are lands which contain Habitat dominated by trees, shrubs, persistent emergent, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.* Riparian and riverine resources are also regulated by the California Department of Fish and Wildlife (Carlson Strategic Land Solutions, Inc. 2021).

A Determination of Biologically Equivalent or Superior Preservation (DBESP) Report was prepared by Cadre Environmental (March 2023) to assess the site's riverine/riparian resources. It was determined that 2.83 acres of riparian and riverine resources are present within the site and adjacent to the Project. The proposed project will directly impact a total of 0.096 acre of riverine/riparian resources.

The southern willow scrub/giant reed vegetation located within and adjacent to the western project site boundary represents suitable habitat for the least Bell's vireo (Vireo bellii pusillus), and moderate to low quality habitat for the southwestern willow

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

flycatcher (Empidonax traillii extimus) and western yellow-billed cuckoo (Coccyzus americanus) as shown in Attachment C, Vegetation Community Map and Attachments D to G, Current Project Site Photographs. No impacts to these vegetation communities within the western blue-line drainage are proposed or will occur as a result of project initiation.

No evidence of vernal pools, seasonal depressions, seasonally inundated road ruts or other wetland features were recorded on the Project Site. Vernal pools are depressions in areas where a hard-underground layer prevents rainwater from draining downward into the subsoils. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime, the water gradually evaporates away, until the pools became completely dry in the summer and fall. Vernal pools tend to have an impermeable layer that results in ponded water. The soil texture (the amount of sand, silt, and clay particles) typically contains higher amounts of fine silts and clays with lower percolation rates. Pools that retain water for a sufficient length of time will develop hydric cells. Hydric cells form when the soil is saturated from flooding for extended periods of time and anaerobic conditions (lacking oxygen or air) develop.

Consistent with conditions documented onsite and as previously stated, the Project Site is characterized as Cieneba rocky/sandy loam and Fallbrook sandy loam, all types possessing well drained substrates (drainage class). No indication of clay substrates or hydric soils were documented within the Project Site.

A review of historic aerials was conducted to determine if inundated features were present during years of high rainfall when features would certainly be documented. Historic aerials taken in 2011 represent an ideal baseline during which known (previously documented) inundated vernal pools, seasonal depressions and road ruts can easily be seen. No sign or indication of inundation was documented within the Project Site during a review of historic aerials.

In summary, none of the conditions (i.e., no inundated depressions including road ruts, hydric soils, historic inundation, etc.) were observed on documented within the Project Site. No features are present that would support fairy shrimp. No standing water or other sign of areas that pond water was recorded. Purchase of lower-value enhancement credits, if available, on a 2:1 basis, would mitigate the potential impact to the 0.51 acre of riparian/riverine habitat on the Project site.

Implementation of **MM BIO-1** through **MM BIO-5 above**, would reduce impacts associated with the loss of riparian/riverine habitat on the Project site. As such, implementation of the proposed Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Impacts would be **less than significant with mitigation incorporated.**

c. Have a substantial adverse effect on state or federally-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐

4c. Response: ***(Source: City of Riverside GIS/CADME USGS Quad Map Layer, and Jurisdictional Delineation and Jurisdictional Analysis prepared by Carlson Strategic Land Solutions on September 10, 2021, as included in the Western Riverside County Multiple Species Habitat Conservation Plan Compliance Analysis for the 24.43-Acre Dauchy Avenue Project Site, City of Riverside, Western Riverside County, California conducted by Cadre Environmental on September 15, 2021 and updated on March 28, 2023, MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP), Dauchy Avenue Tentative Tract Map No. 38074, City of Riverside, Western Riverside County, California by Cadre Environmental dated April 2022 and updated on March 28, 2023***

Less Than Significant Impact with Mitigation. A formal jurisdictional delineation is included in the MSHCP compliance analysis for this Project. The delineation determined the boundaries or absence of potential wetland and non-wetland waters of the United States subject to the regulatory jurisdiction of the USACE pursuant to CWA Section 404; wetland and non-wetland waters of the State subject to the regulatory jurisdiction of the RWQCB pursuant to CWA Section 401 and State Porter-Cologne Water Quality Control Act (Porter-Cologne); streambed and riparian habitat subject to the regulatory jurisdiction of the CDFW pursuant Sections 1600 *et seq*. of the CDFG Code.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
The proposed project will impact a total of 0.006-acre USACE non-wetland, 0.018-acre RWQCB non-wetland, and 0.096-acre CDFW regulated resources. State and Federal laws and regulations will be implemented as mitigation to protect resources from development through the US Army Corps of Engineers (USACOE) Section 404 permitting process, the California Wetlands Conservation Policy (CWCO), and with applicable MSHCP policies. The project has complied with the identified State and Federal laws and regulations, the MSHCP, and the "no net wetland loss" policy. The project applicant will be required to obtain all applicable permits and certifications. Implementation of **Mitigation Measures BIO-1** and **BIO-5** and compliance with all Federal, State, and local laws and regulations would reduce impacts to jurisdictional waters to an impact level that is **less than significant with mitigation**.				
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?	☐	☐	☒	☐

4d. Response: ***(Source: MSHCP, General Plan 2025 –Figure OS-7 – MSHCP Cores and Linkage and Western Riverside County Multiple Species Habitat Conservation Plan Compliance Analysis for the 24.43-Acre Dauchy Avenue Project Site, City of Riverside, Western Riverside County, California conducted by Cadre Environmental on September 15, 2021 and updated March 28, 2023, MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP), Dauchy Avenue Tentative Tract Map No. 38074, City of Riverside, Western Riverside County, California by Cadre Environmental dated April 2022 and updated March 28, 2023***

Less Than Significant Impact. The Project Site is not located within an MSHCP designated core, extension of existing core, non-contiguous habitat block, constrained linkage, or linkage area. However, the blue-line drainage and adjacent habitats including Riversidean sage scrub are expected to be utilized for local wildlife movement and refugia. An open space easement will be established by and maintained by a suitable Conservation Agency in accordance with the recommendations with the U.S. Fish and Wildlife Service (**MM BIO-2**), including implementation of MSHCP Urban/Wildlands Interface guidelines (Section 6.1.4 of the MSHCP).

The Project site is occupied by ornamental trees that have the potential to provide areas for nesting birds. During the bird breeding season (typically February 1 through August 31), large trees on or adjacent to the Project site may be used by hawks, ravens, or other large birds for nesting. Trees, shrubs, and other vegetation on site may provide nest sites for smaller birds, and burrowing owls may nest in ground squirrel burrows or some similar feature (however, response 4a above indicates that burrowing owl were not observed on the Project site during field visits). Nesting bird species with potential to occur are protected by California Fish and Game Code Sections 3503, 3503.5, and 3800, and by the Migratory Bird Treaty Act (16 USC 703-711). These laws regulate the take, possession, or destruction of the nest or eggs of any migratory bird or bird of prey. However, the United States Fish and Wildlife Service has recently determined that the Migratory Bird Treaty Act should apply only to "… affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" and would not be applied to incidental take of migratory birds pursuant to otherwise lawful activities. To avoid potential effects to fully protected raptors, special-status bird species, and other nesting birds protected by the California Fish and Game Code, and for compliance with MSHCP Incidental Take Permit Condition 5, State regulations require a nesting bird pre-construction survey to be conducted by a qualified biologist three days prior to ground-disturbing activities Should nesting birds be found, an exclusionary buffer would be established by the qualified biologist. The buffer may be up to 500 feet in diameter depending on the species of nesting bird found. This buffer would be clearly marked in the field by construction personnel under guidance of the qualified biologist and construction or clearing would not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active. Nesting bird habitat within the biological study area would be resurveyed during bird breeding season if there is a lapse in construction activities longer than seven days.

Therefore, a **less than significant with mitigation incorporated impact** directly, indirectly and cumulatively will occur related to 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 will occur with implementation of the proposed project.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐

4e. Response: ***(Source: MSHCP, Title 16 Section 16.72.040 – Establishing the Western Riverside County MSHCP Mitigation Fee, Title 16 Section 16.40.040 – Establishing a Threatened and Endangered Species Fees, City of Riverside Urban Forest Tree Policy Manual, and Western Riverside County Multiple Species Habitat Conservation Plan Compliance Analysis for the 24.43-Acre Dauchy Avenue Project Site, City of Riverside, Western Riverside County, California conducted by Cadre Environmental on September 15, 2021 and updated March 28, 2023, MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP), Dauchy Avenue Tentative Tract Map No. 38074, City of Riverside, Western Riverside County, California by Cadre Environmental dated April 2022 and updated March 28, 2023***

Less Than Significant Impact. Implementation of the proposed Project is subject to all applicable Federal, State, and local policies and regulations related to the protection of biological resources and tree preservation. In addition, the project is required to comply with Riverside Municipal Code Section 16.72.040 establishing the MSHCP mitigation fee and Section 16.40.040 establishing the Threatened and Endangered Species Fees.

Any project within the City of Riverside's boundaries that proposes planting a street tree within a City right-of-way must follow the Urban Forest Tree Policy Manual. The Manual documents guidelines for the planting, pruning, preservation, and removal of all trees in City rights-of-way. The specifications in the Manual are based on national standards for tree care established by the International Society of Arboriculture, the National Arborists Association, and the American National Standards Institute. Any future project will be in compliance with the Tree Policy Manual when planting a tree within a City right-of-way, and therefore, impacts will be **less than significant**.

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?	☐	☐	☒	☐

4f. Response: ***(Source: MSHCP, General Plan 2025 – Figure OS-6 – Stephen's Kangaroo Rat (SKR) Core Reserve and Other Habitat Conservation Plans (HCP), Stephens' Kangaroo Rat Habitat Conservation Plan, Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan, and El Sobrante Landfill Habitat Conservation Plan, and Western Riverside County Multiple Species Habitat Conservation Plan Compliance Analysis for the 24.43-Acre Dauchy Avenue Project Site, City of Riverside, Western Riverside County, California conducted by Cadre Environmental on September 15, 2021 and updated on March 28, 2023, MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP), Dauchy Avenue Tentative Tract Map No. 38074, City of Riverside, Western Riverside County, California by Cadre Environmental dated April 2022 and updated on March 28, 2023, Mitigated Negative Declaration for P16-0774 and P19-0578 dated March 17, 2022, and Initial Study for Tentative Tract Map No. 37733-Obsidian Drive Development Project dated June 2021***

Less Than Significant Impact. A habitat assessment prepared by a qualified biologist was prepared for the project. The Project site is located within a semi-urbanized portion of Riverside and is located within the MSHCP Cities of Riverside and Norco Area Plan; therefore, the Project is subject to applicable provisions of the MSHCP as specified in Checklist Responses 4a, 4b, 4c, and 4d above.

In order to reduce impacts to biological resources protected by the MSHCP, **Mitigation Measures BIO-1** through **BIO-5** would be implemented, which would reduce impacts to a **less than significant with mitigation incorporated** level.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5 of the CEQA Guidelines?	☐	☐	☐	☒

5a. Response: ***(Source: GP 2025 FPEIR Table 5.5-A Historical Districts and Neighborhood Conservation Areas and Appendix D, Title 20 of the Riverside Municipal Code, and Cultural Resource Report prepared by Brian F. Smith and Associates dated December 2, 2020 and updated on April 7, 2021***

No Impacts. A Cultural Resources Assessment (CRA), April 2021, was prepared for the proposed Project by Brian F. Smith and Associates in accordance with City of Riverside report guidelines and CEQA significance evaluation criteria, to provide the City of Riverside the necessary information and analysis to determine whether the proposed Project would cause substantial adverse changes to any historical resources that may exist in or around the Project site. The Project site is currently vacant except for one abandoned residence and ancillary structures. The CRA of the Dauchy Avenue Project did not identify any historic or prehistoric resources on the Project Site, including the residence to be demolished. Therefore, there are **no impacts** to historic resources.

b. Cause a substantial adverse change in the significance of an archeological resource pursuant to § 15064.5 of the CEQA Guidelines?	☐	☒	☐	☐

5b. Response: ***(Source: GP 2025 FPEIR Figure 5.5-1 - Archaeological Sensitivity and Figure 5.5-2 - Prehistoric Cultural Resources Sensitivity, Appendix D – Cultural Resources Study and Cultural Resource Report prepared by Brian F. Smith and Associates dated December 2,2020 and updated on April 7, 2021***

Less Than Significant Impact with Mitigation. A Cultural Resources Assessment (CRA), April 2021, was prepared by Brian F. Smith and associates in accordance with City of Riverside report guidelines and CEQA significance evaluation criteria, for the proposed Project to provide the City of Riverside the necessary information and analysis to determine, as mandated by CEQA, whether the proposed Project would cause substantial adverse changes to any historical resources that may exist in or around the Project site. The Project site is currently vacant except for one abandoned residence and ancillary structures. The CRA of the Dauchy Avenue Project did not identify any historic or prehistoric resources. No archaeological sites, features, or artifacts were identified during the field reconnaissance and, as a result, no impacts to cultural resources are anticipated as a result of the proposed development. . Based upon the presence of 90 known cultural resources located within a one-mile radius of the project boundary, including two bedrock milling feature sites that are located within 50 meters of the southern property boundary, the potential for unidentified buried cultural materials exists within the Dauchy Avenue Project that may be exposed during grading.

Two Native American tribes requested consultation with the City: Rincon Band of Luiseño Indians, and the Pechanga Band of Mission Indians. As such, the City conducted government-to-government consultation on April 27, 2022 and June 10, 2022, respectively. A full discussion of the result of AB-52 consultation is included in the Tribal Cultural Resources section.

Based off of the Tribal Consultation the tribes have agreed to use the city standard mitigation measures:

MM-CUL-1: Prior to grading permit issuance, if there are any changes to Project site design and/or proposed grades, the Applicant and the City shall contact interested tribes to provide an electronic copy of the revised plans for review. Additional consultation shall occur between the City and interested tribes to discuss any proposed changes and review any new impacts and/or potential avoidance/preservation of the cultural resources on the Project site. The City and the Applicant shall make all attempts to avoid and/or preserve in place as many cultural and paleontological resources as possible that are located on the Project site if the site design and/or proposed grades should be revised.

MM-CUL-2

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Archaeological and Paleontological Monitoring: At least 30 days prior to application for a grading permit and before any grading, excavation and/or ground disturbing activities take place, the developer/applicant shall retain a Secretary of Interior Standards qualified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources.

1. The project archaeologist, in consultation with consulting tribes, the Developer, and the City, shall develop an Archaeological Monitoring Plan to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. Details in the plan shall include:
   a. Project grading and development scheduling;
   b. The development of a rotating or simultaneous schedule in coordination with the developer/applicant and the project archaeologist for designated Native American Tribal Monitors from the consulting tribes during grading, excavation, and ground-disturbing activities on the site, including the scheduling, safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all project archaeologists;
   c. The protocols and stipulations that the Applicant, tribes, and project archaeologist/paleontologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits, or nonrenewable paleontological resources that shall be subject to a cultural resources evaluation;
   d. Treatment and final disposition of any cultural and paleontological resources, sacred sites, and human remains if discovered on the project site; and
   e. The scheduling and timing of the Cultural Sensitivity Training noted in mitigation measure MM-CUL-4.

MM-CUL-3: Treatment and Disposition of Cultural Resources: In the event that Native American cultural resources are inadvertently discovered during the course of grading for this project, the following procedures will be carried out for treatment and disposition of the discoveries:

1. Consulting Tribes Notified: within 24 hours of discovery, the consulting tribe(s) shall be notified via email and phone. The developer shall provide the city evidence of notification to consulting tribes. Consulting tribe(s) will be allowed access to the discovery, in order to assist with the significance evaluation.

2. Temporary Curation and Storage: During the course of construction, all discovered resources shall be temporarily curated in a secure location on site or at the offices of the project archaeologist. The removal of any artifacts from the project site will need to be thoroughly inventoried with tribal monitor oversight of the process; and

3. Treatment and Final Disposition: The landowner(s) shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to cultural resources. The Applicant shall relinquish the artifacts through one or more of the following methods and provide the City of Riverside Community and Economic Development Department with evidence of same:

   a. Accommodate the process for on-site reburial of the discovered items with the consulting Native American tribes or bands. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed;

   b. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 CFR Part 79 and therefore will be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation;

   c. If more than one Native American tribe or band is involved with the project and cannot come to a consensus as to the disposition of cultural materials, they shall be curated at the Western Science Center or Museum of Riverside by default; and

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

d. At the completion of grading, excavation, and ground-disturbing activities on the site, a Phase IV Monitoring Report shall be submitted to the City documenting monitoring activities conducted by the project archaeologist and Native Tribal Monitors within 60 days of completion of grading. This report shall document the impacts to the known resources on the property; describe how each mitigation measure was fulfilled; document the type of cultural resources recovered and the disposition of such resources; provide evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting; and, in a confidential appendix, include the daily/weekly monitoring notes from the archaeologist. All reports produced will be submitted to the City of Riverside, Eastern Information Center, and consulting tribes.

MM-CUL-4: Cultural Sensitivity Training: The Secretary of Interior Standards County certified archaeologist and Native American monitors shall attend the pre-grading meeting with the developer/permit holder's contractors to provide Cultural Sensitivity Training for all construction personnel. This shall include the procedures to be followed during ground disturbance in sensitive areas and protocols that apply in the event that unanticipated resources are discovered. Only construction personnel who have received this training can conduct construction and disturbance activities in sensitive areas. A sign-in sheet for attendees of this training shall be included in the Phase IV Monitoring Report.

With these mitigation measures, impacts to archaeological resources will be **less than significant with mitigation** .

c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

5c. Response: ***(Source: GP 2025 FPEIR Figure 5.5-1 - Archaeological Sensitivity and Figure 5.5-2 - Prehistoric Cultural Resources Sensitivity)***

Less Than Significant with Mitigation.

The Project is not in an area of known human remains. However, there is a potential for human remains to be in the Project area beneath the surface. In order to reduce potentially significant impacts to previously unknown human remains that may be unexpectedly discovered during Project implementation, County conditions of approval and State Law requires that in the unlikely event that human remains are uncovered the contractor is required to halt work in the immediate area of the find and to notify the County Coroner, in accordance with Health and Safety Code § 7050.5, who must then determine whether the remains are of forensic interest. If the Coroner, with the aid of a supervising archaeologist, determines that the remains are or appear to be of a Native American, he/she must contact the Native American Heritage Commission for further investigations and proper recovery of such remains, if necessary.

Further, pursuant to Public Resource 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 Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within the period specified by law (24 hours). Subsequently, the Native American Heritage Commission shall identify the "most likely descendant". The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

This is standard procedure to comply with the requirements of State law and is not considered unique mitigation. Impacts are viewed as **less than significant**.

6. ENERGY

Would the project:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
6a. Response: U.S. Energy Information Administration website accessed 6/25/23: https://www.eia.gov/tools/faqs/faq.php?id=97&t=3, and the California Energy Commission website accessed 6/25/23: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards **Less Than Significant Impact.** The Project is a residential development that will consume energy in a manner typical of all residential developments. In 2021, the average annual electricity consumption for a U.S. residential utility consumer was 10,632 kilowatt-hours (kWh), an average of 886 kWh per month. Current Title 24 standards require solar photovoltaic systems for new homes. The California Energy Commission anticipates that single-family homes built with the 2022 standards will use less energy compared to the residential homes built under the 2019 standards. Additionally, for residential buildings three stories or less, solar photovoltaic systems are required and sized based on climate zone, homes built with required solar PV systems use much less energy than homes that do not. It is also anticipated that the upcoming 2025 standards will require even more energy efficiency. Riverside Public Utilities has indicated they have enough capacity to service this residential development. The proposed Project will not require new or expanded electric power facilities, the construction or relocation of which could cause significant environmental effects; therefore, impacts will be **less than significant.**				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

6b. Response: U.S. Energy Information Administration website accessed 6/25/23: https://www.eia.gov/tools/faqs/faq.php?id=97&t=3, and the California Energy Commission website accessed 6/25/23: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards; City of Riverside Climate Action Plan

Less Than Significant Impact. The proposed Project would be designed to comply with the California Green Building Standards Code; Title 24, Part 6 of the California Code of Regulations; California Building Code and Energy Code standards, as applicable to the type of use being developed on site. After January 1, 2020, residential development applications in California are required to include solar panels for on-site renewable energy generation, as part of the statewide effort in becoming more energy efficient and generating cleaner energy options.

The proposed Project would also comply with measures that are presented in the Riverside Economic Prosperity Action Plan and Climate Action Plan January 2016 by implementing different design elements that increase energy efficiency. The measures and how the Project will comply are presented below:

Measure E-2: Shade Trees. The applicant of the proposed project has prepared a Landscape Plan for the site, which includes shade trees in various locations where residential units would be located.

Measure SR-3: Utility Programs. The proposed Project would be designed to support the City's utility programs to promote energy efficiency and the use of renewable energy.

Measure T-6: Density. The density of the proposed Planned Residential Development (PRD) is compliant with the zoning designations on the site. A PRD establishes detached single-family residential units, private streets, and common open space.

Measure T-14: Neighborhood Electric Vehicle Programs. The Project in itself would not offer a neighborhood electric vehicle program but would provide availability for electric vehicle "hookups" for residents in their garages to promote the use of electric vehicles and promote the City of Riverside in establishing neighborhood electric vehicle programs.

Measure W-1: Water Conservation and Efficiency. The proposed Project would comply with the California Green Building Standards Code through implementation of fixture flow rates, standards for plumbing fixtures and fittings, and automatic irrigation systems utilizing weather and/or soil moisture-based irrigation controllers.

Based on the Project design features incorporated into the Project, the proposed Project would not conflict with or obstruct a State or local plan related to renewable energy or energy efficiency. Direct, indirect, or cumulative Project impacts would be **less than significant**.

7. GEOLOGY AND SOILS. Would the project:				
a. Directly or indirectly cause 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.	☐	☐	☒	☐

7i. Response: ***(Source: General Plan 2025 Figure PS-1 – Regional Fault Zones & General Plan 2025 FPEIR Appendix E – Geotechnical Report)***

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Less Than Significant Impact. The Project site does not lie within an "Earthquake Fault Zone" as defined by the State of California in the Alquist-Priolo Earthquake Fault Zoning Act. The mapped fault closest to the Project site is the San Jacinto Fault, approximately 11 miles to the northeast of the Project site. Therefore, the potential for ground rupture due to an earthquake beneath the site is considered low. CCR Title 24, Part 2, the California Building Code (CBC), establishes minimum standards for building design in the State, and it is consistent with or more stringent than Uniform Building Code requirements. Local codes are permitted to be more restrictive than Title 24 but are required to be no less restrictive. The CBC is designed and implemented to improve building safety, sustainability, and consistency, and to integrate new technology and construction methods to construction projects throughout California. The CBC is published every three years and intervening Code Adoption Cycles produce Supplement pages 18 months into each three-year period. All proposed amendments to California's building standards are subject to a lengthy and transparent public participation process throughout each code adoption cycle.

Chapter 16 of the CBC pertains to General Design Requirements, including regulations governing seismically resistant construction (Chapter 16, Division IV) and construction to protect people and property from accidents associated with excavation cave-ins and falling debris or construction materials. Chapter 18 and Appendix Chapter 33 regard site demolition, excavations, foundations, retaining walls, and grading, including requirements for seismically resistant design, foundation investigations, stable cut and fill slopes, and drainage and erosion control. The procedures and limitations for the design of structures are based on site characteristics, occupancy type, configuration, structural system height, and seismic zoning. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in California Occupational Safety and Health Administration regulations (CCR Title 8). State law requires the design and construction of new structures to comply with current CBC requirements, which address general geologic, seismic (including ground shaking), and soil constraints for new buildings. Additionally, General Plan Policy PS-1.1 requires the City to ensure all new development in the City abides by the most recently adopted City and State seismic and geotechnical requirements.

Pursuant to State law, and in accordance with General Plan Policy PS-1.1, the proposed Project would be designed to resist seismic impacts in accordance with current CBC requirements and Title 16 (Buildings and Construction) of the RMC. Prior to issuance of building permits, the City will confirm the siting, design, and construction of all single-family residential units (and associated structures) are in accordance with the regulations established in the CBC, City Building Code, and/or professional engineering standards appropriate for the seismic zone. Additionally, all grading plans will be subject to City review in accordance with RMC, Section 17.16.010. As required by RMC, Section 17.16.010, the recommendations cited in the project-specific soils and geotechnical reports must be incorporated into the design of the site-specific grading plans.

Therefore, it is reasonable to conclude that compliance with current policies and regulations would be sufficient to address ground shaking, much like all other residential developments in the City. Seismic activity is to be expected in Southern California. In the City of Riverside, there are no Alquist-Priolo zones. The project site does not contain any known fault lines and the potential for fault rupture or seismic shaking is low. Impacts will be **less than significant**.

ii. Strong seismic ground shaking?	☐	☐	☒	☐

7ii. Response: ***(Source: General Plan 2025 FPEIR Appendix E – Geotechnical Report)***

Less Than Significant Impact. The Project site is located in a seismically active area that has historically been affected by generally moderate to occasionally high levels of ground motion. The site lies within 50 miles of several active faults (San Jacinto Fault, the closest, approximately 11 miles from the Project site); therefore, during the life of the Project, the property would most likely experience similar moderate to occasionally high ground shaking from these fault zones, as well as some background shaking from other seismically active areas of the Southern California region. The peak ground acceleration is anticipated to be 0.500 g, which equates to potentially severe ground shaking. No known active faults are known to cross through the site.

Design and construction in accordance with the current CBC requirements is anticipated to adequately address potential ground shaking effects on the newly developed single-family residential units on the site. Pursuant to State law and in accordance with General Plan Policy PS-1.1, the single-family residential units of the proposed Project would be designed to resist seismic impacts in accordance with current CBC requirements and Title 16 (Buildings and Construction) of the RMC. Prior to issuance of any permit(s), the City would review and approve plans to confirm that the siting, design and construction of all structures

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
and facilities are in accordance with the regulations established in the CBC, City Building Code, and/or professional engineering standards appropriate for the seismic zone in which such construction may occur. Additionally, grading plans would be subject to City review and approval in accordance with RMC, Section 17.16.010. Because the proposed Project would comply with CBC regulations that protect habitable structures from seismic hazards and would implement recommended measures in Sections 8.1 through 8.14 of the Project-specific geotechnical study, direct, indirect, or cumulative impacts associated with strong seismic ground shaking would have a **less than significant** impact.				
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
7iii. Response: ***(Source: General Plan 2025 Figure PS-1 – Regional Fault Zones, Figure PS-2 – Liquefaction Zones, General Plan 2025 FPEIR Figure PS-3 – Soils with High Shrink-Swell Potential, and Appendix E – Geotechnical Report, United States Department of Agriculture Soil Survey website https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx)*** **No Impact.** The project site is located in an area with very low potential for liquefaction as depicted in the General Plan 2025 Liquefaction Zones Map – Figure PS-2. Pursuant to State law and in accordance with General Plan Policy PS-1.1, the proposed Project would be designed to resist seismic impacts (including seismic-related ground failure and liquefaction) in accordance with current CBC requirements and Title 16 (Buildings and Construction) of the RMC. Prior to issuance of any permit(s), the City would review and approve plans to confirm that the siting, design and construction of all single-family residential units are in accordance with the regulations established in the CBC, City Building Code, and/or professional engineering standards appropriate for the seismic zone in which such construction may occur. Additionally, all grading plans would be subject to City staff review for regulatory compliance in accordance with RMC, Section 17.16.010. Proper engineering design and construction in conformance with the California Building Code regulations will ensure that impacts related to seismic-related ground failure, including liquefaction would have **no impact** directly, indirectly and cumulatively.				
iv. Landslides?	☐	☐	☐	☒
7iv. Response: ***(Source: General Plan 2025 FPEIR Figure 5.6-1 – Areas Underlain by Steep Slope, Appendix E – Geotechnical Report, Title 18 – Subdivision Code, Title 17 – Grading Code, and Storm Water Pollution Prevention Plan SWPPP, Site Plan and Grading Plan, United States Department of Agriculture Soil Survey website https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx)*** **No Impact.** The project site and its surroundings have generally undulating topography with an average natural slope of 15%, and are not located in an area prone to landslides per Figure 5.6-1 of the General Plan 2025 Program Final PEIR. Therefore, there will be **no impact** related to landslides directly, indirectly and cumulatively.				
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
7b. Response: ***(Source: General Plan 2025 FPEIR Figure 5.6-1 – Areas Underlain by Steep Slope, Figure 5.6-4 – Soils, Table 5.6-B – Soil Types, Title 18 – Subdivision Code, Title 17 – Grading Code, and for projects over 1 acre: SWPPP, United States Department of Agriculture Soil Survey website https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx)*** **Less Than Significant Impact.** Erosion and loss of topsoil could occur as a result of the project. State and Federal requirements call for the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) establishing erosion and sediment controls for construction activities. The project must also comply with the National Pollutant Discharge Elimination System (NPDES) regulations. In addition, with the erosion control standards for which all development activity must comply (Title 18), the Grading Code (Title 17) also requires the implementation of measures designed to minimize soil erosion. Compliance with State and Federal requirements as well as with Titles 18 and 17 will ensure that soil erosion or loss of topsoil will be **less than significant impact** directly, indirectly and cumulatively.				
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?	☐	☐	☐	☒

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
7c. Response: ***(Source: General Plan 2025 Figure PS-1 – Regional Fault Zones, Figure PS-2 – Liquefaction Zones, General Plan 2025 FPEIR Figure PS-3 – Soils with High Shrink-Swell Potential, Figure 5.6-1 - Areas Underlain by Steep Slope, Figure 5.6-4 – Soils, Table 5.6-B – Soil Types, United States Department of Agriculture Soil Survey website https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx)*** **No Impact.** The project has three types of soils: fallbrook sandy loam, eroded (FaD2) and cieneba sandy loam, eroded (ChF2), and cieneba rocky sandy loam, eroded (CkF2). These soils are considered to have a low-to-moderate shrink/swell potential. Additionally, the soil types are considered "drained" to "somewhat excessively drained" by the USDA, thus erosivity is not considered a significant factor. As such, the project will have **no impact** resulting in a geologic unit or soil becoming unstable resulting in an on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse either directly, indirectly or cumulatively.				
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
7d. Response: ***(Source: General Plan 2025 FPEIR Figure 5.6-4 – Soils, Figure 5.6-4 – Soils, Table 5.6-B – Soil Types, Figure 5.6-5 – Soils with High Shrink-Swell Potential, Appendix E – Geotechnical Report, and California Building Code as adopted by the City of Riverside and set out in Title 16 of the Riverside Municipal Code)*** **No Impact.** The Project Site is not located in an area known for unstable soils, since the General Plan does not identify the Project area as a high shrink-swell potential (i.e. expansive soils). Therefore, there are no impacts from unstable geologic soils. As such, the project will have **no impact** resulting in substantial risks to life or property due to expansive soils either directly, indirectly or cumulatively.				
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
7e. Response: ***(Source: General Plan 2025 FPEIR Figure 5.6-4 – Soils, Table 5.6-B – Soil Types)*** **No Impact.** The proposed project will be served by sewer infrastructure. Therefore, the project will have **no impact.**				
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
7f. Response: ***(Source: General Plan 2025 Policy HP-1.3, Cultural Resources Study and Cultural Resource Report prepared by Brian F. Smith and Associates dated December 2,2020 and updated on April 7, 2021; Paleontological Assessment for the Dauchy Project prepared Brian F. Smith and Associates dated December 1, 2020)*** **Less Than Significant Impact.** Since the City of Riverside does not currently provide specific paleontological resource guidelines, a "paleontological sensitivity map and report" generated by the Riverside County Land Information System is utilized for this analysis. The County of Riverside ranks the project as having low potential to yield nonrenewable paleontological resources, and therefore, a low paleontological sensitivity. Monitoring for potential resources (fossils) during earth moving disturbance activities is not warranted, since the soils underlying the project are not fossiliferous. Therefore, there will be **no impact** to paleontological resources.				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
8. GREENHOUSE GAS EMISSIONS. Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

8a. Response: ***(Source: GHG Analysis prepared by Urban Crossroads on July 9, 2021 and updated on April 14, 2022)***

Less Than Significant Impact.

Greenhouse gasses (GHGs) are global pollutants, unlike criteria air pollutants and toxic air contaminants (TACs), which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of a GHG molecule is dependent on multiple variables and cannot be pinpointed, more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms of carbon sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere.

The Project's construction and operational emissions were calculated using the California Emissions Estimator Model version 2016.3.2 (CalEEMod). Details of the modeling assumptions and emission factors are provided in the Air Quality study.

Greenhouse Gas Emissions - Construction

Greenhouse gas emissions are estimated for on-site construction activity using CalEEMod. Table 8-1 shows the construction greenhouse gas emissions, including equipment and worker vehicle emissions for all phases of construction. Construction emissions are averaged over 30 years and added to the long-term operational emissions, pursuant to SCAQMD recommendations and using the Metric Tons of Carbon Dioxide – Equivalent ($MTCO_2e$) standard for GHG potential impacts.

CalEEMod annual GHG output calculations are provided in the GHG Analysis prepared for this project.

Table 8-1: Construction GHG Emissions

Emission Source*	Emissions (Metric Tons Co_2e/Year)
Construction 2022	316.16
Construction 2023	345.07
Total	
Annualized Over Project Lifetime	22.04

* Although the GHG analysis assumed construction would occur in 2022 and 2023, it is reasoned that more stringent regulations will occur in the near future. Thus, these figures represent the worst case scenario.

Operation Emissions:
The project would result in direct annual emissions of greenhouse gases at buildout. The following table lists the estimated greenhouse gas emissions associated with construction of the project.

Direct emissions of CO2 emitted from operation of the project are primarily due to natural gas consumption and mobile source emissions (e.g. motor vehicles).

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

The project would also result in indirect greenhouse emissions due to the electricity demands, water usage and solid waste handling. The following table lists estimated greenhouse gas emissions associated with operation of the project.

Table 8-2: Operational GHG Emissions

Operational Emissions Source	GhG Emissions ($MTCO_2e$)/year)*
Construction-related emissions amortized over 30 years	22.04
Operational (Mobile) Sources	628.91
Area Sources	12.51
Electrical Consumption	150.27
Solid Waste Generation	31.34
Water Usage	19.19
Total	864.27
SCAQMD Recommended Screening Threshold	**3,000**
*MT=Metric Tons	

Determining Significance

SCAQMD has not formally adopted a significance threshold for residential projects but has drafted a threshold of 3,000 $MTCO_22$ for residential projects, that can be used as an indicator of a project's significance under CEQA.

As shown in the above tables, the project would result in greenhouse gas emissions of 864.27 - far less than the SCAQMD threshold for residential projects.

Therefore, there will be a **less than significant impact** to Greenhouse Gas Emissions.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

8b. Response: ***(Source: GHG Analysis prepared by Urban Crossroads on July 9, 2021)***

Less Than Significant Impact. The City has also adopted the California Building Code (Title 24), which includes the CalGreen requirements that require new development to reduce water and energy consumption and reduce solid waste. The proposed single-family residential units would comply with these regulations through installation of solar panels, high efficiency lighting, plumbing, and appliances as required in Title 24 of the California Building Code, as well as installation of landscaping designed to minimize irrigation and runoff. The Project site is served by bus transit services and the Project would include sidewalks and pedestrian street crossings for all of the onsite roadways, which would encourage non-motorized travel, which reduces GHG emissions.

City of Riverside Restorative Growthprint Climate Action Plan. The City of Riverside Restorative Growthprint-Climate Action Plan (RRG CAP) builds on the WRCOG Subregional CAP commitments and provides the City GHG reduction goals for 2020 and 2035. Through the WRCOG Subregional CAP process, the City has adopted a 2020 community-wide GHG emissions target of 2,224,908 MT CO2E, which represents a 15 percent reduction from the City's 2010 GHG emissions baseline inventory, and a 2035 emissions target of 1,532,274 MT CO2E, 49 percent below the 2007 baseline. These reduction targets are consistent with the statewide AB 32 goal of reducing emissions to 1990 levels and fulfill the requirements of SB 375. The RRG CAP includes measures to reduce GHG emissions. The proposed Project is consistent with the following RRG CAP measures are detailed in Table GHG-3.

Table 8-3: Project Consistency with Riverside Restorative Growthprint Climate Action Plan

Measure	Description	Project Consistency
State and Regulatory Measures		
SR-2 2013 California Building Energy Efficiency Standards (Title 24, Part 6)	Mandatory energy efficiency standards for buildings.	**Consistent.** The Project would be required through City permitting to be consistent with current Title 24 requirements.
SR-12 Electric Vehicle Plan and Infrastructure	Facilitate electric vehicle use by providing necessary infrastructure.	**Consistent.** The Project would include pre-wired electric vehicle charging spaces, as required by CALGreen Code.
SR-13 Construction and Demolition Waste Diversion	Meet mandatory requirement to divert 65 percent of construction solid waste and 75 percent of operational solid waste from landfills.	**Consistent.** The Project would divert 65 percent of construction solid waste and 75 percent of operational solid waste from landfills.
Local Reduction Measures		
E-1 Traffic and Street Lights	Replace traffic and streetlights with high-efficiency bulbs	**Consistent.** The Project would install new onsite lighting (including street lights) that would comply with applicable energy efficiency requirements of the California Green Building Standards Code (Title 24, California Code of Regulations).
E-2 Shade Trees	Strategically plant trees at new residential developments to reduce the urban heat island effect.	**Consistent.** The Project landscaping includes trees along roadways, landscape setbacks, and common open space areas.

E-3 Local Utility Programs - Electricity	Financing and incentives for business and homeowners to make energy efficient, renewable energy, and water conservation improvements.	**Consistent.** The Project would comply with applicable energy efficiency requirements of the California Green Building Standards Code (Title 24, California Code of Regulations) including use of renewable (solar) energy and water efficient irrigation and fixtures.
E-4 Renewable Energy Production on Public Property	Large scale renewable energy installation on publicly-owned property and in public rights of way.	**Consistent.** This measure is related to large-scale renewable energy on public property. The Project is a single-family development on private property; and the measure is not applicable. However, the Project does include installation of renewable energy infrastructure, as solar panels would be installed on each residence.
T-1 Bicycle Infrastructure Improvements	Expand on-street and off-street bicycle infrastructure, including bicycle lanes and bicycle trails.	**Consistent.** Although there are no existing bicycle lanes or pedestrian facilities adjacent to the Project site, the Project includes 5-foot-wide concrete sidewalks and pedestrian street crossings throughout the Project site to provide for safe pedestrian circulation.
T-3 End of Trip Facilities	Encourage use of non-motorized transportation modes by providing appropriate facilities and amenities for commuters.	**Consistent.** The Project includes 5-foot-wide concrete sidewalks and pedestrian street crossings throughout the Project site to provide for safe pedestrian circulation. Thus, the project provides for non- motorized transportation modes
T-6 Density	Improve jobs-housing balance and reduce vehicle miles traveled by increasing household and employment densities.	**Consistent.** The Project is consistent with this measure by providing new housing on land designated for residential uses, which increases residential density within the City. Additionally, this Project is utilizing the “clustering” provisions of the General Plan and Municipal Code to facilitate acceptable residential density.
T-8 Pedestrian Only Areas	Encourage walking by providing pedestrian only community areas.	**Consistent.** The proposed onsite street system would include 5-foot-wide concrete sidewalks and pedestrian street crossings to provide for safe pedestrian circulation, and 5-foot-wide parkways located between the sidewalks and the residential parcels throughout the Project site and would

ISSUES (AND SUPPORTING INFORMATION SOURCES):		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
			connect to existing sidewalks adjcnet to the site.		
T-12 Accelerated Bike Plan Implementation	Accelerate the implementation of all or specified components of a jurisdiction's adopted bike plan.		**Consistent.** There are no existing bicycle lanes or pedestrian facilities adjacent to the Project site. The Project includes several 10-foot-wide multi-purpose trails that would provide for bicycle circulation throughout the Project boundaries		
T-14 Neighborhood Electric Vehicle Programs	Implement development requirements to accommodate Neighborhood Electric Vehicles and supporting infrastructure.		**Consistent.** The Project would include pre-wired electric vehicle charging spaces, as required by CALGreen Code.		
T-18 SB 743 as Alternative to LOS	Use SB 743 to incentivize development in the downtown and other areas served by transit.		**Consistent.** The Project provides development within an area that is served by transit. Riverside Transit Authority Bus Route 22 is located along Trautwein Road, with stops approximately ¼ mile from the Project site. Route 22 provides services between the Perris Station Transit Center, which is a Metrolink stop to the southeast of the site and downtown Riverside, which is to the northwest of the site. Route 22 provides service 7 days per week, between 5:46 am and 8:18 pm. The existing bus services would allow Project site residents to convenient access to transit.		
W-1 Water Conservation and Efficiency	Reduce per capita water use by 20% by 2020.		**Consistent.** The proposed Project would be required to be consistent with applicable water efficiency requirements of the Green Building Standards Code (Title 24, California Code of Regulations). The Project would be equipped with low-flow plumbing fixtures that reduce water use.		
SW-1 Yard Waste Collection	Provide green waste collection bins community-wide.		**Consistent.** The Project would comply Yard Waste Collection community-wide. with applicable solid waste requirements.		
SW-2 Food Scrap and Paper Diversion	Divert food and paper waste from landfills by implementing commercial and residential collection programs.		**Consistent.** The Project would be required to participate in applicable waste diversion programs. The Project would also be subject to all applicable		

		State and City requirements for solid waste reduction.

CARB Scoping Plan. The California Air Resources Board (CARB) Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 to reduce GHG emissions levels. The CARB Scoping Plan also reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. The proposed Project would be consistent with the applicable measures established in the Scoping Plan, as shown in Table 8-4. Therefore, the proposed Project would not conflict with existing plans, policies, and regulations adopted for the purpose of reducing the emissions of greenhouse gas.

Table 8-4: Project Consistency with CARB Scoping Plan

Action	Responsible Party	Consistency
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	**Consistent.** The Project area uses energy from Riverside Public Utilities who has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. The Project would not interfere with or obstruct energy source diversification efforts.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		**Consistent.** The new development implemented by the Project would be designed and constructed to implement the energy efficiency measures. The Project would not interfere with or obstruct policies or strategies to establish annual targets for statewide energy efficiency savings and demand reduction.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly-owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		**Consistent.** The new development would be designed and constructed to implement the Title 24 (CalGreen) Standards.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug- in hybrid light-duty EV by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	**Consistent.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2025 targets.
At least 4.2 million zero emission and plug-in hybrid light-duty EV by 2030.		**Consistent.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero

ISSUES (AND SUPPORTING INFORMATION SOURCES):		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
			emission and plug-in hybrid light-duty EV 2030 targets.		
Further increase GHG stringency on all light- duty vehicles beyond existing Advanced Clean cars regulations.			**Consistent.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		
Medium- and Heavy-Duty GHG Phase 2.			**Consistent.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to implement Medium- and Heavy-Duty GHG Phase 2.		
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero- emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.			**Consistent.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts improve transit- source emissions.		
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero- emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.			**Consistent.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to improve last mile delivery emissions.		
Further reduce vehicle miles traveled (VMT) through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."			**Consistent.** The Project would not obstruct or interfere with implementation of SB 375 and would therefore, not conflict with this measure.		
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB		**Consistent.** This is a CARB Mobile Source Strategy. The project would not obstruct or interfere with CARB efforts to Increase stringency of SB 375		

ISSUES (AND SUPPORTING INFORMATION SOURCES):		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
			Sustainable Communities Strategy (2035 targets).		
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g. via guideline documents, funding programs, project selection, etc.).	CalSTA,SGC, OPR, CARB, Governor's Office of Business and Economic Development (GO- Biz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans		**Consistent.** The Project would not obstruct or interfere with agency efforts to harmonize transportation facility project performance with emissions reductions and increase competitiveness of transit and active transportation modes.		
By 2019, develop pricing policies to support low-GHG transportation (e.g. low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB		**Consistent.** The Project would not obstruct or interfere with agency efforts to develop pricing policies to support low-GHG transportation.		
Implement California Sustainable Freight Action Plan					
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz		**Consistent.** This measure would apply to all trucks accessing the project area, this may include existing trucks or new trucks that are part of the statewide goods movement sector. The project would not obstruct or interfere with agency efforts to Improve freight system efficiency.		
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.			**Consistent.** The Project would not obstruct or interfere with agency efforts to deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.	CARB		**Consistent.** The Project would not obstruct or interfere with agency efforts to adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.		
Implement the Short-Lived Climate Pollutant Strategy (SLPS) by 2030					
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts		**Consistent.** These are not emission related to the proposed Project. Hence, the proposed Project would not obstruct or interfere agency efforts to reduce SLPS emissions.		
50% reduction in black carbon emissions below 2013 levels.					
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA SWRCB, Local Air Districts		**Consistent.** The new development would be required through City permitting to implement waste reduction and recycling measures consistent with state and City		

		requirements. The Project would not obstruct or interfere agency efforts to support organic waste landfill reduction goals in the SLCP and SB 1383.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	**Consistent.** The Project is not applicable to implementation of Cap-and-Trade Program provisions. Thus, the Project would not obstruct or interfere implementation the post-2020 Cap-and-Trade Program.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	**Consistent.** The Project site is in an urban area and does not include, or adjacent to, conservation easements. Thus, the Project would not obstruct or interfere agency efforts CARB to protect land from conversion through conservation easements and other incentives.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity		**Consistent.** The Project provides for residential development. The Project would not obstruct or interfere agency efforts to increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments		**Consistent.** Where appropriate, the new development would incorporate wood or wood products. The Project would not obstruct or interfere agency efforts to encourage use of wood and agricultural products to increase the amount of carbon stored in the natural and built environments.
Establish scenario projections to serve as the foundation for the Implementation Plan		**Consistent.** The Project would not obstruct or interfere agency efforts to establish scenario projections to serve as the foundation for the Implementation Plan.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	**Consistent.** The Project would not obstruct or interfere agency efforts to establish a carbon accounting framework for natural and working lands as described in SB 859.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	**Consistent.** The Project would not obstruct or interfere agency efforts to identify and expand funding and financing mechanisms to support GHG reductions across all sectors.

Overall, the proposed single-family residential units do not include any feature that would require significant energy or water use, or otherwise interfere with implementation of these requirements. In addition, as described above, the proposed Project

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
would not exceed the regional GHG thresholds. Therefore, impacts related to an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases would be **less than significant**.				
9. HAZARDS & HAZARDOUS MATERIALS. Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
9a. Response: ***(Source: General Plan 2025 Public Safety Element, GP 2025 FPEIR, California Health and Safety Code, Title 49 of the Code of Federal Regulations, California Building Code, Riverside Fire Department EOP, 2002 and Riverside Operational Area – Multi-Jurisdictional LHMP, 2004 Part 1, OEM's Strategic Plan)***				
Less Than Significant Impact. The Project includes infrastructure improvements such as roads and utility connections to serve the project site. The residential development in and of itself will not pose a significant hazard to the public or environment through the routine transport, use or disposal of hazardous materials. However, the construction facilitated by this Project has the potential to create a hazard to the public or environment through the routine transportation, use and disposal of construction related hazardous materials as the project would include the delivery and disposal of hazardous materials such as fuels, oils, solvents, and other materials. These materials are typical of materials delivered to construction sites. Once operational, the residential units on the Project site may store small quantities of hazards materials on their private properties. However, due to the limited quantities of these materials to be used once the Project is operational, they are not considered hazardous to the public at large. Compliance with all applicable local, State, and federal laws, including but not limited to Title 49 of the CFR implemented by Title 13 of the CCR, would ensure a less than significant impact directly, indirectly, and cumulatively from the routine transport, use, or disposal of hazardous materials. Direct, indirect, and cumulative project impacts would be **less than significant**.				
9b. 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?	☐	☐	☒	☐
9b. Response: ***(Source: General Plan 2025 Public Safety Element, GP 2025 FPEIR Tables 5.7 A – D, California Health and Safety Code, Title 49 of the Code of Federal Regulations, California Building Code, City of Riverside's EOP, 2002 and Riverside Operational Area – Multi-Jurisdictional LHMP, 2004 Part 1, OEM's Strategic Plan)***				
Less Than Significant. The Project Site is mostly vacant, with the exception of an existing residence on Lot 53. Review of historic aerials do not indicate the Project Site was ever used as farmland, orchard, groves, or other uses typically associated with the use of pesticides and heavy metals. The existing residence on Lot 53 is proposed to be demolished and removed during Project construction activities. Structures constructed prior to 1978 may contain lead-based materials (LBMs) as well as Asbestos-Containing Materials (ACMs) incorporated into various construction components including paint, roof tiles, and thermal insulation. Records indicate the existing residence was constructed in 2001 and is therefore not at risk of containing LBMs or ACM. Compliance with existing regulations would ensure that the public would not be exposed to any unusual or excessive risks related to hazardous materials as a result of this project. As such, impacts associated with the upset and accident conditions involving the release of hazardous materials into the environment would be a **less than significant impact** directly, indirectly and cumulatively.				
9c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
9c. Response: ***(Source: General Plan 2025 Public Safety and Education Elements, GP 2025 FPEIR Table 5.7-D - CalARP RMP Facilities in the Project Area, Figure 5.13-2 – RUSD Boundaries, Table 5.13-D RUSD Schools,***				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Figure 5.13-3 AUSD Boundaries, Table 5.13-E AUSD Schools, Figure 5.13-4 – Other School District Boundaries, California Health and Safety Code, Title 49 of the Code of Federal Regulations, California Building Code) **Less Than Significant Impact.** John F. Kennedy Elementary School, the nearest public school to the Project site, is approximately 0.75 miles to the southeast of the Project. Although hazardous materials and/or waste generated from construction of the proposed Project may pose a health risk to nearby existing or proposed schools, the construction contractor and any other construction companies retained for the Project that handle hazardous materials are required to comply with the provisions of the City's Fire Code and any additional regulations as required in the California Health and Safety Code Article 1 Chapter 6.95 for the Business Emergency Plan. Once operational, the residential units within the Project site would more than likely store minimal amounts of hazardous materials (e.g., bleaches, oil, and fuel). Residents would be required to comply with the City's Fire Code and, if a hazardous waste release occurs, would contact the fire department to secure such releases. If a hazardous release occurs, the amount of release is expected to be nominal, and would not affect John F. Kennedy Elementary School. Compliance with existing federal and State regulations impacts associated with the exposure of schools to hazardous materials caused by this project will result in a **less than significant** impact directly, indirectly, and cumulatively.				
9d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
9d. Response: *(Source: General Plan 2025 Figure PS-5 – Hazardous Waste Sites, GP 2025 FPEIR Tables 5.7-A – CERCLIS Facility Information, Figure 5.7-B – Regulated Facilities in TRI Information and 5.7-C – DTSC EnviroStor Database Listed Sites)* **No Impact.** A review of hazardous materials site lists compiled pursuant to Government Code Section 65962.5 found that the project site is not included on any such lists. Therefore, the project would have **no impact** to creating any significant hazard to the public or environment directly, indirectly or cumulatively.				
9e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
9e. Response: *(Source: General Plan 2025 Figure PS-6 – Airport Safety Zones and Influence Areas, RCALUCP and March Air Reserve Base/March Inland Port Comprehensive Land Use Plan (2014), Air Installation Compatible Use Zone Study for March Air Reserve Base (August 2005)* **Less Than Significant Impact.** The project lies within Compatibility Zone D of the March Air Reserve Base (MARB) Airport Land Use Compatibility Plan (ALUC). The MARC-ALUC Plan does not include density limit on residential developments within Compatibility Zone D. The proposed Project is also located outside of the noise contours as described in the MARB ALUC Plan. The Project has been reviewed for consistency with the MARB ALUC Plan and has been deemed consistent. As such, implementation of the proposed Project would not result in on-site residents or employees on site being affected by a safety hazard or excessive noise from an airport; therefore a **less than significant impact** would occur directly, indirectly, or cumulatively.				
9f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
9f. Response: *(Source: GP 2025 FPEIR Chapter 7.5.7 – Hazards and Hazardous Materials, City of Riverside's EOP, 2002 and Riverside Operational Area – Multi-Jurisdictional LHMP, 2004 Part 1, and OEM's Strategic Plan)* **Less Than Significant Impact.** The project will be served by Ferrari Drive and Dauchy Avenue, as well as a network of on-site private streets to be constructed along with the residential homes. All streets have been designed to meet the Public Works				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
and Fire Departments' specifications. As part of the project's construction, temporary street closings on Ferrari Avenue may be necessary. Any street closing will be of short duration so as not to interfere or impede with any emergency response or evacuation plan. The proposed Project would be constructed and operated in accordance with the City's Emergency Operations Plan to ensure a coordinated and effective planned response by the City Police and Fire Departments to extraordinary emergency situations and disasters. The proposed Project will comply with the 2019 California Fire Code Section 503-Fire Apparatus Access Roads. Sections 503.1.1 Buildings and Facilities; 503.2.1 Dimensions of the 2019 California Fire Code Section will all be followed in development of the proposed Project. Therefore, the project will have a **less than significant impact** directly, indirectly and cumulatively to an emergency response or evacuation plan.				
9g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

9g. Response: ***(Source: General Plan 2025 Figure PS-7 – Fire Hazard Areas, GIS Map Layer VHFSZ 2010, City of Riverside's EOP, 2002*** http://intranet/Portal/uploads/Riv_City_EOP_complete.pdf***, Riverside Operational Area – Multi-Jurisdictional LHMP, 2004 Part 1/Part 2 and OEM's Strategic Plan)***

Less Than Significant Impact. The proposed Project is located in a semi-urbanized portion of Riverside within a Local Responsibility Area (LRA) and is categorized as LRA Non-Wildland/Non-Urban and outside of any High Fire Hazard Severity Zone, as defined by the California Department of Forestry and Fire Protection (CAL FIRE) and the Fire Hazard Severity Zone Map program. However, current roadway dedication within Ferrari Drive along the project frontage - as well as a portion of Dauchy Avenue along the northern portion of the Project does lie within the Very High Fire Hazard Severity Zone. No proposed development within the Project lies within the Very High Fire Hazard Severity Zone. The proposed amount of construction is not expected to pose a significant risk to future homeowners within the Project since the future homes will be outside of the Very High Fire Hazard Severity Zone. The proposed Project would be developed with an internal circulation system consisting of neighborhood streets that would connect to Ferrari Drive and Victor Hugo Drive. The internal neighborhood streets and access points to the Project site would be developed to meet the minimum roadway widths of Title 18 (Subdivision Code) and the City's Fire Code Section 503 (California Fire Code 2007). The Fire Code and City of Riverside would also confirm locations of fire hydrants within the Project site to serve the 53 single family residential units adequately. With implementation of General Plan 2025 policies, compliance with existing codes and standards, and through Fire Department review and approval, impacts from wildland fires due to Project implementation are **less than significant** directly, indirectly, and cumulatively.

10. HYDROLOGY AND WATER QUALITY. Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

10a.Response: ***(Source: GP 2025 FPEIR Table 5.8-A – Beneficial Uses Receiving Water and Project Specific Hydrology Study and Water Quality Management Plan prepared by Woodard Group on September 2021)***

Less than Significant Impact. The Project is located within the San Ana River Watershed. The Project site is vacant (except for an unoccupied residential building and associated structures on the northwest portion of the site) and is completely pervious under existing conditions.

Once developed, the proposed Project would increase the impervious surface of the site by 350,043 square feet. The site clearing and grading phases would disturb vegetation and surface soils, potentially resulting in erosion and sedimentation. If left exposed and with no vegetative cover, the site's bare soil would be subject to wind and water erosion. Since the Project involves more than one acre of ground disturbance, it is subject to NPDES requirements and must implement an SWPPP. Implementation of site-specific BMPs as established by the SWPPP would ensure all impacts related to erosion and sedimentation from ground disturbance are less than significant. No mitigation is required.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
There are no known existing water quality problems associated with the Project site. There are no major drainage improvements on the Project site and storm water runoff currently discharges into two locations, situated at the west and southwest of the Project site. A preliminary project-specific Water Quality Management Plan (WQMP) has been prepared for the project pursuant to City of Riverside Water Quality Ordinance (Municipal Code Section 14.12.315) requirements. To address potential water contaminants, the Project is required to comply with applicable federal, State, and local water quality regulations, including the design and maintenance of the DMAs detailed in the Project-specific WQMP. The WQMP has been reviewed and approved as a routine action during the processing of the Project by the City; therefore, it is reasonable that the required measures and features detailed in the WQMP to safeguard water quality would be incorporated into the proposed Project. Given compliance with all applicable federal, State, and local laws regulating surface water quality, the proposed Project as designed is anticipated to result in a **less than significant impact** directly, indirectly, and cumulatively to any water quality standards or waste discharge.				
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
10b. Response: ***(Source: Western Municipal Water District, 2015 Urban Water Management Plan Update, Table 7-3: Retail Supply and Demand Comparison for a Normal Year; Table 7-4: Wholesale Supply and Demand Comparison for a Normal Year; Table 7-5: Retail Supply and Demand in a Single-Dry Year; Table 7-6: Wholesale Supply and Demand in a Single-Dry Year; Table 7-7 Retail Supply and Demand Comparison in Multiple-Dry Years; Table 7-8: Wholesale Supply and Demand Comparison in Multiple-Dry Years, pgs. 7-5 through 7-7; 2020 Western Municipal Water District Urban Water Management Plan)*** **Less Than Significant Impact.** According to the 2020 Western Municipal Water District (WMWD) Urban Water Management Plan (UWMP), WMWD provides water to the Project site. Groundwater is a major source of water supply for WMWD and its retail agencies, comprising 13 percent of purchased water and 85 percent of locally produced water, representing 21 percent of WMWD's total supply in 2015. Most groundwater sources available to WMWD are adjudicated or subject to groundwater management plans. There are four primary groundwater basins that supply WMWD, including: Riverside-Arlington Basin (and Arlington subbasin), the Temecula-Murrieta Basin, the San Bernardino Basin Area, and the Chino Basin. A full discussion on water supplies is included in Section 19b of this Initial Study. Sufficient water supplies are available to serve existing and projected future water demand under normal, dry and multiple-dry conditions. Therefore, the proposed Project was found to have a **less than significant** impact directly, indirectly, or cumulatively to groundwater supplies.				
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on-or-off-site?	☐	☐	☒	☐
10i Response: ***(Source: Preliminary grading plan, and Project Specific – Hydrology Study, Stormwater Pollution Prevention Plan, and Water Quality Management Plan)*** **Less Than Significant Impact.** The project is subject to NPDES requirements; areas of one acre or more of disturbance are subject to preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) for the prevention of runoff during construction. Erosion, siltation and other possible pollutants associated with long-term implementation of projects are addressed as part of the Water Quality Management Plan (WQMP) and grading permit process. The WQMP for this Project has indicated that, with implementation of the water quality basins, there will be a **less than significant impact** directly, indirectly or cumulatively to existing drainage patterns.				
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or-off-site?	☐	☐	☒	☐

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
10ii Response: ***(Source: Preliminary grading plan, and Project Specific – Hydrology Study, Stormwater Pollution Prevention Plan, and Water Quality Management Plan)***				
Less Than Significant Impact. The project site is not located within a flood plain. Underground storm drains and streets are designed to accommodate the 10-year storm flow from curb to curb, while 100-year storms are accommodated within street rights-of-way. The runoff from the project in a developed condition has been studied and is required to be attenuated on-site, so although the drainage pattern will be altered, the off-site discharge is the same as the undeveloped condition. Therefore, there will be **less than significant impact** directly, indirectly or cumulatively in the rate or amount of surface runoff that it will not result in flooding on- or off-site.				
iii. 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	☐	☐	☒	☐
10iii Response: (Source: ***Preliminary grading plan, and Project Specific – Hydrology Study, Stormwater Pollution Prevention Plan, and Water Quality Management Plan)***				
Less Than Significant Impact. The project is over one acre in size and is required to have coverage under the State's General Permit for Construction Activities (SWPPP). As stated in the Permit, during and after construction, best management practices (BMPs) will be implemented to reduce/eliminate adverse water quality impacts resulting from development. Furthermore, the City has ensured that the proposed development does not cause adverse water quality impacts, pursuant to its Municipal Separate Storm System (MS4) permit through the project's WQMP. The proposed development will increase the amount of impervious surface area in the City. This impervious area includes sidewalks, roadways, and building rooftops; all sources of runoff that may carry pollutants and therefore has the potential to degrade water quality. This development has been required to prepare and implement a WQMP. Preliminary BMP's, in compliance with the WQMP, have been approved by Public Works. The purpose of this requirement is to ensure that additional drainage from impervious surfaces is treated before it enters the storm drain system. The water quality basins in Lots "D", and "J" have been designed to treat the increased polluted flows. The installation of water quality basins are mandatory design features intended to satisfy State water quality regulations, and are not considered unique mitigation. Therefore, impacts are considered **less than significant.**				
iv. Impede or redirect flood flows?	☐	☐	☒	☐
10iv Response: (Source: ***Preliminary grading plan, and Project Specific – Hydrology Study, Stormwater Pollution Prevention Plan, and Water Quality Management Plan)***				
Less Than Significant Impact. This project is not within a flood hazard area. However, the project is over one acre in size and is required to have coverage under the State's General Permit for Construction Activities (SWPPP). As stated in the Permit, during and after construction, best management practices (BMPs) will be implemented to reduce/eliminate adverse water quality impacts resulting from development. Furthermore, the City has ensured that the proposed development does not cause adverse water quality impacts, pursuant to its Municipal Separate Storm System (MS4) permit through the project's WQMP. The proposed development will increase the amount of impervious surface area in the City. This impervious area includes paved parking areas, sidewalks, roadways, and building rooftops; all sources of runoff that may carry pollutants and therefore has the potential to degrade water quality. This development has been required to prepare and implement a WQMP. Preliminary BMP's, in compliance with the WQMP, have been approved by Public Works. With these standard implementation measures, impacts to flood flows are **less than significant.**				
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
10d. Response: ***(Source: GP 2025 FPEIR Chapter 7.5.8 – Hydrology and Water Quality)***				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Less Than Significant Impact. The Project site is located inland and no large bodies of water are located within the site's vicinity; therefore, the potential of tsunamis or seiches affecting the subject site is low. Further, the proposed project site and its surroundings have generally undulating topography with average natural slope of over 15%; the steepest slopes as well as natural drainage areas have been avoided as much as possible. Additionally, the project is within an urbanized area not within proximity to Lake Mathews, Lake Evans, the Santa Ana River, Lake Hills, Norco Hills, Box Springs Mountain Area, or any of the nine arroyos that traverse the City and its sphere of influence. The Project site is located outside the FIRM detailed study limits and is currently within a Zone D area. Given the existing topography of the Project site, the potential for flooding within the Project site is not likely to occur. Given the proposed Project's location and since there are no features nearby that would pose a threat from seiche, tsunami, or flooding, impacts are considered **less than significant** directly, indirectly, and cumulatively.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

10e. Response ***(Source: GP 2025 FPEIR Chapter 7.5.8 – Hydrology and Water Quality, and Project Specific WQMP prepared by Andrew Woodard and Associates dated April 21, 2023)*****:**

Less Than Significant Impact. Since the proposed Project involves more than one acre of ground disturbance, it is subject to NPDES requirements and must implement an SWPPP. Compliance with NPDES and implementation of an SWPPP would ensure the proposed Project does not conflict or obstruct applicable City water quality control plans. The WQMP would be reviewed and approved as a routine action during the processing of the Project by the City; therefore, it is reasonable that the required measures and features detailed in the WQMP to safeguard the existing drainage pattern of the site and area would be incorporated into the proposed Project. Sufficient water supplies are available to serve existing and projected future water demand under normal, dry and multiple-dry conditions. As the Project site would not require a zoning designation or land use designation amendment, it can be assumed that the existing land use and zoning designations of the site (buildout density of the site) have been considered in the WMWD 2015 Urban Water Management Plan. Therefore, implementation of the proposed Project would not conflict with or obstruct implementation of the current groundwater management plan for the City of Riverside. Impacts would be **less than significant** directly, indirectly, and cumulatively.

11. LAND USE AND PLANNING: Would the project:				
a. Physically divide an established community?	☐	☐	☒	☐

11a. Response: ***(Source: General Plan 2025 Land Use and Urban Design Element, Project site plan, City of Riverside GIS/CADME map layers)***

Less Than Significant Impact. The proposed project has been designed to be consistent with the pattern of development of the surrounding area providing adequate access, circulation and connectivity consistent with the General Plan 2025, and in compliance with the requirements of the Zoning and Subdivision Codes. There is no existing established community on the Project site. The proposed Project would develop a currently mostly vacant (underutilized) site with a new residential neighborhood which would allow for the continuation of the established community to the north, west, and south of the site. The Project would not include features such as roads (except for internal roads connecting to existing Ferrari Drive and Victor Hugo Drive), highways, a transit system, or a non-consistent use that would constitute a physical divide in the established community. Therefore, the project impacts related to the community are **less than significant**.

b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

11b. Response: ***(Source: General Plan 2025, General Plan 2025 Figure LU-10 – Land Use Policy Map, Table LU-5 – Zoning/General Plan Consistency Matrix, Figure LU-7 – Redevelopment Areas, Title 19 – Zoning Code, Title 18 – Subdivision Code, Title 7 – Noise Code, Title 17 – Grading Code, Title 20 – Cultural Resources Code, Title 16 – Buildings and Construction and Citywide Design and Sign Guidelines, Western Riverside County Multiple Species Habitat Conservation Plan Compliance Analysis for the 24.43-Acre Dauchy Avenue Project Site, City of Riverside, Western Riverside County, California conducted by Cadre Environmental on September 15, 2021)***

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Less Than Significant Impact. The proposed Project would develop 53 single-family residential units on lots spanning in size from 5,175 square feet to 30,979 square feet.

The proposed project density would be 2.14 dwelling units/net acre, which is consistent with the General Plan Very Low Density Residential Land Use Designation of 3.2 dwelling units/acre. Pursuant to Section 19.780.060 of the Municipal Code, the benchmark density for the R-1-½ Acre Zone with a Planned Residential Development Permit is 3.0 dwelling units/acre and 0.5 dwelling units/acre for the RC Zone. Based on the overall density of the site pursuant to the site plans, the proposed Project is consistent with the density requirements and development standards under Section 19.780.060 of the City of Riverside Municipal Code.

As shown in City of Riverside 2025 General Plan *Land Use and Urban Design Element*, the Project site is located within the Alessandro Heights neighborhood of the City. As such, these relevant objectives and policies apply:

- *Objective LU-33: Protect and preserve the natural features of Alessandro Heights while continuing to provide opportunities for residential development compatible with the natural environmental features of the area.*
    - This objective is met by the Project design. Natural features are avoided to the greatest extent possible, and the entrance and exit to the subdivision will not interfere with existing residential developments.

- *Policy LU-33.1: Ensure that circulation improvements in and through the neighborhood are designed so as to minimally impact the natural qualities and features.*
    - This policy is met by the Project design. Natural features are avoided to the greatest extent possible, and the entrance and exit to the subdivision will not interfere with existing residential developments.

- *Policy LU-33.2: Maintain the low-density, large-lot character of the neighborhood through appropriate zoning.*
    - No zone changes are proposed as part of this Project. The project is consistent with all development standards of the R-1-1/2 Acre and RC Zones. Therefore, the Project complies with this policy.

The project is consistent with the City's General Plan 2025, the MSHCP, and the MARB-ALUCP, and is not a project of Statewide, Regional or Areawide Significance. As such, this project will have a **less than significant impact** on any land use plan, policy, or regulation directly, indirectly or cumulatively.

12. 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?	☐	☐	☐	☒

12a. Response: ***(Source: General Plan 2025 Figure – OS-1 – Mineral Resources)***

No Impact. State-classified MRZ-2 and MRZ-4 Mineral Resource Zones are shown in Figure 5.10-1, Mineral Resources of the GP 2025 FPEIR. The proposed project is located in MRZ-4. The MRZ-4 designation indicates there is insufficient data to assign any other MRZ designation. The majority of the Project site is undeveloped; however, there is one residence located on the Project site. Due to the location of the Project site (in a semi-urban area of Riverside and in an MRZ-4), unknown mineral deposits would more than likely not be discovered or disturbed during proposed Project construction activities.

There is no active mining under a valid permit occurring on site, the project is not adjacent to areas supporting feldspar, silica, limestone and/or other rock products and that the project does not meet necessary criteria for marketability and threshold values to support mineral resources as specified by the Department of Conservation, implementation of the proposed Project would have a **no impact** on statewide and regional mineral deposits directly, indirectly, or cumulatively.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

12b. Response: ***(Source: General Plan 2025 Figure – OS-1 – Mineral Resources)***

No Impact. The GP 2025 FPEIR determined that there are no specific areas with the City of Sphere Area which have locally-important mineral resource recovery sites and that the implementation of the General Plan 2025 would not significantly preclude the ability to extract state-designated resources. Additionally, as described above in Response 12a, the Project site is not located within MRZ-2 or MRZ-3 areas and implementation of the proposed Project would not result in mineral resource losses. The proposed project is consistent with the General Plan 2025. Therefore, there is **no impact**.

13. NOISE. Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

13a. Response: ***(Source: General Plan Figure N-9 – March ARB Noise Contours, Figure N-10 – Noise/Land Use Noise Compatibility Criteria, FPEIR Table 5.11-I – Existing and Future Noise Contour Comparison, Table 5.11-E – Interior and Exterior Noise Standards, Appendix G – Noise Existing Conditions Report, Title 7 – Noise Code, and Project Specific Noise Impact Analysis prepared by Urban Crossroads on July 9, 2021 and updated on August 3, 2022)***

Less Than Significant Impact.

Construction

Construction noise sources are regulated within the City of Riverside under Section 7.35.020(G) of the City's Municipal Code which prohibits construction activities between the hours of 7:00 PM and 7:00 AM on weekdays, between the hours of 5:00 PM and 8:00 AM on Saturdays, or at any time on Sunday or a federal holiday.

Although construction activity may be exempt from the noise standards in the City's Municipal Code, CEQA requires that potential noise impacts still be evaluated for significance.

The City of Riverside has not adopted a numerical threshold that identifies what a substantial increase would be. For purposes of this analysis, the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment (2018) criteria will be used to establish significance thresholds. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction. For residential uses, the daytime noise threshold is 80 dBA L_{eq} averaged over an 8- hour period ($L_{eq\ (8\text{-}hr)}$; and the nighttime noise threshold is 70 dBA $L_{eq\ (8\text{-}hr)}$. In compliance with the City's Code, it is assumed that construction would not occur during the nighttime hours.

The proposed Project would develop and operate 53 single-family residences on the Project site. Construction noise levels will vary significantly based upon the size and topographical features of the active construction zone, duration of the workday, and types of equipment employed. A Noise Analysis was prepared for the Project to analyze potential construction and operational noise impacts. As shown on Table 13-1, construction equipment used for the Project generates noise up to 75.3 dBA at a distance of 50 feet from the noise source. However, typical operating cycles for construction equipment involves one or two minutes of full power operation followed by three to four minutes at lower power settings. Thus, construction equipment noise is not continuous. A summary of noise level data for a variety of construction equipment is listed in Table 13-1.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Table 13-1. Construction Equipment Noise Emissions and Acoustical Usage Factor

Construction Stage	Reference Construction Activity[1]	Reference Noise Level @ 50 Feet (dBA L_{eq})	Highest Reference Noise Level (dBA L_{eq})
Site Preparation	Scraper, Water Truck, & Dozer Activity	75.3	75.3
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Grading	Rough Grading Activities	73.5	73.5
	Water Truck Pass-By & Backup Alarm	71.9	
	Construction Vehicle Maintenance Activities	67.5	
Building Construction	Foundation Trenching	68.2	71.6
	Framing	62.3	
	Concrete Mixer Backup Alarms & Air Brakes	71.6	
Paving	Concrete Mixer Truck Movements	71.2	71.2
	Concrete Paver Activities	65.6	
	Concrete Mixer Pour & Paving Activities	65.9	
Architectural Coating	Air Compressors	65.2	65.2
	Generator	64.9	
	Crane	62.3	

[1] Reference construction noise level measurements taken by Urban Crossroads, Inc.

Construction noise associated with the project was calculated utilizing methodology from FTA Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. The equipment used to calculate the construction noise levels for each phase were based on the assumptions provided in the CalEEMod Emission Summary prepared for the proposed project (April 2021). Distances to receptors were based on the acoustical center of the proposed construction activity. Therefore, the distance to each receptor used in the modeling was the estimated distance from the acoustical center of the project site to the receptor. Construction noise levels were calculated for each phase. To be conservative, the noise generated by each piece of equipment was added together for each phase of construction; however, it is unlikely (and unrealistic) that every piece of equipment will be used at the same time, at the same distance from the receptor, for each phase of construction.

Furthermore, per FTA, daytime construction noise levels would not be anticipated to exceed 80 dBA L_{eq} for an 8-hour period at residential uses. Therefore, as the highest construction noise levels are less than 80 dBA, project construction would not be anticipated to exceed FTA thresholds. In addition to adherence to the City of Riverside Municipal Code which limits the construction hours, the following best management practices (BMPs) are recommended that would further reduce noise levels associated with the construction of the proposed project:

1. During all project site excavation and grading on-site, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturer standards.
2. The contractor shall place all stationary construction equipment so that emitted noise is directed away from noise sensitive receptors nearest the project site.
3. As applicable, all equipment shall be shut off and not left to idle when not in use.

4. The contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.
5. Jackhammers, pneumatic equipment and all other portable stationary noise sources shall be shielded and noise shall be directed away from sensitive receptors.
6. The project proponent shall mandate that the construction contractor prohibit the use of music or sound amplification on the project site during construction.
7. The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment.

Therefore, the Project would result in a **less than significant impact** on temporary noise.

Operation

Potential noise impacts associated with increases in ambient noise from operation of stationary noise sources are based on the following criteria. Noise level increases below 3 dBA would not be perceptible to the human ear in an outdoor environment, and an increase or decrease in noise level of at least 5 dBA is required before any noticeable change in community response would be expected.[1] Therefore, the City's ambient noise threshold for stationary sources is a clearly perceptible increase of 5 dBA in for ambient noise increases to be considered significant.[2]

The following section provides an analysis of potential long-term offsite and onsite noise impacts associated with the ongoing operations of the proposed project.

Potential On-Site Noise Impacts

Parking Noise

Noise would be generated by parking activities along the street, in drive-ways, and in private garages. Sources of noise associated with parking would include engines accelerating, doors slamming, car alarms, and people talking. Noise levels associated with parking would fluctuate with the amount of automobile and human activity. It is anticipated that the types of parking related noise would be substantially similar to the noise generated by the existing street parking and roadway activity in the vicinity of the project site. Therefore, noise impacts associated with parking would be less than significant and no mitigation measures are required.

Stationary Noise Sources

The proposed Project includes on-site ground-floor HVAC units for each residential unit that could potentially operate 24 hours per day and would generate noise levels of 66.5 dBA Leq at 5 feet. At a distance of 20 feet, the noise levels from the HVAC units would be reduced to 54.5 dBA, and further reduced by 5 dBA by shielding from the proposed 6-foot-high perimeter wall, which would reduce noise volumes at 20 feet to approximately 4.9.5 dBA. Although the operation of this equipment would generate noise, the location of all mechanical equipment would be reviewed during the City's permitting process and would be required to comply with the regulations under Section 7.25.010 of the Municipal Code. Therefore, impacts related to stationary noise sources would be less than significant with compliance to existing regulations. No mitigation measures are required.

Stationary Noise Sources

The proposed Project includes on-site ground-floor HVAC units for each residential unit that could potentially operate 24 hours per day and would generate noise levels of 66.5 dBA Leq at 5 feet. At a distance of 20 feet, the noise levels from the HVAC units would be reduced to 54.5 dBA, and further reduced by 5 dBA by shielding from the proposed 6-foot-high perimeter wall, which would reduce noise volumes at 20 feet to approximately 4.9.5 dBA. Although the operation of this equipment would generate noise, the location of all mechanical equipment would be reviewed during the City's permitting process and would be required to comply with the regulations under Section 7.25.010 of the Municipal Code. Therefore,

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

impacts related to stationary noise sources would be less than significant with compliance to existing regulations. No mitigation measures are required.

The City of Riverside has the following noise standards, as established by the Noise Code (Title 7 – Ord.6723.1):

Table 13-2: Riverside Municipal Code- Title 7 Interior and Exterior Noise Standards for Residential Uses

Land Use	Time Period	Noise Standards (dBA)	
		Exterior	Interior
Residential	7 a.m. – 10 p.m.	55	45
	10 p.m. – 7 a.m.	45	35

It should be noted that the City of Riverside also considers Community Noise Equivalent Level (CNEL) of 65 or less to be "conditionally acceptable". 46 of the proposed lots meet the baseline exterior noise level standards; seven others are considered to have a "conditionally acceptable" ambient exterior noise level.

The City has also established interior noise levels for residential properties in accordance with Table 7.30.015:

Table 13-2: Interior sound level limits

Land Use	Time Period	Interior Noise Level Standards (dBA)[1]		
		L_8 (5 mins)	L_2 (1 min)	L_{max} (0 min)
Residential	Daytime	45	50	55
	Nighttime	35	40	45

[1] The percent noise level is the level exceeded "n" percent of the time during the measurement period. L_{50} is the noise level exceeded 50% of the time.
[2] City of Riverside Municipal Code, Title 7 Noise Control, Section 7.30.015 (A) (Appendix 3.1).
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

The interior noise level analysis shows that the City of Riverside 45 dBA L_{eq} daytime and 35 dBA L_{eq} nighttime interior noise standards can be satisfied using mechanical ventilation and standard windows with a minimum Sound Transmission (STC) rating of 27.

According to City of Riverside General Plan Noise Element *Noise/Land Use Noise Compatibility Criteria* for single-family residential land use, the CITY OF RIVERSIDE Project will experience unmitigated exterior noise levels that are considered *conditionally acceptable* at Lots 1, 2, 11 through 14, and 53, and all other lots would be exposed to less than 60 CNEL, which would be considered *normally acceptable*. For *conditionally acceptable* noise/land use compatibility, new construction or development should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Therefore, no exterior noise mitigation is required to satisfy the City of Riverside General Plan Noise Element *Noise/Land Use Noise Compatibility Criteria*.

Since this Project will meet all City of Riverside standards for interior noise levels and, will generate at worst, a conditionally acceptable" exterior noise level, **impacts are considered less than significant.**

b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
13b. Response: ***(Source: General Plan Figure N-1 –Figure N-9 – March ARB Noise Contours, FPEIR Table 5.11-G – Vibration Source Levels For Construction Equipment, Appendix G – Noise Existing Conditions Report and Noise Impact Analysis prepared by Urban Crossroads on July 9, 2021)*** **Less Than Significant Impact.** Construction related activities although short term, are the most common source of groundborne noise and vibration that could affect occupants of neighboring uses. The acoustical analysis has assessed the potential for noise and ground-borne vibration impacts related to noise land use compatibility, construction-related noise per GP 2025 FPEIR, Table 5.11-G, Vibration Source Levels for Construction Equipment, on-site stationary noise sources, and vehicular-related noise. The acoustical analysis found impacts related to groundborne vibration and groundborne noise levels as a result of the project to be **less than significant** directly, indirectly and cumulatively.				
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
13c. Response: ***(Source: General Plan 2025 Figure N-8 – Riverside and Flabob Airport Noise Contours, Figure N-9 – March ARB Noise Contour, Figure N-10 – Noise/Land Use Noise Compatibility Criteria, RCALUCP, March Air Reserve Base/March inland Port Comprehensive Land Use Plan (2014), Air Installation Compatible Use Zone Study for March Air Reserve Base (November 2014) and Noise Impact Analysis prepared by Urban Crossroads on July 9, 2021)*** **Less Than Significant Impact.** Although the proposed project is located within the MARB ALUC area, the proposed project is not located within any of the airport noise contour areas as depicted on Figures N-8 and N-9 of the Noise Element of the General Plan 2025. For this reason, the project would not expose people residing or working in the project area to excessive noise levels related to airport noise. Therefore, impacts will be **less than significant** directly, indirectly and cumulatively on people residing or working in the project area to excessive noise levels.				
14. POPULATION AND HOUSING. Would the project:				
a. Induce substantial unplanned 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)?	☐	☐	☒	☐
14a. Response: ***(Source: General Plan 2025 Table LU-3 – Land Use Designations, FPEIR Table 5.12-A – SCAG Population and Households Forecast, Table 5.12-B – General Plan Population and Employment Projections– 2025, Table 5.12-C – 2025 General Plan and SCAG Comparisons, Table 5.12-D - General Plan Housing Projections 2025, Capital Improvement Program and SCAG's RCP and RTP)*** **Less Than Significant Impact.** The project involves new homes that may directly induce population growth, and may involve additional infrastructure that could indirectly induce population growth. Using Riverside County's estimated population per dwelling unit formula of 2.98 persons per dwelling unit, a total of 158 occupants of these homes may be expected. However, the project is consistent with the VLDR and HR land use designations established under the General Plan 2025 Program and the additional infrastructure is consistent with the General Plan 2025 Program. The General Plan 2025 Final PEIR determined that Citywide future development anticipated under the General Plan 2025 Typical scenario would not have significant population growth impacts. Because the proposed project is consistent with the General Plan 2025 Typical growth scenario and population growth impacts were previously evaluated in the GP 2025 FPEIR the project does not result in new impacts beyond those previously evaluated in the GP 2025 FPEIR; therefore, the impacts will be **less than significant** both directly and indirectly.				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

14b. Response: ***(Source: CADME Land Use 2003 Layer, pictures from site), FPEIR Table 5.12-A – SCAG Population and Households Forecast, Table 5.12-B – General Plan Population and Employment Projections–2025***

No Impact. The project site is currently vacant except for an existing residence to be demolished. Development of the project will result in the construction of 53 homes, expected to house 158 residents. The project will not displace existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, there will be **no impact** on existing housing either directly, indirectly or cumulatively.

15. PUBLIC SERVICES.				
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 any of the public services:				
a. Fire protection?	☐	☐	☒	☐

15a. Response: ***(Source: FPEIR Table 5.13-B – Fire Station Locations, Table 5.13-C – Riverside Fire Department Statistics and Ordinance 5948 § 1)***

Less Than Significant Impact. The City of Riverside Fire Department provides fire protection services to the subject site. The project consists of the development of 53 residential lots. The nearest fire station is Fire Station 11, located at 19595 Orange Terrace Parkway, which is approximately 1 ¾ miles to the southeast of the project site.

Implementation of the proposed Project would add 158 residents to the City of Riverside; however, this increase in residents is accounted for in the General Plan 2025 Land Use Plan and the development density of the site is consistent with City Zoning Development Standards. The operation of the City's Fire Department would continue to provide adequate service as the City develops to its buildout potential.

Implementation of the proposed Project would generate an incremental increase in the demand for fire protection services; however, the increase in population would be limited by density development standards per the City's Zoning Code and would not demand an increase in fire service such that new or expanded facilities would be needed.

The proposed Project would implement General Plan 2025 policies pertaining to fire protection, comply with existing codes and standards (California Fire Code and Riverside Municipal Code Section 16.32.10) and comply with Chapter 16.52.010 of the City's Municipal Code pertaining to the payment for development fees to be utilized for the purchase of land for and the construction of fire stations and the acquisition of equipment and furnishings to equip fire stations. The site plan has been reviewed by the City Fire Department for compliance with design standards pertaining to fire protection, and conditions of approval have been provided. The project will have a **less than significant impact** on fire protection services either directly, indirectly or cumulatively.

b. Police protection?	☐	☐	☒	☐

15b. Response: ***(Source: General Plan 2025 Figure PS-8 – Neighborhood Policing Centers)***

Less Than Significant Impact. The Riverside Police Department (RPD) provides law enforcement services to the City of Riverside and the Project site. The Neighborhood Policing Center East located at 8181 Lincoln Avenue approximately 4.1 miles northwest of the Project site is the nearest police station to the Project site.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Implementation of the Project would add 158 residents to the existing population of the City. Residential development, such as that proposed by the Project, typically generates calls for law enforcement service due to residential break-ins, vehicle burglaries and break-ins, and general disturbances. The design of the proposed Project will include a 6-foot tall perimeter wall, exterior building lighting, and street lighting, all considered features of Crime Prevention through Environmental Design technique, to reduce on-site crime and thus reduce law enforcement calls of service to the Project site.

An incremental increase in law enforcement calls to the Project site could occur; however, such calls would be consistent to the types of calls RPD responds to at similar residential developments within the City. Additionally, the proposed Project's anticipated population contribution to the City of Riverside is consistent with what was analyzed in the 2025 General Plan; as such, potential impacts of the population growth from the proposed Project has already been considered in potential impacts to the RPD. Implementation of the Project would not degrade the RPD's performance to the point that a new facility or expansion of an existing facility would be needed. With implementation of General Plan 2025 policies, compliance with existing codes and standards, and through Police Department practices, there would be a **less than significant impact** on the demand for additional law enforcement facilities of services either directly, indirectly, or cumulatively.

c. Schools?	☐	☐	☒	☐

15c. Response: ***(Source: California Department of Education, https://www.cde.ca.gov/ds/sd/cb/dataquest.asp; FPEIR Figure 5.13-2 – RUSD Boundaries, Table 5.13-D – RUSD, Figure 5.13-3 – AUSD Boundaries, , Table 5.13-G – Student Generation for RUSD By Education Level)***

Less Than Significant Impact. The proposed Project is located within the Riverside Unified School District (RUSD), which had a 2019–2020 total enrollment of 41,617 students. The following schools within the RUSD would provide education services to students of the proposed project:

- John F. Kennedy Elementary School is located at 19125 Schoolhouse Lane, approximately 0.8 mile southeast of the project site. This school had a 2020–2021 enrollment of 1,018 students.
- Amelia Earhart Middle School is located at 20202 Aptos Street, approximately 1.9 miles east of the project site. This school had a 2020–2021 enrollment of 926 students.
- Martin Luther King High School is located at 9301 Wood Road, approximately 1.3 miles southeast of the project site. This school had a 2020–2021 enrollment of 3,071 students.

According to the Final EIR of the General Plan 2025, RUSD contains many schools that are near or over capacity and are located in areas where vacant land to accommodate future growth is not available. The school district is in need of new elementary and high school sites to meet the needs of the projected student population within its district as the City of Riverside reaches full buildout.

Table 5.13-G in the Final EIR of the General Plan 2025, indicates that the maximum with PRD development buildout of land within the RUSD boundary would generate 136,716 students. Based on the student generation factor of RUSD, the proposed Project is estimated to generate 37 students (0.70 X 53 residential units) who would attend schools within RUSD. The total students generated includes 20 elementary school students (0.38 X 53 residential units), 6 middle school students (0.11 X 53 residential units), and 11 high school students (0.21 X 53 residential units). It should be noted that the generation of students for the Project site has been anticipated in the Riverside General Plan 2025 based on the site's existing land use and zoning designations.

The Project Applicant would be required to pay RUSD impact fees for new residential construction and, pursuant to Government Code Section 65995, such impact fee payment would offset potentially significant impacts to school facilities due to Project implementation. Direct, indirect, or cumulative impacts on schools would be **less than significant**.

d. Parks?	☐	☐	☒	☐

15d. Response: ***(Source: General Plan 2025 Figure PR-1 – Parks, Open Spaces and Trails, Table PR-4 – Park and Recreation Facilities, Parks Master Plan 2003, GP 2025 FPEIR Table 5.14-A – Park and Recreation Facility Types, and Table 5.14-C – Park and Recreation Facilities Funded in the Riverside Renaissance Initiative)***

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Less Than Significant Impact. Taft Park, located at 6826 New Ridge Drive (Basilone Drive), is the closest public park to the Project site (approximately 1.3 miles). This park is approximately 7.2 acres and contains two basketball half courts, two tennis courts, two playgrounds, and picnic tables. The project consists of the development of 53 residential lots. Additionally, the Project includes a 10,807 square foot lot for private active recreational facilities to service the future residents (Lot "G"), along with a 83,019 square foot lot for private passive recreational facilities (Lot "B").

The General Plan EIR indicates that the City currently has a parkland to population ratio standard of 3 acres per 1,000 population. The proposed project will develop 53 residential units and, if fully occupied, would house 158 residents. Based on the parkland to population ratio, the proposed Project would generate a demand of 0.47 acre of parkland.

The proposed Project would include the development of common open space recreation areas space with a variety of amenities in two locations within the site. The two recreation lots would equate to approximately 2.1 acres of land and would include picnic tables, grassy areas, walkways, and a children's playground.

The population generated by the proposed Project has the potential to incrementally increase the use of off-site nearby parks; however, such use would be nominal due to the fact that the project would provide common open space recreation areas to be used by the residents as part of its design. Furthermore, the Project Applicant would be required to pay parkland development impact fees for regional parks, local parks, and aquatics facilities to ensure that enough parkland is provided to residents in the City of Riverside. The proposed Project would not generate the need to develop new parks or expand existing parks within the City. Project impacts would be **less than significant**.

e. Other public facilities?	☐	☐	☒	☐

15e. Response: ***(Source: General Plan 2025 Figure LU-8 – Community Facilities, FPEIR Figure 5.13-5 - Library Facilities, Figure 5.13-6 - Community Centers, Table 5.3-F – Riverside Community Centers, Table 5.13-H – Riverside Public Library Service Standards)***

Less Than Significant Impact. The City of Riverside provides library services to its residents through a Main Library located at 3581 Mission Inn Avenue and six branch libraries (Arlington Neighborhood Library, Casa Blanca Family Learning Center, Marcy Branch, La Sierra Neighborhood Library, Orange Terrace Library, and Eastside Library and Cybrary) located throughout the City. The City of Riverside Public Library System provides over 600,000 books and other library materials to residents in the City. The Orange Terrace Library, located at 20010-B Orange Terrace Pkwy (approximately 1.5 miles southeast of the Project site), is the closest library that would serve residents occupying the Project site. Additionally, community centers, senior centers, and service centers are other public facilities provided by the City to provide various services to residents. The centers offer a wide range of services that include senior-related activities, computer training, English as a second language classes, fitness and wellness programs, early childhood programs, aquatics, social recreation programs, specialty classes, sports programs, field trips, and a variety of cultural and holiday activities. Ysmael Villegas Center, located at 7260 Marguerita Avenue, is the closest community center that would serve Project residents; the Cesar Chavez Center, located at 2060 University Avenue, is the closest service center that would serve Project residents; and Janet Goeske Senior Center, located at5257 Sierra Avenue, is the closest senior center that would serve Project residents.

The population increase generated by the proposed Project would result in an incremental increase in the use of public libraries and other public facilities. However, the proposed Project's anticipated population contribution to the City of Riverside is consistent with what was analyzed in the 2025 General Plan; as such, potential impacts of the population growth from the proposed Project has already been considered in potential impacts to the other public facilities within the City. Implementation of the proposed Project would not require the construction of new, or expansion of existing public facilities. Project impacts would be **less than significant**.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
16. RECREATION.				
a. 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?	☐	☐	☒	☐

16a. Response: ***(Source: General Plan 2025 Figure PR-1 – Parks, Open Spaces and Trails, Table PR-4 – Park and Recreation Facilities, Figure CCM-6 – Master plan of Trails and Bikeways, Parks Master Plan 2003, FPEIR Table 5.14-A – Park and Recreation Facility Types, and Table 5.14-C – Park and Recreation Facilities Funded in the Riverside Renaissance Initiative, Table 5.14-D – Inventory of Existing Community Centers, Riverside Municipal Code Chapter 16.60 - Local Park Development Fees, Bicycle Master Plan May 2007)***

Less Than Significant Impact. Taft Park, located at 6826 New Ridge Drive (Basilone Drive), is the closest public park to the Project site (approximately 1.3 miles). This park is approximately 7.2 acres and contains two basketball half courts, two tennis courts, two playgrounds, and picnic tables. The project consists of the development of 53 residential lots. Additionally, the Project includes a 10,807 square foot lot for private active recreational facilities to serve the future residents (Lot "G"), along with a 83,019 square foot lot for private passive recreational facilities (Lot "B").

The General Plan EIR indicates that the City currently has a parkland to population ratio standard of 3 acres per 1,000 population. The proposed project will develop 53 residential units and, if fully occupied, would house 158 residents. Based on the parkland to population ratio, the proposed Project would generate a demand of 0.47 acre of parkland.

The proposed Project is consistent with Zoning development standards and would include the development of common open space recreation areas with a variety of amenities in two locations within the site. The two recreation lots would equate to approximately 2.1 acres of land and would include picnic tables, grassy areas, walkways, and a children's playground.

As the Project will include on-site recreational amenities and pay parkland development impact fees as a condition of approval, implementation of the proposed Project would not increase the use or deterioration of the City's recreational amenities. Direct, indirect, or cumulative impacts would be **less than significant**.

b. 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?	☐	☐	☐	☒

16b. Response: Project site plan

No Impact. The Project includes private recreational areas for the use of future residents. The recreational areas will be graded along with the rest of the Project, and thus will not have any additional environmental impacts than the Project. Therefore, there is **no impact** to this issue.

17. TRANSPORTATION Would the project result in:				
a. Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐

17a. Response: ***(Source: General Plan 2025 Figure CCM-4 – Master Plan of Roadways, FPEIR Figure 5.15-4 – Volume to Capacity (V/C) Ratio and Level of Service (LOS) (Typical 2025), Table 5.15-D – Existing and Future Trip Generation Estimates, Table 5.15-H – Existing and Typical Density Scenario Intersection Levels of Service, Table 5.15-I – Conceptual General Plan Intersection Improvement Recommendations, Table 5.15-J – Current Status of Roadways Projected to Operate at LOS E or F in 2025, Table 5.15.-K – Freeway Analysis Proposed General Plan, Appendix H – Circulation Element Traffic Study and Traffic Study Appendix, SCAG's RTP, and Vehicle Miles Traveled Analysis prepared by Urban Crossroads on January 15, 2021 and Supplemental Memo dated September 20, 2021)***

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Less than significant impact

Given the size and location of this Project, it will not conflict or otherwise interfere with any program plan, ordinance, or policy addressing the circulation system. The RTA bus routes follow Trautwein Road, which is not adjacent to this Project. Additionally, there are no planned bicycle pathways on the exterior of the Project. Pedestrian facilities and pathways are included in the interior of the Project, as is a trail system in certain open space areas of the Project.

Automobile delay is no longer considered a significant environmental impact under adopted CEQA guidelines. Although the City of Riverside adopted the guidelines to address changes to CEQA pursuant to SB-743 to include Vehicle Miles Traveled as a new threshold, the city also has adopted Level of Service (LOS) criteria for roadways and intersections located within the City. In accordance with the City of Riverside TIA Guidelines, projects generating less than 100 peak hour trips based on the latest version of the ITE Trip Generation Manual do not require a LOS analysis as these projects are presumed to have a less effect on the surrounding streets.

The proposed project will generate less than 100 peak hour trips. The proposed project is also consistent with the General Plan LOS policy. Therefore, traffic conflicts with a program, plan, ordinance, or policy addressing the circulation system will result in a **less than significant impact.**

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☒	☐	☐

17b. Response: ***(Source: General Plan 2025 Figure CCM-4 – Master Plan of Roadways, Table 5.15-I – Conceptual General Plan Intersection Improvement Recommendations, Table 5.15.-K – Freeway Analysis Proposed General Plan, Appendix H – Circulation Element Traffic Study and Traffic Study Appendix, SCAG's RTP, and Vehicle Miles Traveled Analysis prepared by Vehicle Miles Traveled Analysis prepared by Urban Crossroads on May 25, 2023)***

Less than significant with mitigation.

Regulatory Background

In response to Senate Bill (SB) 743, the California Natural Resource Agency certified and adopted CEQA Guidelines in December 2018 which now identify VMT (Vehicle Miles Travels) as the most appropriate metric to evaluate a project's transportation impact (CEQA Guidelines §15064.3). Effective July 1, 2020, roadway congestion, typically measured in terms of level of service (LOS), automobile delay or roadway capacity, generally will no longer constitute a significant environmental impact under CEQA.

The City of Riverside has recently released the Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment, July 2020 (TIA Guidelines). The TIA Guidelines describe the preferred analysis methodology and thresholds of significance for evaluating VMT impacts under CEQA. According to the TIA Guidelines, a Level of Service (LOS) analysis is not required for this project as it would consist of less than 150 single-family residences and generate less than 100 peak hour trips.

VMT Screening Criteria

The TIA Guidelines provide screening criteria for the VMT evaluation of land use projects. Projects that meet at least one of the screening criteria may be presumed to cause a less than significant impact to VMT without requiring further analysis.

Table 17-1 summarizes the initial project screening assessment. As shown in Table 1, the project does not satisfy any of the initial VMT screening criteria, thus further analysis of potential impacts is required.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Table 17-1 VMT
Screening Criteria

City of Riverside Screening Criteria	Does Project Qualify?
Transit Priority Screening	No
Low VMT Area Screening	No
Project Type Screening	No

The following CEQA VMT Impact Thresholds are identified in the City of Riverside TIA Guidelines:

• For residential projects, the baseline or cumulative project-generated VMT per capita exceeds 15% below the current jurisdictional baseline VMT per capita.

Table 17-2 shows the VMT threshold of significance for residential projects.

Table 17-2 City of Riverside
VMT Per Capita

	Base Year (2018)	Cumulative Year (2045)	Baseline (2022)
City of Riverside VMT	5,276,844	6,497,620	5,457,699
Population	324,025	404,739	335,983
HB VMT per Capita	16.29	16.05	16.25

The City of Riverside's jurisdictional baseline average is 16.25 VMT per capita.

VMT Impact Analysis

The City Guidelines identify that for residential land uses the measure of VMT should be VMT per capita. RIVCOM was utilized to calculate project generated VMT for the residential land uses and that value was then divided by the Project's population estimate to derive project generated VMT per capita. Project- generated VMT per capita was then calculated for both the base year model (2018) and cumulative year model (2045). Then straight-line linear interpolation was used to determine the Project's baseline (2022) VMT per capita. Table 3 presents HB VMT as calculated from RIVCOM for the Project's residential land uses, the number of Project population, and Project VMT per capita.

Table 17-3 summarizes the Project Generated VMT per Capital for the proposed project.

Table 17-3
Project Generated VMT per Capita

	Base Year (2018)	Cumulative Year (2045)	Baseline (2022)
Project VMT	2,989	2,908	2,977
Project Population	169	169	169
HB VMT per Capita	17.68	17.21	17.61

Project comparison to Significance Threshold Table 17-4 illustrates the VMT comparison between project generated VMT in the Baseline and Cumulative Conditions to the baseline City of Riverside jurisdictional average. Based on the comparison, the project is 27.52% above the City's threshold in the baseline scenario and 24.62% above the City's threshold for the cumulative scenario.

Table 17-4

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Project VMT Per Capita Comparison

	Baseline	Cumulative
City of Riverside	13.81	13.81
Project	17.61	17.21
Percent Change	+27.52%	+24.62%
Potentially Significant?	Yes	Yes

VMT Impacts

Based on the VMT analysis, Project's baseline and cumulative VMT per Capita for the residential land use exceeds the City threshold of 15% below the current baseline and cumulative City VMT per Capita. With implementation of the mitigation measures, project would result in a less than significant VMT impact.

VMT Reduction Measures

Measure 1:

The Project intends to develop external sidewalk connectivity along Ferrari Drive on the northern boundary of the Project, east along Dauchy Road, and south on Victor Hugo leading into the Project site. The total external sidewalks along Ferrari Drive, Dauchy Road, and Victor Hugo are calculated to be 2,697.94 feet. The Project's internal private sidewalks have a combined total of 4,899.18 feet. The Project will develop a total of 7,597.12 feet or 1.44 miles. As calculated the Project's inclusion of TDM measure 1 will reduce the Project's VMT impact by 2.2%.

Measure 2:

The City of Riverside is developing a VMT fee program for those projects that cannot meet the VMT reduction requirement. The Project and the City has made an Interim VMT Mitigation Fee agreement, which has accepted by both parties. Under the terms and conditions of the City's acceptance letter, the Project will fully mitigate its VMT impact.

The terms are similar to other VMT mitigation fees in other jurisdictions and amounts to $2,500 per dwelling unit for each of the proposed 53 Single Family Dwelling Units for a total of $132,500, and is payable at the issuance of grading permits. The advance payment will be retained until the City establishes and adopts a VMT Mitigation Impact Fee for residential developments. If the interim advanced payment is higher than the adopted VMT Mitigation Impact Fee for residential developments, then the City will reimburse the applicant for the difference in the payment. Conversely, the City will reserve the right to adjust the applicant's VMT Mitigation Impact Fee prior to issuance of the site's certificate of occupancy in response to any findings of an adopted VMT Mitigation Program. These fees will be utilized to implement traffic reduction measures throughout the City, and is considered adequate mitigation for this project.

Therefore, the Project's VMT impact is considered less than significant.

Mitigation Measures:

MM-TRANS 1: The Project intends to develop external sidewalk connectivity along Ferrari Drive on the northern boundary of the Project, east along Dauchy Road, and south on Victor Hugo leading into the Project site.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

MM-TRANS 2: The developer shall pay the City's VMT Mitigation Bank Fees in the total amount of $132,500 per the agreement by both parties prior to the issuance of site grading permits.

These fees will be retained until the City establishes and adopts a VMT Mitigation Impact Fee.

Therefore, the increase in traffic in relation to the existing traffic load and capacity of the street system is **less than significant with mitigation**.

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

17c. Response: ***(Source: Project Site Plans, Lane Striping and Signing Plans)***

No Impact. The design of the proposed Project does not include any geometric design features or incompatible uses that could substantially increase hazards. The proposed Project would develop a neighborhood consisting of 53 residential units on varying sized lots, an internal circulation system (neighborhood roads), two common open space areas, and lots occupied by water quality management basins. The design of the Project does not include features that would increase hazards related to traffic. The internal circulation of the site would be consistent with similar developments in the City and would allow parking (driveway and on-street) and access for residents. The internal street system, intersections, and street improvements have all been designed to meet City Public Works requirements, and are only available to the future residents, their guests, and various service vehicles. Building setbacks would be consistent with the development standards of the PRD Permit and base zoning designations. Residences have been sited to ensure there is adequate line of sight for vehicles exiting/ entering the site via Ferrari Drive or Victor Hugo Drive. Implementation of the proposed Project would not substantially increase hazards due to a geometric design feature or incompatible use. Since the project has been designed to meet Public Works standards, there is **no impact** from hazards from a geometric design feature.

d. Result in inadequate emergency access?	☐	☐	☒	☐

17e. Response: ***(Source: California Department of Transportation Highway Design Manual, Municipal Code, and Fire Code)***

Less Than Significant Impact. The proposed Project would comply with the 2019 California Fire Code Section 503-Fire Apparatus Access Roads. Sections 503.1.1 Buildings and Facilities; and 503.2.1 The Project will be constructed in accordance with the dimensions of the 2019 California Fire Code Section. During construction, the Project site would remain accessible for emergency vehicles through Ferrari Drive and Dauchy Avenues. The Project Site Plan indicates that access to the Project site, once operational, would be provided via newly constructed private streets connecting to Ferrari Drive and Dauchy Avenue via Victor Hugo Drive. The internal circulation system would be designed to a width to accommodate emergency vehicles pursuant to the 2019 California Fire Code requirements and City of Riverside. Prior to Project approval, the Riverside City Fire Department would review the Final Site Plan to ensure adequate emergency access to the site is provided.

The Project has been designed to be in compliance with the applicable 2019 California Fire Code and has been approved by the Riverside Fire Department. Direct, indirect, and cumulative Project impacts would be **less than significant** and no mitigation is required.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
18. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	☐	☒

18a. Response: (*Source: AB52 Consultation, and Cultural Resource Report for the Dauchy Avenue Project conducted by Brian Smith and Associates dated December 2, 2021 and revised April 7, 2021)*

Less than significant with mitigation

A Cultural Resources Assessment (CRA), April 2021, was prepared by Brian F. Smith and associates in accordance with City of Riverside report guidelines and CEQA significance evaluation criteria, for the proposed Project to provide the City of Riverside the necessary information and analysis to determine, as mandated by CEQA, whether the proposed Project would cause substantial adverse change the significance of any tribal resource that may exist in or around the Project site. The Project site is currently vacant except for one abandoned residence and ancillary structures. The CRA of the Dauchy Avenue Project did not identify any historic or prehistoric resources. No archaeological sites, features, or artifacts were identified during the field reconnaissance and, as a result, no impacts to cultural resources are anticipated as a result of the proposed development. . Based upon the presence of 90 known cultural resources located within a one-mile radius of the project boundary, including two bedrock milling feature sites that are located within 50 meters of the southern property boundary, the potential for unidentified buried cultural materials exists within the Dauchy Avenue Project that may be exposed during grading. Two Native American tribes requested consultation with the City: Rincon Band of Luiseño Indians, and the Pechanga Band of Mission Indians. As such, the City conducted government-to-government consultation on April 27, 2022 and June 10, 2022, respectively. The Pechanga Band requested a site visit with City staff, which occurred on July 5, 2022.

Mitigation measures as discussed in Section 5b are to be implemented, and thus there will be a **less than significant impact with mitigation incorporated**.

b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

18b. Response: *(Source: AB52 Consultation, and Cultural Resource Report for the Dauchy Avenue Project conducted by Brian Smith and Associates dated December 2, 2021 and revised April 7, 2021))*

Less than significant with mitigation

A Cultural Resources Assessment (CRA), April 2021, was prepared by Brian F. Smith and associates in accordance with City of Riverside report guidelines and CEQA significance evaluation criteria, for the proposed Project to provide the City of Riverside the necessary information and analysis to determine, as mandated by CEQA, whether the proposed Project would cause substantial adverse change the significance of significant cultural resource that may exist in or around the Project site. The Project site is currently vacant except for one abandoned residence and ancillary structures. The CRA of the Dauchy Avenue Project did not identify any historic or prehistoric resources. No archaeological sites, features, or artifacts were identified during the field reconnaissance and, as a result, no impacts to cultural resources are anticipated as a result of the

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

proposed development. . Based upon the presence of 90 known cultural resources located within a one-mile radius of the project boundary, including two bedrock milling feature sites that are located within 50 meters of the southern property boundary, the potential for unidentified buried cultural materials exists within the Dauchy Avenue Project that may be exposed during grading.

In accordance with AB-52, on February 8, 2022 the City sent invitation to consult letters to the nine tribes who have requested to be included on the City's Agency Notification list. Of the nine tribes, two Native American tribes requested consultation with the City, Rincon Band of Luiseño Indians, and the Pechanga Band of Mission Indians. As such, the City conducted government-to-government consultation. Consultation with Rincon Band of Luiseno Indians occurred on April 27, 2022 and Pechanga Band of Mission Indians on June 10, 2022, respectively. The Pechanga Band requested a site visit with City staff, which occurred on July 5, 2022 and indicated that the site was located within an recognized Traditional Cultural Place. The tribes requested archeological and tribal monitoring, a monitoring report, and protocols for discovery of cultural material and human remains. The Pechanga Band was in agreeance with the proposed standard mitigation measures and closed consultation on July 25, 2023. The Rincon Band of Luiseno Indians was also in agreeance with the proposed standard mitigation measures and closed consultation on April 29, 2022.

Mitigation measures as discussed in Section 5b are to be implemented, and thus there will be a **less than significant impact with mitigation incorporated**.

19. UTILITIES AND SYSTEM SERVICES. Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐

19a. Response: ***(Source: General Plan 2025 Table PF-1 – RPU PROJECTED DOMESTIC WATER Supply (AC-FT/YR), Table PF-2 – RPU Projected Water Demand, , RPU, FPEIR Table 5.16-G – General Plan Projected Water Demand for RPU Including Water Reliability for 2025, , Figure 5.16-4 – Water Facilities and Figure 5.16-6 – Sewer Infrastructure and Wastewater Integrated Master Plan and Certified EIR.)***

Less Than Significant Impact. Project plans show that Western Municipal Water District provides water and sewer service to the vicinity. Electricity and natural gas are provided by Riverside Public Utilities and SoCal Gas, respectively. A discussion of each of these utilities is below:

Water: A 12-inch water line exists along Dauchy Avenue. The proposed Project would connect to these existing water lines in order to provide both potable water to the Project residents and for Project landscaping. Water distribution lines would be installed and looped through the Project site in order to provide water supply to each of the single-family residential units. Water for landscape irrigation would be separately metered. The necessary on-site water distribution line installation is included as a design feature of the Project and would not result in any physical environmental effects beyond what is analyzed in this environmental document. Off-site improvements to water lines located in the surrounding streets would not be required as the piping is correctly sized to continue to provide adequate water delivery to the Project site. As a condition of approval, the Project Applicant would required a will-serve letter from WMWD verifying that the Project would be adequately served by the district, prior to final map approval. Implementation of the proposed Project would not require or result in the relocation or construction of new water infrastructure that would cause significant environmental effects. Direct, indirect, and cumulative Project impacts to water would be less than significant and no mitigation is required.

Wastewater: The Project site will build a new sewer main that will connect to an existing sewer lift station in Dauchy Avenue. The proposed Project would include an internal wastewater distribution system connecting the on-site uses to the existing infrastructure in Dauchy Avenue. From here, wastewater would be conveyed to the City wastewater treatment plant located on Acorn Avenue, north of Jurupa Avenue. As part of the Project design, an internal wastewater distribution system would be developed on site; however, such installation would not result in any physical environmental effects beyond those that are

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

analyzed in this environmental document. As part of the Project's approval, the applicant is be required to provide sewer-loading calculations to the City to ensure the existing piping is correctly sized to continue to provide adequate service to the Project site. Any required improvements to the existing piping would occur within City right-of-way or on properties that have already been developed, so no additional physical impacts to the environment are expected. Direct, indirect, and cumulative Project impacts would be less than significant and no mitigation measures are required.

Storm Water: The Project site is currently served by existing storm water drain lines in Dauchy Avenue. Onsite storm water drainage infrastructure would be developed as part of the Project design in conformance with the Final WQMP and Hydrology study prepared for the Project. The on-site storm water drainage facilities would connect to existing storm water infrastructure in the City's right-of-way. Two bioretention basins and one underground infiltration chamber would be developed on the Project site.

Off-site storm water drainage facilities would not be impacted by the development of this Project. Lots "C" and "J" will function was Water Quality Management Basins. With the implementation of the two biorentention / water quality basins and the underground infiltration system, the off-site drainage to neighboring properties will remain the same.

Electrical/Gas Utilities: The proposed Project would tie into existing electrical and natural gas infrastructure that exists in roads adjacent to the site. Such connections may require trenching on the adjacent roads; however, construction to connect to existing electrical and natural gas infrastructure would be temporary. Implementation of the proposed Project would not require the relocation or construction of new electrical/natural gas infrastructure off site that would cause significant environmental effects. Direct, indirect, and cumulative Project impacts would be less than significant and no mitigation is required.

Telecommunications: The proposed Project would tie into existing telecommunication infrastructure that exists in roads adjacent to the site. Such connections may require trenching on the adjacent roads; however, construction to connect to existing telecommunication infrastructure would be temporary. Implementation of the proposed Project would not require the relocation or construction of new telecommunication infrastructure off site that would cause significant environmental effects. Direct, indirect, and cumulative Project impacts would be **less than significant**.

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐

19b. Response: ***(Source: FPEIR Figure 5.16-3 – Water Service Areas, Figure 5.16-4 – Water Facilities, Table 5.16-E – RPU Projected Domestic Water Supply (AC-FT/YR, Table 5.16-F – Projected Water Demand, Table 5.16-G – General Plan Projected Water Demand for RPU including Water Reliability for 2025, Table 5.16-H – Current and Projected Domestic Water Supply (acre-ft/year)***

Less Than Significant Impact. Although the proposed Project is located within the City of Riverside, the WMWD provides water to the Project site. The WMWD would have sufficient water supplies available to adequately serve the Project during normal, dry, and multiple dry year scenarios. The proposed Project would connect to existing water infrastructure to provide the necessary construction and operational water needs of site occupants. The connection point for water lines would be from infrastructure within the Dauchy Avenue right-of-way. The WMWD 2015 Urban Water Management Plan Update estimates water supply and demand during normal, dry, and multiple-dry years as shown in **Table V: WMWD Projected Water Supply/Demand (acre-feet/year).**

The WMWD's 2015 Urban Water Management Plan estimated a daily per capita water demand of 352 gallons. Implementation of the proposed Project would result in a maximum population of 158 residents (2.98 persons/household X 53 units), with an estimated water usage of 53,152 gallons per day (0.16 acre-feet/day) or 19,413,768 gallons per year (59.57 acre-feet/year). This represents 0.09 percent of anticipated WMWD's retail water supplies in 2020, a 0.07 percent of anticipated WMWD's retail water supplies in 2040 (assuming worst-case multiple dry years), a 0.04 percent of anticipated WMWD's wholesale water supplies in 2020, and a 0.03 percent of anticipated WMWD's wholesale water supplies in 2040 (assuming worst-case multiple dry years).

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

As shown in **Table V**, sufficient water supplies are available to serve existing and projected future water demand under normal, dry and multiple-dry conditions.

Table V: Riverside Projected Water Supply/Demand (acre-feet/year)

Years	Normal Year		Dry Year		Multiple-Dry Year	
	Supply	Demand	Supply	Demand	Supply	Demand
Retail						
2020	69,718	30,814	69,718	30,814	69,718	30,814
2025	76,264	33,714	76,264	33,714	76,264	33,714
2030	79,672	36,415	79,672	36,415	79,672	36,415
2035	92,030	39,170	92,030	39,170	92,030	39,170
2040	90,400	41,704	90,400	41,704	90,400	41,704
Wholesale						
2020	152,491	110,787	152,491	110,787	152,491	110,787
2025	159,389	114,039	159,389	114,039	159,389	114,039
2030	169,372	123,515	169,372	123,515	169,372	123,515
2035	178,155	122,895	178,155	122,895	178,155	122,895
2040	184,095	132,999	184,095	132,999	184,095	132,999

Source: Western Municipal Water District, *2015 Urban Water Management Plan Update*, Table 7-3: Retail Supply and Demand Comparison for a Normal Year; Table 7-4: Wholesale Supply and Demand Comparison for a Normal Year; Table 7-5: Retail Supply and Demand in a Single-Dry Year; Table 7-6: Wholesale Supply and Demand in a Single-Dry Year; Table 7-7 Retail Supply and Demand Comparison in Multiple-Dry Years; Table 7-8: Wholesale Supply and Demand Comparison in Multiple-Dry Years, pgs. 7-5 through 7-7.

Therefore, the proposed Project was found to have a **less than significant impact** on water supplies either directly, indirectly, or cumulatively during normal, dry, and multiple-dry years.

c. 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?	☐	☐	☒	☐

19c. Response: ***(Source: FPEIR Figure 5.16-5 - Sewer Service Areas, Figure 5.16-6 -Sewer Infrastructure, Table 5.16-K - Estimated Future Wastewater Generation for the City of Riverside's Sewer Service Area and Wastewater Integrated Master Plan and Certified EIR)***

Less Than Significant Impact. Less Than Significant Impact. The proposed Project would install new sewer lines to serve each residence that would connect to the existing 4-inch sewer line within Dauchy Avenue which conveys wastewater flows from the Project to the Western Riverside Water Quality Control Plant.

Based on the average daily wastewater flow identified in the City's Capital Improvement Program and Rate Development Study, the proposed single-family residential units would generate an average of 206 gallons per day (gpd) (CIP 2014). Therefore, the proposed 96-residence Project would result in an average daily flow of 19,776 gpd.

Wastewater from the Project site would be conveyed to the WRCWRA plant, which has a tertiary treatment capacity of 14 mgd and handled 7.76 mgd in 2020 (WRCRWA 2020). Thus, the existing wastewater facilities have the capacity to accommodate the additional 19,776 gpd that would be generated from operation of the proposed Project, and impacts related to wastewater treatment capacity would be **less than significant**.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐

19d. Response: ***(Source: FPEIR Table 5.16-A – Existing Landfills and Table 5.16-M – Estimated Future Solid Waste Generation from the Planning Area)***

Less Than Significant Impact. Less than Significant Impact. A large portion of the solid waste from the City is currently disposed of at the Badlands Sanitary Landfill that is located 19.5 miles from the site and is permitted to accept 4,800 tons per day of solid waste through 2022. In June 2021 the Badland Sanitary Landfill averaged 3,128 tons per day and had a maximum disposal of 3,696 tons per day; thus, having an average daily additional capacity of 1,672 tons per day and a minimum additional capacity of 1,104 tons per day (CalRecycle 2021). In addition, solid waste from the Project site is likely to be disposed of at the closest landfill to the Project site, which is the El Sobrante Sanitary Landfill that is located 18 miles southwest of the Project site at 10910 Dawson Canyon Road in Corona. The El Sobrante Sanitary Landfill is permitted to accept 16,054 tons of solid waste per day through 2050. In March 2021, the landfill averaged 10,443 tons per day and had a maximum disposal of 12,566 tons per day; thus, having an average daily additional capacity of 5,611 tons per day and a minimum additional capacity of 3,488 tons per day (CalRecycle 2021).

Implementation of the proposed Project would result in additional solid waste generation from the proposed 53 single-family residences. The City's General Plan EIR states that single-family residential uses generate 10 pounds per day of solid waste. Hence, the 53 residences would generate approximately 530 pounds per day of solid waste that would be collected weekly from the City's solid waste collection service. The pickup from the Project site would total 3,710 pounds (1.86 tons) weekly.

However, state regulations per AB 341 require diversion of 75 percent of solid waste from landfills. Thus, it is anticipated that solid waste landfill disposal from operation of the Project would be reduced to approximately 927.5 pounds (0.47 tons) per week. As described above, the Badland Sanitary Landfill has a minimum additional capacity of 1,104 tons per day and the El Sobrante Sanitary Landfill has a minimum additional capacity of 3,488 tons per day. Therefore, has sufficient permitted capacity to accommodate the Project's solid waste disposal needs. Impacts related to landfill capacity would be **less than significant**.

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

19e. Response: ***(Source: California Integrated Waste Management Board 2002 Landfill Facility Compliance Study)***

No Impact. The proposed Project would comply with all regulations related to solid waste. All solid waste-generating activities within the City are subject to the requirements set forth in AB 341 that requires all development to divert 75 percent of solid waste pursuant to state regulations. Implementation of the proposed Project would be consistent with all state regulations. The proposed Project must comply with the City's waste disposal requirements as well as the California Green Building Code and, as such, would not conflict with any federal, State, or local regulations related to solid waste. Therefore, there would be **no impacts** related to solid waste statues.

20. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

20a. Response: ***(Source: Project information, City of Riverside GIS/CADME map layers, Riverside County GIS*)**

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Less Than Significant Impact. The Project site is currently vacant (except for an abandoned residence and associated outbuildings) and is currently accessed by existing Ferrari Drive (a dirt road) and Dauchy Avenue (a partially improved road). Implementation of the proposed Project would require construction activities both Ferrari Drive and Dauchy Avenue along the Project frontage. and therefore would not impair the City's adopted emergency response plan or emergency evacuation plan. Design of the Project would also include the construction of an internal circulation system (private residential streets) that would connect to Ferrari Drive and Victor Hugo Drive in the same general area where the site is accessed under its existing vacant state.

The design of the Project will comply with Section 19.780.060 of the Riverside Municipal Code related to the development standards for Planned Residential Development (PRD) Permits. Prior to issuance of the building permits, the City Fire Department would review site plans for the proposed Project to ensure that design features would not substantially impair emergency response or emergency evacuation plans of the City. Direct, indirect and cumulative project impacts would be **less than significant**.

b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐

20b. Response: ***(Source: Project information, City of Riverside GIS/CADME map layers, Riverside County GIS)***

Less than significant impact. The Project is adjacent to, but not in, a Very High Fire Hazard severity zone. The topography of the areas to the north and west that are in the Very High Fire Hazard Zone have relatively flat topography. The prevailing winds in this particular area generally are not considered strong, except for the Santa Ana winds, which originate in the hot, dry climate of the deserts to the east. During the Santa Ana winds, occurring sporadically during September to May of each year, winds blow from east to west, which is away from the Project site in comparison to nearby Very High Fire Hazard severity zones. Impacts are considered **less than significant**.

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒

20c. Response: ***(Source: Project information, City of Riverside GIS/CADME map layers, Riverside County GIS)***

No Impact. The Project is not designated as within a Very Fire Hazard severity zone. The nearest Very High Fire Hazard severity zones are adjacent to the project to the north, and several hundred feet to the west. The installation of the required improvements to Ferrari Drive on the northern boundary of the Project will create a wider fire break to the Very High Fire Hazard severity zone to the north of this Project, thereby protecting future residence from the risk of wildfires.

The design of the Project has been reviewed and approved by the City Fire Department, which has not required any special design considerations to address this issue. **There are no impacts.**

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

20d. Response: ***(Source: Project information, City of Riverside GIS/CADME map layers, Riverside County GIS)***

No Impact. The proposed Project is located on a site that is topographically variable (maximum elevation changes on the site of about 50 feet) and is surrounded by land that is topographically undulating. A residential neighborhood is located east of the Project site, and large and an undeveloped lot single family residential subdivision lies to the north. Other existing residential large lots lie to the west and south of the site. The closest elevated terrain is the Temescal Mountains (approximately 5 miles southwest of the site); as a result, future residents and the structures on the proposed Project site would most likely not be exposed to significant risks from downslope flooding, landslides, or drainage changes due to wildland fires. The proposed Project site is located in Federal Emergency Management Agency Zone D Area of Undetermined Flood Hazard. The closest Flood Hazard area is located just off of the Project site to the south, approximately at the terminus of Richard M Nixon Court.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
With implementation of the recommendations of the Water Quality Management Plan, the Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. **No impact** either directly, indirectly or cumulatively would occur.				
21. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or an endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

21a. Response: ***(Source: General Plan 2025 – Figure OS-6 – Stephen's Kangaroo Rat (SKR) Core Reserve and Other Habitat Conservation Plans (HCP), Figure OS-7 – MSHCP Cores and Linkages, Figure OS-8 – MSHCP Cell Areas, General Plan 2025 FPEIR Figure 5.4-2 – MSHCP Area Plans, Figure 5.4-4 - MSHCP Criteria Cells and Subunit Areas, Figure 5.4-6 – MSHCP Narrow Endemic Plant Species Survey Area, Figure 5.4-7 – MSHCP Criteria Area Species Survey Area, Figure 5.4-8 – MSHCP Burrowing Owl Survey Area, MSHCP Section 6.1.2 - Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, and Western Riverside County Multiple Species Habitat Conservation Plan Compliance Analysis for the 24.73-Acre Dauchy Avenue Project Site, City of Riverside, Western Riverside County, California, conducted by Cadre Environmental on September 15, 2021. FPEIR Table 5.5-A Historical Districts and Neighborhood Conservation Areas, Figure 5.5-1 - Archaeological Sensitivity, Figure 5.5-2 - Prehistoric Cultural Resources Sensitivity, Appendix D, Title 20 of the Riverside Municipal Code, and Cultural Resource Report for the Dauchy Avenue Project prepared by Brian Smith and Associates on December 2, 2020 and revised on April 7, 2021)***

Less Than Significant with Mitigation. Potential impacts related to habitat of fish or wildlife species were discussed in the Biological Resources Section of this Initial Study, and were all found to be **less than significant with mitigation**. Additionally, potential impacts to cultural, archaeological and paleontological resources related to major periods of California and the City of Riverside's history or prehistory were discussed in the Cultural Resources Section of this Initial Study, and were found to be **less than significant with mitigation.**

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐

21b. Response: ***(Source: FPEIR Section 6 – Long-Term Effects/ Cumulative Impacts for the General Plan 2025 Program, Vehicle Miles Traveled Analysis prepared by Vehicle Miles Traveled Analysis prepared by Urban Crossroads on January 15, 2021 and Supplemental Memo dated September 20, 2021)***

Less Than Significant With Mitigation Incorporated. The expected growth associated with the proposed Project has been previously analyzed under the 2025 General Plan EIR. The 2025 General Plan EIR took into consideration the cumulative impact of buildout of the City (which included development of the Project site under its current land use designation and zoning designation) and determined that cumulative impacts with buildout of the City would be less than significant. The proposed Project, throughout this Initial Study/Mitigated Negative Declaration, has considered all impacts on a project-level analysis. Where impacts were determined to occur, the proposed Project would implement mitigation measures, which would reduce impacts on a project-level basis, and would ensure the proposed Project does not cumulatively contribute to impacts discussed under the 2025 General Plan EIR. All cumulative impacts related to the resource topics in this environmental document were determined to be less than significant or rendered **less than significant with mitigation** incorporated.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

21c. Response: ***(Source: FPEIR Section 5 – Environmental Impact Analysis for the General Plan 2025 Program, Vehicle Miles Traveled Analysis prepared by Vehicle Miles Traveled Analysis prepared by Urban Crossroads on January 15, 2021 and Supplemental Memo dated September 20, 2021, Cultural Resource Report for the Dauchy Avenue Project prepared by Brian Smith and Associates on December 2, 2020 and revised on April 7, 2021,)***

Less Than Significant Impact with Mitigation. Effects on human beings were evaluated as part of the aesthetics, air quality, hydrology & water quality, noise, population and housing, public facilities, hazards and hazardous materials, and recreation sections of this initial study. Project impacts related to transportation traffic are potentially significant, however can be mitigated to a less than significant level. Based on the analysis and conclusions in this initial study, the project, with mitigation, will not cause substantial adverse effects, directly or indirectly to human beings. Therefore, potential direct and indirect impacts on human beings that result from the proposed project are **less than significant with mitigation**.

Note: Authority cited: Sections 21083 and 21087, Public Resources Code. Reference: Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.3, 21093, 21094, 21151, Public Resources Code; Sundstrom v. County of Mendocino, 202 Cal.App.3d 296 (1988); Leonoff v. Monterey Board of Supervisors, 222 Cal.App.3d 1337 (1990).

Mitigation Monitoring and Reporting Program

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[1]	Monitoring/Reporting Method
Biological Resources	**MM BIO-1, Riverpark Mitigation Bank** Permanent impacts to 0.096-acres of jurisdictional features will be mitigated at a 2:1 ratio through the purchase of 0.192 acres of re-establishment credits at the Riverpark Mitigation Bank. An agreement for sale of credits from the Riverpark Mitigation Bank will be submitted to the City of Riverside prior to grading permit issuance.	Prior to issuance of grading permits	City of Riverside Planning Division	Confirmation of the proof of purchase of the mitigation credits. Proof of purchase would consist of (1) a receipt from the Riverpark Mitigation Bank for the Applicant's purchase of re-establishment credits, plus (2) a copy of the purchase contract/ agreement between Riverpark Mitigation Bank and the applicant.
	MM BIO–2, Conservation Easement Prior to grading permit issuance, a conservation easement in favor of a conservation-mission third party (for oversight and compliance verification) shall be placed over all onsite "avoidance areas," including riparian/riverine resources within the western blue-line drainage, unnamed drainage A, and adjacent upland habitats.	Prior to issuance of grading permits	City of Riverside Planning Division	Verification for a third-party conservation - mission party prior to grading permit issuance.
	MM BIO-3, Erosion Control Prior to the initiation of construction, the construction contractor shall install temporary erosion control measures around avoided drainages and conservation areas to reduce impacts to onsite drainages and open space habitat from the excess sedimentation, siltation and erosion. These measures shall consist of the installation of silt fencing, coirs, berms, or dikes to protect storm drain inlets and drainages.	Prior to issuance of grading permits	City of Riverside Planning Division City of Riverside Public Works Department	Confirm erosion control measures during grading plan review.
	MM BIO-4, Construction Mitigation During construction of the Project, the construction contractor shall implement the following measures during construction to avoid impacts to Unnamed	During grading and building activities	Project applicant/ developer	Review and approval of the final WQMP and/ or SWPPP

[1] All agencies are City of Riverside Departments/Divisions unless otherwise noted.

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[1]	Monitoring/Reporting Method
	Drainage A and its single tributary, and western blue-line drainage and its associated tributaries: • No changing of oil or other fluids, or discarding of any trash or other construction waste materials shall occur on the Project Site. • Any equipment or vehicles driven and/or operated within or adjacent to onsite drains shall be checked and maintained daily, to prevent leaks of materials into onsite drainages. No equipment maintenance shall be conducted near onsite drains.			
	MM BIO-5, Agency Approvals Prior to grading permit issuance, no impacts shall occur to onsite drainages until appropriate permits have been obtained from the US Army Corps of Engineers (Corps) Section 404 Nation Wide Permit, Regional Water Quality Control Board (RWQCB) Section 401 Water Quality Certificate, and/or California Department of Fish and Wildlife (CDFW) Section 1602 Streambed Alteration Agreement. Specifically, the following permits or certifications will be required: • USACE Section 404 Nation Wide Permit • RWQCB 401 Water Quality Certificate • CDFW Section 1602 Streambed Alteration Agreement	Prior to issuance of grading permits	City of Riverside Planning Division	Provide proof that appropriate permits have been obtained
Cultural Resources	**MM-CUL-1:** Prior to grading permit issuance, if there are any changes to Project site design and/or proposed grades, the Applicant and the City shall contact interested tribes to provide an electronic copy of the revised plans for review. Additional consultation shall occur between the City and interested tribes to discuss any proposed changes and review any new impacts and/or potential avoidance/preservation of the cultural resources on the Project site. The City and the Applicant shall make	Prior to the issuance of grading permits	City of Riverside Planning Division City of Riverside Public Works Department	The Applicant shall notify the City

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[1]	Monitoring/Reporting Method
	all attempts to avoid and/or preserve in place as many cultural and paleontological resources as possible that are located on the Project site if the site design and/or proposed grades should be revised.			
	MM-CUL-2 Archaeological and Paleontological Monitoring: At least 30 days prior to application for a grading permit and before any grading, excavation and/or ground disturbing activities take place, the developer/applicant shall retain a Secretary of Interior Standards qualified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources. 1. The project archaeologist, in consultation with consulting tribes, the Developer, and the City, shall develop an Archaeological Monitoring Plan to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. Details in the plan shall include: a. Project grading and development scheduling; b. The development of a rotating or simultaneous schedule in coordination with the developer/applicant and the project archaeologist for designated Native American Tribal Monitors from the consulting tribes during grading, excavation, and ground-disturbing activities on the site, including the scheduling, safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all project archaeologists; c. The protocols and stipulations that the Applicant, tribes, and project archaeologist/paleontologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits, or nonrenewable paleontological resources that shall be subject to a cultural resources evaluation;	Prior to Grading Permit	City of Riverside Planning Division City of Riverside Public Works Department	Submission of an Archaeological Monitoring Plan

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[1]	Monitoring/Reporting Method
	d. Treatment and final disposition of any cultural and paleontological resources, sacred sites, and human remains if discovered on the project site; and e. The scheduling and timing of the Cultural Sensitivity Training noted in mitigation measure MM-CUL-4.			
	MM-CUL-3 Treatment and Disposition of Cultural Resources: In the event that Native American cultural resources are inadvertently discovered during the course of grading for this project, the following procedures will be carried out for treatment and disposition of the discoveries: 4. Consulting Tribes Notified: within 24 hours of discovery, the consulting tribe(s) shall be notified via email and phone. The developer shall provide the city evidence of notification to consulting tribes. Consulting tribe(s) will be allowed access to the discovery, in order to assist with the significance evaluation. 5. Temporary Curation and Storage: During the course of construction, all discovered resources shall be temporarily curated in a secure location on site or at the offices of the project archaeologist. The removal of any artifacts from the project site will need to be thoroughly inventoried with tribal monitor oversight of the process; and 6. Treatment and Final Disposition: The landowner(s) shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to cultural resources. The Applicant shall relinquish the artifacts through one or more of the following methods and provide the City of	During Construction	City of Riverside Planning Division	Submission of a Phase IV Monitoring Report

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[1]	Monitoring/Reporting Method
	Riverside Community and Economic Development Department with evidence of same: e. Accommodate the process for on-site reburial of the discovered items with the consulting Native American tribes or bands. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed; f. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 CFR Part 79 and therefore will be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation; g. If more than one Native American tribe or band is involved with the project and cannot come to a consensus as to the disposition of cultural materials, they shall be curated at the Western Science Center or Museum of Riverside by default; and h. At the completion of grading, excavation, and ground-disturbing activities on the site, a Phase IV Monitoring Report shall be submitted to the City documenting monitoring activities conducted by the project archaeologist and Native Tribal Monitors within 60 days of completion of grading. This report shall document the impacts to the known resources on the			

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[1]	Monitoring/Reporting Method
	property; describe how each mitigation measure was fulfilled; document the type of cultural resources recovered and the disposition of such resources; provide evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting; and, in a confidential appendix, include the daily/weekly monitoring notes from the archaeologist. All reports produced will be submitted to the City of Riverside, Eastern Information Center, and consulting tribes.			
	MM-CUL-4: Cultural Sensitivity Training: The Secretary of Interior Standards County certified archaeologist and Native American monitors shall attend the pre-grading meeting with the developer/permit holder's contractors to provide Cultural Sensitivity Training for all construction personnel. This shall include the procedures to be followed during ground disturbance in sensitive areas and protocols that apply in the event that unanticipated resources are discovered. Only construction personnel who have received this training can conduct construction and disturbance activities in sensitive areas. A sign-in sheet for attendees of this training shall be included in the Phase IV Monitoring Report.	Prior to the issuance of grading permits	City of Riverside Planning Division City of Riverside Building and Safety Division City of Riverside Public Works Department	Submission of a Phase IV Monitoring Report
Transportation	**MM-TRANS 1:** The Project intends to develop external sidewalk connectivity along Ferrari Drive on the northern boundary of the Project, east along Dauchy Road, and south on Victor Hugo leading into the Project site.	Issuance of occupancy	Public Works Department And Planning Department	Demonstrate sidewalk improvements on precise grading plans
	MM-TRANS 2: The developer shall pay the City's VMT Mitigation Bank Fees in the total amount of $132,500 per the agreement by both parties prior to the issuance of site grading permits.	Issuance of grading permits	Public Works Department And Planning Department	Provide proof of payment

DAUCHY AVENUE

AIR QUALITY IMPACT ANALYSIS

CITY OF RIVERSIDE

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February 23, 2023

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TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

%	Percent
°F	Degrees Fahrenheit
(1)	Reference
µg/m^3	Microgram per Cubic Meter
AB 2595	California Clean Air Act
AQ	Air Quality
AQIA	Air Quality Impact Analysis
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
BACM	Best Available Control Measures
BAAQMD	Bay Area Air Quality Management District
BC	Black Carbon
BP	Business Park
Brief	Brief of Amicus Curiae
C_2Cl_4	Perchloroethylene
C_2H_4	Acetaldehyde
C_4H_6	1,3-butadiene
C_6H_6	Benzene
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_2O	Formaldehyde
CO	Carbon Monoxide
COH	Coefficient of Haze
COHb	carboxyhemoglobin
County	County of Riverside

CR	Commercial Retail
Cr(VI)	Chromium
CTP	Clean Truck Program
CY	Cubic Yards
DPM	Diesel Particulate Matter
DRRP	Diesel Risk Reduction Plan
EAPC	Existing Plus Ambient Growth Plus Project
EC	Elemental Carbon
EIR	Environmental Impact Reports
EMFAC	EMissions FACtor Model
EPA	Environmental Protection Agency
ETW	Equivalent Test Weight
EV	Electric Vehicles
FBMSM	Facility-Based Mobile Source Measures
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
g/L	Grams per Liter
GHG	Greenhouse Gas
GVWR	Goss Vehicle Weight Rating
H_2S	Hydrogen Sulfide
HDT	Heavy Duty Trucks
HI	Hazard Index
HHDT	Heavy-Heavy-Duty Trucks
HHDR	Highest Density Residential
hp	Horsepower
HRA	Health Risk Assessment
I-215	Interstate 215
ITE	Institute of Transportation Engineers
lbs	Pounds
lbs/day	Pounds Per Day
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
LHDT	Light-Heavy-Duty Trucks
LST	Localized Significance Threshold
LST METHODOLOGY	Final Localized Significance Threshold Methodology
MARB/IPA	March Air Reserve Base/Inland Port Airport
MATES	Multiple Air Toxics Exposure Study
MDV	Medium-Duty Vehicles

MHDT	Medium-Heavy-Duty Trucks
MHDR	Medium High Density Residential
MICR	Maximum Individual Cancer Risk
MM	Mitigation Measure
mph	Miles Per Hour
MUA	Mixed-Use Area
N_2	Nitrogen
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NB	Northbound
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
O_2	Oxygen
O_3	Ozone
OBD-II	On-Board Diagnostic
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
OS-R	Open Space - Reaction
OS-W	Open Space - Water
Pb	Lead
PCE	Passenger Car Equivalents
PM_{10}	Particulate Matter 10 microns in diameter or less
$PM_{2.5}$	Particulate Matter 2.5 microns in diameter or less
POLA	Port of Los Angeles
POLB	Port of Long Beach
ppm	Parts Per Million
Project	Dauchy Avenue
RECLAIM	Regional Clean Air Incentives Market
RFG-2	Reformulated Gasoline Regulation
ROG	Reactive Organic Gases
RTP	Regional Transportation Plan
RTP/SCS	Regional Transportation Plan/ Sustainable Communities Strategy
Rule 403	Fugitive Dust
Rule 1113	Architectural Coating
RV	Recreational Vehicle
SB	Southbound

SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCAX	Metrolink
SF	Square Feet
SIPs	State Implementation Plans
SO_2	Sulfur Dioxide
SO_4	Sulfates
SO_X	Sulfur Oxides
SR-79	State Route 79
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
TDM	Transportation Demand Management
TIA	Traffic Impact Analysis
TITLE I	Non-Attainment Provisions
TITLE II	Mobile Sources Provisions
UFP	Ultra Fine Particles
UTRs	Utility Tractors
C_2H_3Cl	Vinyl Chloride
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
VPH	Vehicles Per Hour

ES.1 SUMMARY OF FINDINGS

The results of this Dauchy Avenue *Air Quality Impact Analysis* are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1). Table ES-1 shows the findings of significance for each potential air quality impact under CEQA before and after any required mitigation measures described below.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Regional Construction Emissions	3.4	*Less Than Significant*	*n/a*
Localized Construction Emissions	3.6	*Less Than Significant*	*n/a*
Regional Operational Emissions	3.5	*Less Than Significant*	*n/a*
Localized Operational Emissions	3.7	*Less Than Significant*	*n/a*
CO "Hot Spot" Analysis	3.8	*Less Than Significant*	*n/a*
Air Quality Management Plan	3.9	*Less Than Significant*	*n/a*
Sensitive Receptors	3.10	*Less Than Significant*	*n/a*
Odors	3.11	*Less Than Significant*	*n/a*
Cumulative Impacts	3.12	*Less Than Significant*	*n/a*

ES.2 STANDARD REGULATORY REQUIREMENTS/BEST AVAILABLE CONTROL MEASURES

Measures listed below (or equivalent language) shall appear on all Project grading plans, construction specifications and bid documents, and the City shall ensure such language is incorporated prior to issuance of any development permits. South Coast Air Quality Management District (SCAQMD) Rules that are currently applicable during construction activity for this Project include but are not limited to Rule 403 (Fugitive Dust) (2), Rule 445 – VOC Limits (3), and Rule 1113 (Architectural Coatings) (4). It should be noted that these Rules are not mitigation as they are standard regulatory requirements. Because they are required by law, credit for Rule 403, Rule 445, and Rule 1113 have been taken in the analysis.

RULE 403

The contractor shall adhere to applicable measures contained in Table 1 of Rule 403 including, but not limited to (2):

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.

- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.
- Track-out gravel beds or similar devices shall be installed at all construction site access points.
- The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are limited to 15 miles per hour or less.

RULE 1113

The following measures shall be incorporated into Project plans and specifications as implementation of SCAQMD Rule 1113 (4):

- Only "Low-Volatile Organic Compounds (VOC)" paints (no more than 50 gram/liter of VOC) consistent with SCAQMD Rule 1113 shall be used.

RULE 445

The Project is required to comply with SCAQMD Rule 445, which prohibits the use of wood burning stoves and fireplaces in new development (3).

ES.3 CONSTRUCTION-SOURCE AND OPERATIONAL-SOURCE MITIGATION MEASURES

The Project would not exceed any thresholds of significance for construction or operational-source emissions. As such, a less than significant impact would occur for Project-related construction and operational-source emissions and no mitigation would be required.

1 INTRODUCTION

This report presents the results of the AQIA prepared by Urban Crossroads, Inc., for the proposed Dauchy Avenue (Project). The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the proposed Project and, if warranted, recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the SCAQMD.

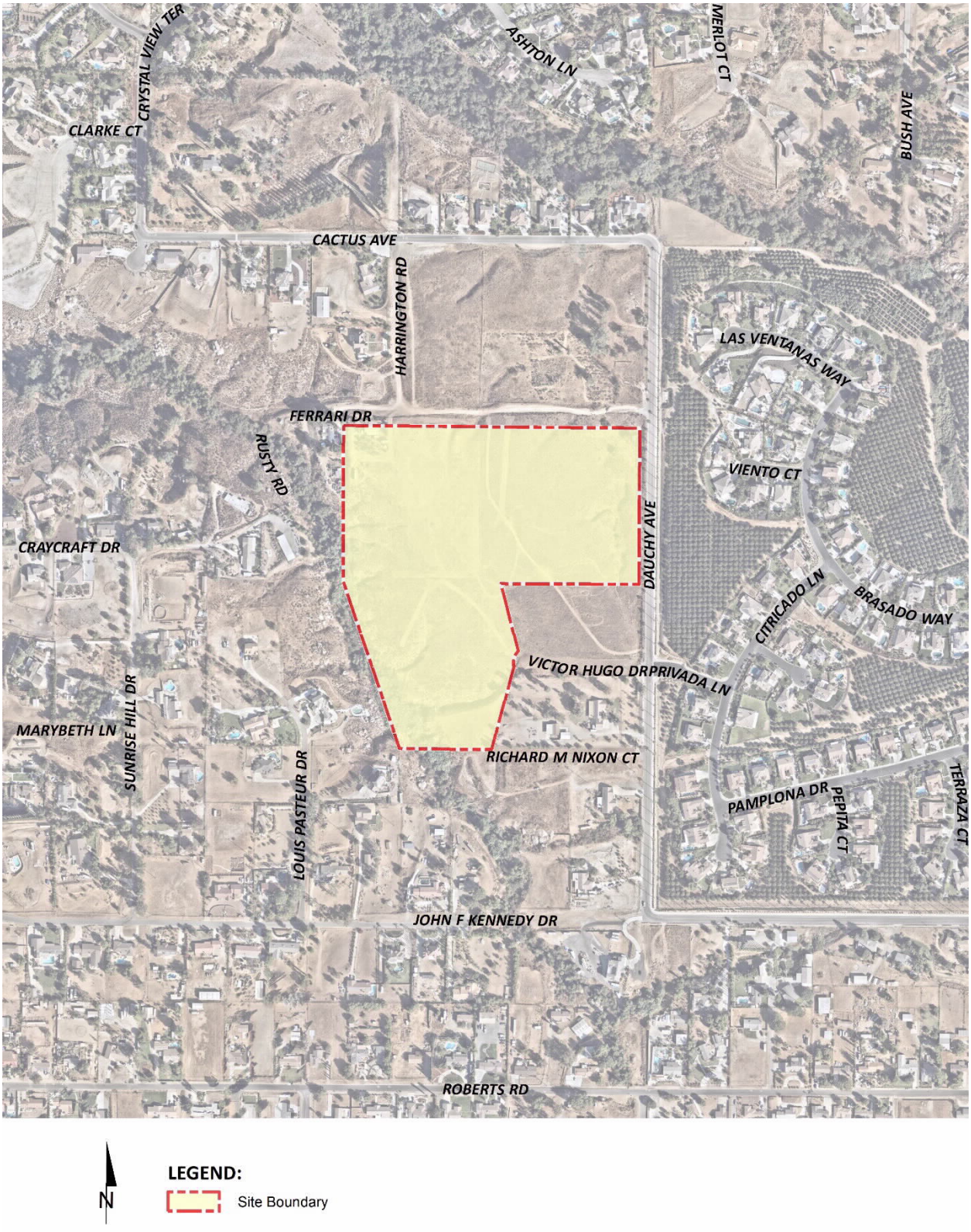
1.1 SITE LOCATION

The proposed Dauchy Avenue site is located south of Ferrari Drive (APN 276-040-011 and -012), and west of Dauchy Avenue (APN 276-050-029), in the City of Riverside, as shown on Exhibit 1-A. Based on the City of Riverside zoning map, the Project site is zoned R-1-1/2-Acre-WC – Single Family Residential and Water Course Overlay Zones (APN 276-040-011 and -012) and RC-WC – Residential Conservation and Water Course Overlay Zones (APN 276-050-029), which allows for the development of single-family dwellings. The General Plan designates the Project area as VLDR- OS – Very Low Density Residential and Open Space (APN 276-040-011 and -012) and HR-OS – Hillside Residential and Open Space (APN 276-050-029).

1.2 PROJECT DESCRIPTION

The Project consists of the development of 53 residential dwelling units on three parcels (APN:276-050-029,276-040-011 and -012), as shown on Exhibit 1-B. The current acreage of the three parcels involved in the project is 24.45 acres. With the street vacations indicated Lots “A” and “H” on the Tentative Tract Map, the amount of acreage will increase to 24.73 acres. Accordingly, street improvements on the project frontage along Ferrari Drive and Dauchy Avenue will include curbs, gutters, and sidewalks. Ferrari Drive will also include street side landscaping. Victor Hugo Drive will be paved to its full width. Accordingly, curbs and sidewalks will be installed on the north side of Victor Hugo Drive.

EXHIBIT 1-A: PROJECT LOCATION



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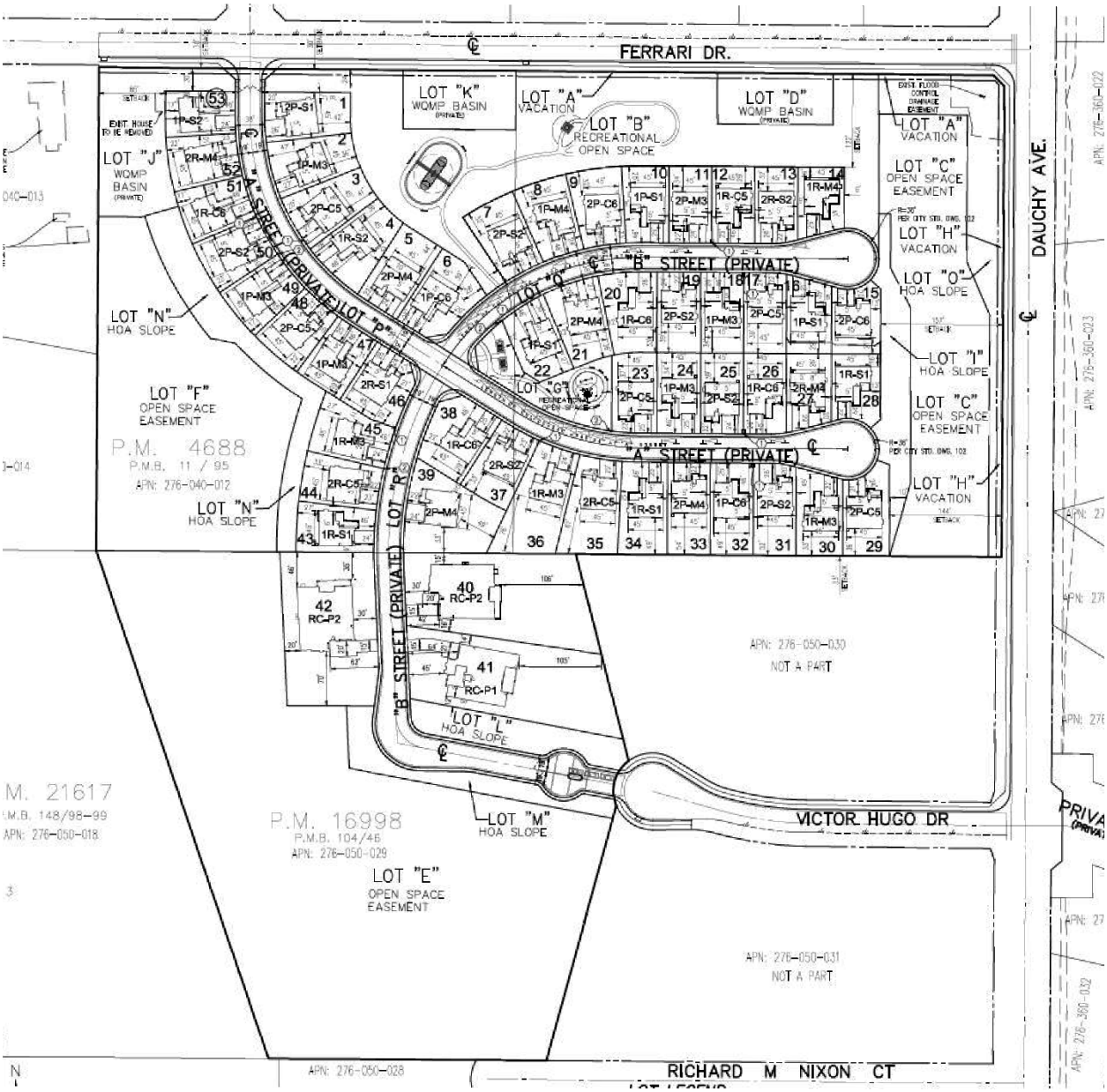
Source: NearMap2020

EXHIBIT 1-B: SITE PLAN



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2 AIR QUALITY SETTING

This section provides an overview of the existing air quality conditions in the Project area and region.

2.1 SOUTH COAST AIR BASIN

The Project site is located in the South Coast Air Basin (SCAB) within the jurisdiction of SCAQMD (1). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As previously stated, the Project site is located within the SCAB, a 6,745-square mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bounded by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley.

2.2 REGIONAL CLIMATE

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to middle 60s degrees Fahrenheit (°F). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide (SO_2) to sulfates (SO_4) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71% along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los

Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NO_X and carbon monoxide (CO) from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

2.3 WIND PATTERNS AND PROJECT LOCATION

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The SCAB is located in a coastal plain with connecting broad valleys and

low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

2.4 CRITERIA POLLUTANTS

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are identified in Table 2-1 (2).

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
CO	CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, motor vehicles operating at slow speeds are the primary source of CO in the SCAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
SO_2	SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_X)	Coal or oil burning power plants and industries, refineries, diesel engines	A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
NO_X	NO_X consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with oxygen (O_2). Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. NO_X are typically created during combustion processes and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitoring station.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. In animals, exposure to levels of NO_2 considerably higher than ambient concentrations result in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO_2.
Ozone (O_3)	O_3 is a highly reactive and unstable gas that is formed when VOCs and NO_X, both byproducts of internal combustion engine exhaust, undergo slow	Formed when reactive organic gases (ROG) and NO_X react in the	Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
	photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.	presence of sunlight. ROG sources include any source that burns fuels, (e.g., gasoline, natural gas, wood, oil) solvents, petroleum processing and storage and pesticides.	disease, are considered to be the most susceptible sub-groups for ozone effects. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple outdoor sports and live in communities with high ozone levels. Ozone exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist,

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
			which can lead to subsequent lung structural changes.
Particulate Matter	PM_{10} (Particulate Matter less than 10 microns): A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. Particulate matter pollution is a major cause of reduce visibility (haze) which is caused by the scattering of light and consequently the significant reduction air clarity. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. Additionally, it should be noted that PM_{10} is considered a criteria air pollutant. $PM_{2.5}$ (Particulate Matter less than 2.5 microns): A similar air pollutant to PM_{10} consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from SO_2 release from power plants and industrial facilities and nitrates that are formed from NO_X release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. $PM_{2.5}$ is a criteria air pollutant.	Sources of PM_{10} include road dust, windblown dust and construction. Also formed from other pollutants (acid rain, NO_X, SO_X, organics). Incomplete combustion of any fuel. $PM_{2.5}$ comes from fuel combustion in motor vehicles, equipment and industrial sources, residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NO_X, SO_X, organics).	A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in lifespan, and an increased mortality from lung cancer. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
			susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.
Volatile Organic Compounds (VOC)	VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form ozone to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms VOC and ROG (see below) interchangeably.	Organic chemicals are widely used as ingredients in household products. Paints, varnishes and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing and hobby products. Fuels are made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some degree, when they are stored.	Breathing VOCs can irritate the eyes, nose and throat, can cause difficulty breathing and nausea, and can damage the central nervous system as well as other organs. Some VOCs can cause cancer. Not all VOCs have all these health effects, though many have several.
ROG	Similar to VOC, ROGs are also precursors in forming ozone and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and NO_X react in the presence of sunlight. ROGs are a criteria pollutant since they are a	Sources similar to VOCs.	Health effects similar to VOCs.

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
	precursor to O_3, which is a criteria pollutant. The terms ROG and VOC (see previous) are used interchangeably.		
Lead (Pb)	Lead is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. The major sources of lead emissions are ore and metals processing, particularly lead smelters, and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. It should be noted that the Project does not include operational activities such as metal processing or lead acid battery manufacturing. As such, the Project is not anticipated to generate a quantifiable amount of lead emissions.	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.
Odor	Odor means the perception experienced by a person when one or more chemical substances	Odors can come from many sources including animals, human activities,	Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
	in the air come into contact with the human olfactory nerves.	industry, natures, and vehicles.	throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

2.5 EXISTING AIR QUALITY

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table 2-2 (4).

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards. At the time of this AQIA, the most recent state and federal standards were updated by CARB on May ,4 2016 and are presented in Table 2-2. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, PM_{10}, and $PM_{2.5}$ are not to be exceeded. All others are not to be equaled or exceeded. It should be noted that the three-year period is presented for informational purposes and is not the basis for how the State assigns attainment status. Attainment status for a pollutant means that the SCAQMD meets the standards set by the Environmental Protection Agency (EPA) or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, a State Implementation Plan (SIP) is drafted by CARB. The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the EPA will designate the area as a maintenance area (5).

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (1 OF 2)

Ambient Air Quality Standards						
Pollutant	**Averaging Time**	**California Standards [1]**		**National Standards [2]**		
		Concentration [3]	**Method [4]**	**Primary [3,5]**	**Secondary [3,6]**	**Method [7]**
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page …

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (2 OF 2)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

2.6 REGIONAL AIR QUALITY

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: CO, Pb, O_3, particulate matter (PM_{10} and $PM_{2.5}$), NO_2, and SO_2 which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source Pb air monitoring sites throughout the air district (6). On February 21, 2019, CARB posted the 2018 amendments to the state and national area designations. See Table 2-3 for attainment designations for the SCAB (7).

TABLE 2-3: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SCAB

Criteria Pollutant	State Designation	Federal Designation
O_3 – 1-hour standard	Nonattainment	--
O_3 – 8-hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment-Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment-Maintenance
NO_2	Attainment	Unclassifiable/Attainment
SO_2	Unclassifiable/Attainment	Unclassifiable/Attainment
Pb	Attainment	Nonattainment (part)

"-" = The national 1-hour O_3 standard was revoked effective June 15, 2005.

2.7 LOCAL AIR QUALITY

The Project site is located within the Source Receptor Area (SRA) 23. Within SRA 23, the South San Gabriel Valley monitoring station is located at 500 S. 7th Avenue, City of Industry, approximately 7.5 miles northwest within SRA 23 and is the nearest monitoring station to the Project site.

The most recent three (3) years of data available is shown on Table 2-4 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Project site. Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ for 2016 through 2018 was obtained from the SCAQMD Air Quality Data Tables (8). Additionally, data for SO_2 has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO_2 concentrations.

TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2017-2019

POLLUTANT	STANDARD	YEAR		
		2017	2018	2019
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	2.5	2.0	1.9
Maximum Federal 8-Hour Concentration	> 20 ppm	2.2	1.8	1.5
O_3				
Maximum Federal 1-Hour Concentration (ppm)		0.118	0.115	0.108
Maximum Federal 8-Hour Concentration (ppm)		0.086	0.082	0.091
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	7	3	5
Number of Days Exceeding Federal/State 8-Hour Standard	> 0.070 ppm	9	8	7
NO_2				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.075	0.079	0.062
Annual Federal Standard Design Value		0.020	0.018	0.055
PM_{10}				
Maximum Federal 24-Hour Concentration (µg/m^3)	> 150 µg/m^3	--	--	--
Annual Federal Arithmetic Mean (µg/m^3)		--	--	--
Number of Days Exceeding Federal 24-Hour Standard	> 150 µg/m^3	--	--	--
Number of Days Exceeding State 24-Hour Standard	> 50 µg/m^3	--	--	--
$PM_{2.5}$				
Maximum Federal 24-Hour Concentration (µg/m^3)	> 35 µg/m^3	49.5	35.4	29.6
Annual Federal Arithmetic Mean (µg/m^3)	> 12 µg/m^3	12.2	12.3	24.4
Number of Days Exceeding Federal 24-Hour Standard	> 35 µg/m^3	1	0	0

ppm = Parts Per Million
Source: Data for was obtained from SCAQMD Historical Air Quality Data.

2.8 REGULATORY BACKGROUND

2.8.1 FEDERAL REGULATIONS

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance_(10). NAAQS have been designated for the criteria pollutants of primary concern: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter with diameters of up to ten microns (PM_{10}) and up to 2.5 microns ($PM_{2.5}$), and lead (Pb). The primary NAAQS "in the judgment of the [EPA] are….are requisite to protect the public health" with an adequate a margin of safety and the secondary standards are to "protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air" [42 USC 7409(b)(2)]. The U.S. EPA classifies specific geographic areas as either "attainment" or "non-attainment" areas for each pollutant based on the comparison of measured data with

the NAAQS. States are required to adopt enforceable plans, known as a State Implementation Plan (SIP), to achieve and maintain air quality meeting the NAAQS. The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) (11) and Title II (Mobile Source Provisions) (12). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. Table 2-3 (previously presented) provides the NAAQS within the SCAB.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_X. NO_X is a collective term that includes all forms of NO_X which are emitted as byproducts of the combustion process.

The EPA is responsible for setting and enforcing the NAAQS for O_3, CO, NO_X, SO_2, PM_{10}, and Pb (9). The EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the CARB.

2.8.2 CALIFORNIA REGULATIONS

California Air Resources Board

The CARB, which became part of the CalEPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. The CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO_4, visibility, hydrogen sulfide (H_2S), and vinyl chloride (C_2H_3Cl). However, at this time, H_2S and C_2H_3Cl are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (13) (9).

Local air quality management districts, such as the SCAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g. motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for ROGs, NO_X, CO and PM_{10}. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

California Building Standards Code

Title 24 of the California Code of Regulations contains numerous subparts, including Part 1 (Administrative Code), Part 2 (Building Code), Part 3 (Electrical Code), Part 4 (Mechanical Code), Part 5 (Plumbing Code), Part 6 (Energy Code), Part 8 (Historical Building Code), Part 9 (Fire Code), Part 10 (Existing Building Code), Part 11 (Green Building Standards Code), Part 12 (Referenced Standards Code). Of particular interest to air quality are the requirements that California homes and businesses are constructed to meet high energy-efficiency and sustainability measures.

Part 6 (Building Energy Efficiency Standards)

Part 6 of Title 24 contains the 2016 Building Energy Efficiency Standards for new residential and non-residential buildings, which went into effect on January 1, 2017. Part 6 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2016 Standards improve upon the previous 2013 Standards for new construction of and additions and alterations to residential and nonresidential buildings. The 2016 Standards improve upon the previous 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Under the 2016 Standards, residential buildings are generally 28 percent more efficient than the 2013 Standards, and nonresidential buildings are generally five percent more energy efficient than the 2013 Standards as a result of better windows, insulation, lighting, ventilation systems, and other features (CEC 2016). Part 6 also provides for the installation of cool roofs in Sections 140.3(a)(1), 141.0(b)(2)(B), and 141.0(b)(3).

The 2019 Building Energy Efficiency Standards, adopted on May 9, 2018, became effective on January 1, 2020. The 2019 Standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multi-family buildings of three stories and less. The 2019 Standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (18). Under the 2019 Standards, nonresidential buildings will be 30 percent more energy-efficient compared to the 2016 Standards, and single-family homes will be seven percent more energy-efficient (18). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards.

Part 11 (CALGreen)

The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code in 2008. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of the CALGreen became effective January 1, 2011 and were updated in 2016. The 2016 Standards, which became effective on January 1, 2017, establish green building criteria for residential and nonresidential projects. The CEC adopted updates to the 2016 Standards in 2019 that took effect on January 1, 2020. These changes include the following: increasing the number of parking spaces that must be prewired for electric vehicle chargers in residential development; requiring all residential development to adhere to the applicable MWELO; requiring mechanically ventilated buildings to install filters with a Minimum Efficiency Reporting Value (MERV) of 13, and requiring more appropriate sizing of HVAC ducts.

2.8.3 REGIONAL REGULATIONS

South Coast Air Quality Management District

The SCAQMD is the air pollution control agency in the Basin. The role of the local SCAQMD is to protect the people and the environment of the Basin from the effects of air pollution. Under State law, the SCAQMD is required to prepare a plan for air quality improvement for pollutants for which the SCAB is in non-attainment under the NAAQS or CAQQS. The SCAQMD updates the plan regularly. Each iteration of the SCAQMD's Air Quality Management Plan (AQMP) is an update of the previous plan and has a 20-year horizon. The latest AQMP, the 2016 AQMP, was adopted on March 3, 2017. It incorporates new scientific data and notable regulatory actions that have occurred since adoption of the 2012 AQMP, including the approval of the new federal 8-hour ozone standard of 0.070 ppm that was finalized in 2015. A detailed discussion on the AQMP and Project consistency with the AQMP is provided in Section 3.11.

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3 PROJECT AIR QUALITY IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it will violate an air quality standard, contribute to an existing or projected air quality violation, or determine if it will result in a cumulatively considerable net increase of a criteria pollutant for which the SCAB is non-attainment under an applicable NAAQS and CAAQS. Additionally, the Project has been evaluated to determine consistency with the applicable AQMP, exposure of sensitive receptors to substantial pollutant concentrations, and the impacts of odors. The significance of these potential impacts is described in the following section.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines (14 CCR §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (15):

- Conflict with or obstruct implementation of the applicable air quality plan.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. affecting a substantial number of people.

The SCAQMD has also developed regional significance thresholds for other regulated pollutants, as summarized at Table 3-1 (16). The SCAQMD's CEQA Air Quality Significance Thresholds (April 2019) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

3.3 CALIFORNIA EMISSIONS ESTIMATOR MODEL™

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

On October 17, 2017, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod) v2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (17). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality emissions.

TABLE 3-1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS

Pollutant	Construction Regional Thresholds	Operational Regional Thresholds
NO_X	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
SO_X	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Pb	3 lbs/day	3 lbs/day

lbs/day = Pounds Per Day
Source: SCAQMD

3.3.1 EMISSION FACTORS MODEL

On August 19, 2019, the EPA approved the 2017 version of the EMissions FACtor model (EMFAC) web database for use in SIP and transportation conformity analyses. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (18). This AQIA utilizes summer, winter, and annual EMFAC2017 emission factors in order to derive vehicle emissions associated with Project operational activities, which vary by season.

Because the EMFAC2017 emission rates are associated with vehicle fuel types while CalEEMod vehicle emission factors are aggregated to include all fuel types for each individual vehicle class, the EMFAC2017 emission rates for different fuel types of a vehicle class are averaged by activity or by population and activity to derive CalEEMod emission factors. The equations applied to obtain CalEEMod vehicle emission factors for each emission type are detailed in CalEEMod User's Guide *Appendix A: Calculation Details for CalEEMod* (19). EMFAC2017 emission rates utilized in this analysis can be found in Appendix 3.2 of this report.

3.4 CONSTRUCTION EMISSIONS

Construction activities associated with the Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following construction activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

Grading Activities

Dust is typically a major concern during 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 utilized to calculate fugitive dust emissions resulting from this phase of activity. Based on information provided by the Project Applicant, no import of earthwork material is anticipated for the Project, as it is anticipated that grading on the site would be balanced. Additionally, the construction emissions included watering the project site twice per day and thus are reported from the mitigated emissions run output from CalEEMod.

Construction Worker Vehicle Trips

Construction emissions for 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 information from CalEEMod defaults.

3.4.1 CONSTRUCTION DURATION

For purposes of analysis, construction of Project is expected to commence June 1, 2024, and be completed by September 19, 2025. The construction schedule utilized in the analysis, shown in Table 3-2, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA Guidelines *15064* (15).

TABLE 3-2: CONSTRUCTION DURATION

Phase Name	Start Date[1]	End Date[1]	Days
Site Preparation	6/1/2024	6/14/2024	10
Grading	6/15/2024	7/26/2024	30
Building Construction	7/27/2024	9/19/2025	300
Paving	7/26/2025	9/19/2025	40
Architectural Coating	7/26/2025	9/19/2025	40

Source: CalEEMod 2016.
[1] Dates included in modeling conservatively assume earlier years with higher emission rates,

3.4.2 CONSTRUCTION EQUIPMENT

Site specific construction fleet may vary due to specific project needs at the time of construction. The associated construction equipment was generally based on CalEEMod 2016.3.2 defaults, and the Project applicant has confirmed that the equipment list is reasonable for the Project's construction. A detailed summary of construction equipment by phase is provided in Table 3-3.

TABLE 3-3: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase Name	Equipment	Amount	Hours Per Day
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	2	8
	Excavators	2	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Scrapers	2	8
Building Construction	Air Compressors	1	8
	Cranes	1	8
	Forklifts	3	8
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	3	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8
Source: CalEEMod 2016.			

3.4.3 CONSTRUCTION EMISSIONS SUMMARY

CalEEMod calculates maximum daily emissions for summer and winter periods. The estimated maximum daily construction emissions are summarized on Table 3-4. Detailed construction model outputs are presented in Appendices 3.1 and 3.2. As shown, Project construction activities will not exceed the applicable thresholds of significance established by the SCAQMD.

TABLE 3-4: OVERALL CONSTRUCTION EMISSIONS SUMMARY

Year	Emissions (lbs/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Summer						
2024	5.2	57.2	34.4	0.1	23.0	12.5
2025	18.6	29.6	38.1	0.1	1.9	1.5
Maximum Daily Summer Emissions	**18.58**	**57.16**	**38.06**	**0.08**	**22.98**	**12.54**
Winter						
2024	5.2	57.2	34.3	0.1	22.98	12.54
2025	18.6	29.6	37.9	0.1	1.91	1.49
Maximum Daily Winter Emissions	**18.59**	**57.16**	**37.95**	**0.08**	**22.98**	**12.54**
Maximum Daily Emissions	**18.59**	**57.16**	**38.06**	**0.08**	**22.98**	**12.54**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod unmitigated regional construction-source emissions are presented in Appendix 3.1.

3.5 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Operational emissions would be expected from the following primary sources:

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

3.5.1 AREA SOURCE EMISSIONS

Architectural Coatings

Over a period of time the building that is 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 provided within CalEEMod.

Hearths/Fireplaces

The emissions associated with use of hearths/fireplaces were calculated based on assumptions provided in the CalEEMod model. 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 the requirements of this Rule, the unmitigated CalEEMod model estimates were adjusted to remove wood burning stoves and fireplaces. As the project is required to comply with SCAQMD Rule 445, the removal of wood burning stoves and fireplaces is not considered "mitigation" although it must be identified as such in CalEEMod in order to treat the case appropriately. All units are assumed to have natural gas burning fireplaces.

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/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 provided in CalEEMod.

3.5.2 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 consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite 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.

Title 24 Energy Efficiency Standards

California's Energy Efficiency Standards for Residential and Nonresidential Buildings was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The CEC anticipates that nonresidential buildings will use approximately 30% less energy due to lighting upgrade requirements (20). The CalEEMod defaults for Title 24 – Electricity, Title 24 – Natural Gas, and Lighting Energy were reduced by 30% in order to reflect consistency with the 2019 Title 24 standards.

3.5.3 MOBILE SOURCE EMISSIONS

Project mobile source air quality 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. The Project-related operational air quality impacts are derived primarily from vehicle trips generated by the Project. Trips were calculated based on the Institution of Transportation Engineers (ITE) trip generation rates included in CalEEMod (20).

Mobile source emission factors in CalEEMod were updates to use the most current version of CARB's Emissions Factor Model, EMFAC2017. EMFAC 2017 emission factors used in the model are included in appendix 3.2.

3.5.4 OPERATIONAL EMISSIONS SUMMARY

As previously stated, CalEEMod utilizes summer and winter EMFAC2017 emission factors in order to derive vehicle emissions associated with Project operational activities, which vary by season. As such, operational activities for summer and winter scenarios are presented in Table 3-5. Detailed operational model outputs are presented in Appendices 3.1. As shown, Project operational activities will not exceed the applicable thresholds of significance established by the SCAQMD.

3.6 LOCALIZED SIGNIFICANCE

BACKGROUND ON LOCALIZED SIGNIFICANCE THRESHOLD (LST) DEVELOPMENT

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology) (21). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the NAAQS and CAAQS. Collectively, these are referred to as Localized Significance Thresholds (LSTs).

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4[1]. 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.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to unhealthy concentrations of criteria pollutants in local communities. To address the issue of localized significance, the SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of methodology included in the *LST Methodology* (21).

[1] The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "…equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

TABLE 3-5: SUMMARY OF PEAK OPERATIONAL EMISSIONS[2]

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Area Source	2.28	0.85	4.72	0.01	0.09	0.09
Energy Source	0.03	0.24	0.10	0.00	0.02	0.02
Mobile Source Passenger Cars	1.44	3.75	13.78	0.04	3.82	1.05
Total Maximum Daily Emissions	**3.74**	**4.83**	**18.60**	**0.05**	**3.93**	**1.16**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Winter						
Area Source	2.28	0.85	4.72	0.01	0.09	0.09
Energy Source	0.03	0.24	0.10	0.00	0.02	0.02
Mobile Source Passenger Cars	1.29	3.89	11.88	0.04	3.82	1.05
Total Maximum Daily Emissions	**3.60**	**4.97**	**16.70**	**0.04**	**3.93**	**1.16**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod 2016, Appendix 3.2.

Source: CalEEMod 2016, Appendix 3.2.

APPLICABILITY OF LSTS FOR THE PROJECT

For this Project, the appropriate SRA for the LST analysis is South San Gabriel Valley (SRA 23). LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. 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 utilized 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* and CalEEMod User's Guide *Appendix A: Calculation Details for CalEEMod* 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 (22) (19).
- If the total acreage disturbed is less than or equal to five acres per day, then the SCAQMD's screening look-up tables are utilized to determine if a Project has the potential to result in a significant impact. The look-up tables establish a maximum daily emissions threshold in lbs/day that can be compared to CalEEMod outputs.

[2] On November 20, 2019, CARB released the EMFAC Off-Model Adjustment Factors to account for the impact of the Safer Affordable Fuel-Efficient (SAFE) Vehicle Rule Part One. The emissions presented in Table 3-6 have been adjusted to reflect the adjustment factors. The adjustment factors can be found at: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf?utm_medium=email&utm_source=govdelivery

- If the total acreage disturbed is greater than five acres per day, then LST impacts are appropriately evaluated through dispersion modeling.
- The LST methodology presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the values given, or with receptors at distances between the given receptors, the methodology uses linear interpolation to determine the thresholds.

Sensitive Receptors

As previously stated, LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable NAAQS and CAAQS at the nearest residence or sensitive receptor. Receptor locations are off-site locations where individuals may be exposed to emissions from Project activities.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors." These structures typically include residences, hotels, hospitals, etc. as they are also known to be locations where an individual can remain for 24 hours.

While commercial and similar non-residential facilities are not included in the definition of sensitive receptor because employees and patrons do not typically remain onsite for a full 24 hours but are typically onsite for eight hours or less. The *LST Methodology* explicitly states that "*LSTs based on shorter averaging periods, such as the NO_2 and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours* (21)."

However, there are no non-residential land uses in proximity to the project site, thus, the nearest land use to the Project site where an individual could remain for 8 or 24 hours has been used to determine construction and operational air quality impacts. It should be noted that all off-site receptors in this analysis are residential land uses.

Project-related Sensitive Receptors

Sensitive receptors in the vicinity of the Project site are shown in Exhibit 3-A. Localized air quality impacts were evaluated at sensitive receptor land uses nearest the Project site. All distances are measured from the Project site boundary to the outdoor living areas (e.g., backyards) or at the building façade, whichever is closer to the Project site. The selection of receiver locations is based on Federal Highway Administration (FHWA) guidelines and is consistent with additional guidance provided by Caltrans and the Federal Transit Administration (FTA).

R1: Location R1 represents the existing residence at 18351 Ferrari Drive, located approximately 35 feet west of the Project site. R1 represented the back yard of the nearest residence.

R2: Location R2 represents the existing residence at 18386 Cactus Avenue, located approximately 753 feet southeast of the Project site. R2 represents the façade of the residence located at 18386 Cactus Avenue.

R3: Location R3 represents the existing residence at 1268 Viento Court, located approximately 261 feet west of the Project site. R3 represented the back yard of 1268 Viento Court.

R4: Location R4 represents the existing residence at 14855 Dauchy Avenue, located approximately 451 feet west of the Project site. R4 represents the façade of the residence located at 14855 Dauchy Avenue as it is the nearest point a residence is likely to spend extended periods.

R5: Location R5 represents the existing residence at 18306 John F. Kennedy Drive, located approximately 84 feet west of the Project site. R3 represented the back yard of 18306 John F. Kennedy Drive.

As previously stated, the nearest land use to the Project site has been used to determine localized construction and operational air quality impacts for emissions.

3.6.1 LOCALIZED THRESHOLDS – CONSTRUCTION ACTIVITY

The project site is approximately 24.73 acres and could disturb approximately 20.75 acres per day during site preparation and grading activities. For the purposes of this analysis, and as a conservative measure, the SCAQMD look-up tables of 5 acres are used to determine localized significance thresholds for site preparation and grading. The LST lookup tables can be used as a conservative measure to show that even if the daily emissions from all project construction were emitted on a 5-acre site (and therefore concentrated over a smaller area which would result in greater site adjacent concentrations), if the impacts are less than significant, then a more detailed evaluation is not necessary.

The threshold values presented in Table 3-6, are from the look-up tables for a 5-acre site and a 25-meter distance for localized NO_X, CO, PM_{10}, and $PM_{2.5}$ evaluation. The thresholds presented in Table 3-6.

EXHIBIT 3-A: SENSITIVE RECEPTOR LOCATIONS

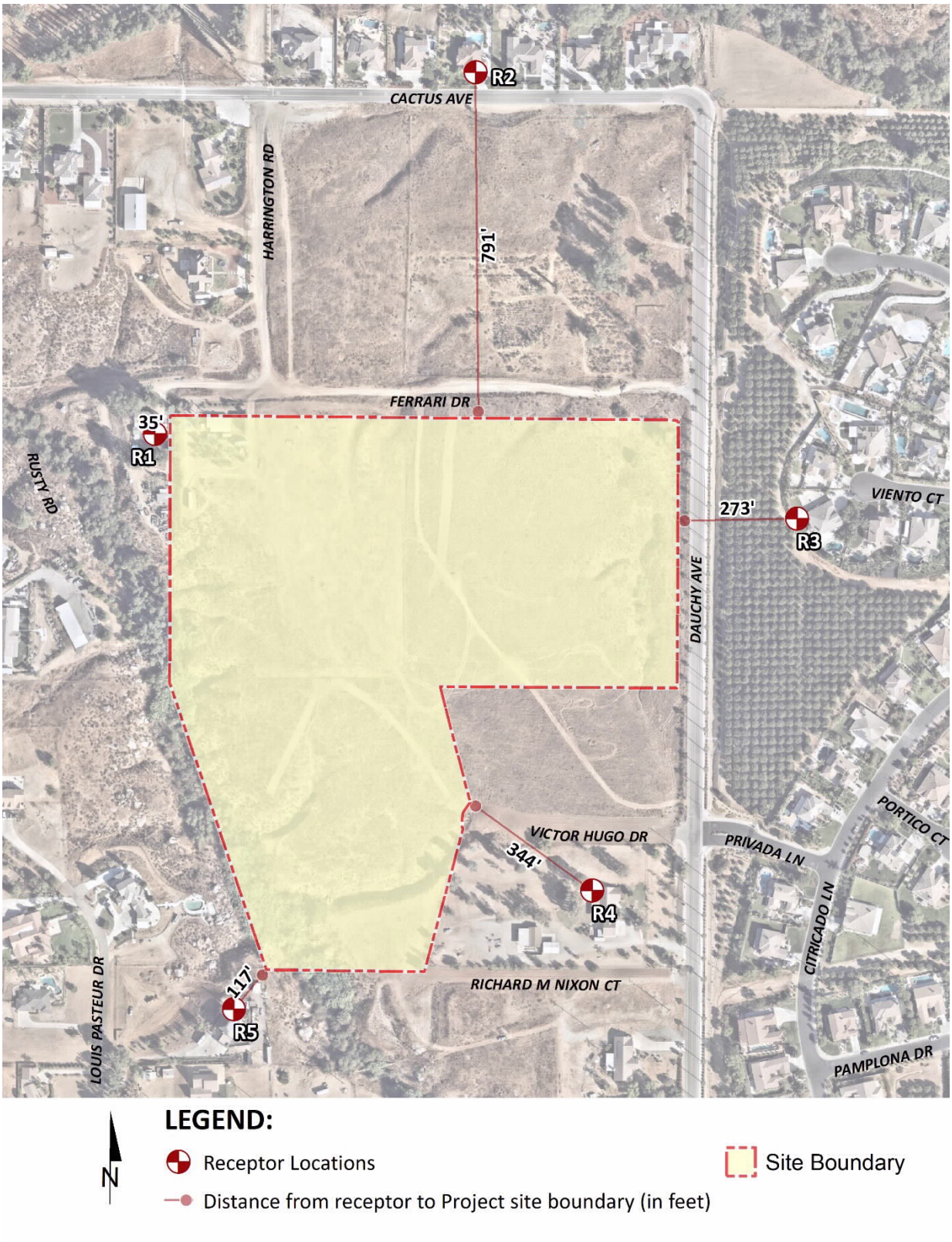

TABLE 3-6: MAXIMUM DAILY LOCALIZED CONSTRUCTION EMISSIONS THRESHOLDS

Pollutant	Construction Localized Thresholds
NO_X	270 Lbs./day
CO	1,577 Lbs./day
PM_{10}	13 Lbs./day
$PM_{2.5}$	8 Lbs./day

Source: Localized Thresholds presented in this table are based on the SCAQMD Final LST Methodology, July 2008

3.6.2 LOCALIZED CONSTRUCTION-SOURCE EMISSIONS

Table 3-7 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Without mitigation, localized construction emissions would not exceed the applicable SCAQMD LSTs for emissions of any criteria pollutant using the most restrictive distance.

TABLE 3-7: PROJECT LOCALIZED CONSTRUCTION EMISSIONS, INCLUDING RULE 403

On-Site Emissions	Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	57.11	36.72	0.08	7.90
SCAQMD Localized Threshold	270	1,577	13	8
Threshold Exceeded?	**No**	**No**	**No**	**No**

Source: CalEEMod unmitigated localized construction-source emissions are presented in Appendix 3.1.

3.7 LOCALIZED SIGNIFICANCE – LONG-TERM OPERATIONAL ACTIVITY

The Project is located on an approximately 24.73-acre parcel. This analysis is conservative as it assumes that all operational emissions associated with the project would occur within the Project site, The LST analysis generally includes on-site sources (area, energy as previously discussed in Section 3.5 of this report). However, it should be noted that the CalEEMod outputs do not separate on-site and off-site emissions from mobile sources. In an effort to establish a maximum potential impact scenario for analytic purposes, the emissions shown on Table 3-8 represent all on-site Project-related sources. Modeling based on these assumptions demonstrates that even within broad encompassing parameters, Project operational-source emissions would not exceed applicable LSTs.

3.7.1 LOCALIZED THRESHOLDS FOR OPERATIONAL ACTIVITY

The threshold values presented in Table 3-8, are from the look-up tables for a 5-acre site and a 25-meter distance for localized NO_X, CO, PM_{10}, and $PM_{2.5}$ evaluation.

TABLE 3-8: MAXIMUM DAILY LOCALIZED OPERATIONAL EMISSIONS THRESHOLDS

Pollutant	Operational Localized Thresholds
NO_X	270 Lbs./day
CO	1,577 Lbs./day
PM_{10}	4 Lbs./day
$PM_{2.5}$	2 Lbs./day

Source: Localized Thresholds presented in this table are based on the SCAQMD Final LST Methodology, July 2008

3.7.2 OPERATIONAL-SOURCE LOCALIZED EMISSIONS

As shown on Table 3-9 operational emissions will not exceed the LST thresholds for the nearest sensitive receptor. Therefore, the Project will have a less than significant localized impact during operational activity.

TABLE 3-9: LOCALIZED SIGNIFICANCE SUMMARY OF OPERATIONS

Operational Activity	Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	1.47	6.00	0.49	0.21
SCAQMD Localized Threshold	270	1,577	4	2
Threshold Exceeded?	**No**	**No**	**No**	**No**

Source: CalEEMod localized operational-source emissions are presented in Appendices 3.2 through 3.4.

3.8 CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific CO "hot spots" is not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the 1993 Handbook, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO (23). However, the SCAB has been designated a CO attainment area and has maintained a federal maintenance plan for over 10 years.

To establish a more accurate record of baseline CO concentrations affecting the SCAB, the SCAQMD conducted a detailed CO "hot spot" analysis in 2003 for four of the busiest intersections in Los Angeles during the peak morning and afternoon time periods. The results of the "hot spot" analysis are shown on Table 3-10.

TABLE 3-10: CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Boulevard/Veteran Avenue	4.6	3.5	3.7
Sunset Boulevard/Highland Avenue	4	4.5	3.5
La Cienega Boulevard/Century Boulevard	3.7	3.1	5.2
Long Beach Boulevard/Imperial Highway	3	3.1	8.4

Source: 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations
Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

As shown in in Table 3-11, the intersection that had the highest 1-hour concentration Wilshire Boulevard and Veteran Avenue at 4.6 ppm. As shown in Table 3-11 this resulted from a peak hour traffic volume of approximately 8,000 vehicles. Based on these traffic volumes, even the peak hour traffic volume increases four times the modeled volumes (8,000*4=32,000) the CO concentration would not exceed the most stringent 1-hour CO standard (4.6 ppm x 4 = 18.4 ppm < 20.0 ppm).[3]

TABLE 3-11: TRAFFIC VOLUMES

Intersection Location	Total (AM/PM)
Wilshire Boulevard/Veteran Avenue	8,062/7,719
Sunset Boulevard/Highland Avenue	6,614/5,374
La Cienega Boulevard/Century Boulevard	6,634/8,674
Long Beach Boulevard/Imperial Highway	4,212/5,514

Source: 2003 AQMP

In addition, as part of the SCAQMD's 2003 AQMP and the Amendment to the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), it was shown that peak CO concentrations at specific locations in the SCAB result from unusual meteorological and topographical conditions and are not from traffic volumes or congestion at a particular intersection. The SCAQMD highlighted this issue by examining the 8-hour CO concentrations measured at various locations during the maximum ambient concentrations. At the Long Beach Boulevard and Imperial Highway intersection, they found while the measured maximum ambient CO was 9.3 ppm, only 0.7 ppm was attributable to the traffic sources while the remaining 8.6 ppm were due to the other sources (24).

Similar evaluation employed by other Air Districts when evaluating potential CO concentration impacts have come to similar conclusions. Specifically, the Bay Area Air Quality Management

[3] Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).

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 (vph) —or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (25).

As discussed, the project would only generate 168 trips per day (26). As such, the Project considered in this analysis would not produce the volume of traffic required to generate a CO "hot spot" in the context of the 2003 Los Angeles hot spot study. Therefore, localized air quality impacts related to mobile-source emissions would therefore be less than significant.

Based on the SCAQMD's findings and changes in vehicle emissions regulation, any relatively high CO concentrations in the SCAB are attributable more to meteorological and topographical conditions, which account for approximately 92% of the CO concentrations, than to traffic congestion, which accounts for approximately 8% of the CO concentrations. Therefore, coupled with the on-going improvements in ambient air quality, improvements in fuel economy, and improvements in tailpipe emissions, at a project level few project would not be capable of resulting in a CO "hot spot" at any study area intersections. Therefore, CO "hot spots" are not an environmental impact of concern for the proposed Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

In contrast, based on Table 2-3, the ambient 8-hour CO concentration within the Project study area is estimated at 1.5 ppm — 2.2 ppm. Therefore, even if the traffic volumes for the Project were double or even triple of the traffic volumes generated at the Long Beach Boulevard and Imperial Highway intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO "hot spot" at any study area intersections.

3.9 AIR QUALITY MANAGEMENT PLANNING

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the SCAG, county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the AQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as, explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (27). Similar to the 2012 AQMP,

the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016 RTP/SCS, a planning document that supports the integration of land use and transportation to help the region meet the federal CAA requirements (28). The Project's consistency with the AQMP will be determined using the 2016 AQMP as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's CEQA Air Quality Handbook (1993) (29). These indicators are discussed below:

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.

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

Construction Impacts – Consistency Criterion 1

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if LSTs or regional significance thresholds were exceeded. The Project's localized construction-source emissions would not exceed applicable regional significance thresholds. However, as evaluated in Section 3.4, the Project would not exceed the regional significance thresholds for any pollutant. As such, the Project is consistent with the AQMP with regard to regional construction-source air quality violations.

Operational Impacts – Consistency Criterion 1

As evaluated, the Project's localized operational-source emissions would not exceed applicable localized significance thresholds. However, the regional operational-source emissions would not exceed the regional thresholds of significance for emissions of VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$. As such, the Project would not result in a significant impact with respect to this criterion.

On the basis of the preceding discussion, and the lack of thresholds exceedances the Project is determined to be consistent with the first criterion.

Consistency Criterion No. 2: The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Riverside General Plan 2025 is considered to be consistent with the AQMP***.***

Construction Impacts – Consistency Criterion 2

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities.

Operational Impacts – Consistency Criterion 2

The City of Riverside designates the Project site as VLDR- OS – Very Low Density Residential and Open Space (APN 276-040-011 and -012) and HR-OS – Hillside Residential and Open Space (APN 276-050-029). VLDR allows a maximum of 2 dwelling units per acre, and HR allows for a maximum development of 0.5 dwelling units per acre. As such, the Project's proposed land use is consistent with the types of uses anticipated by the growth assumptions anticipated in County's General Plan.

On the basis of the preceding discussion, the Project is determined to be consistent with the second criterion.

AQMP CONSISTENCY CONCLUSION

The Project would not have the potential to result in or cause NAAQS or CAAQS violations. Additionally, Project construction and operational-source emissions would not exceed the regional or localized significance thresholds. The Project would not alter the allowed land use. The Project is therefore considered to be consistent with the AQMP.

3.10 POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, childcare centers, and athletic facilities can also be considered as sensitive receptors. Project sensitive receptors are described in Section 3.6 of this report and are limited to existing residential uses.

Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial criteria pollutant concentrations during Project construction.

Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during operational activity. Further Project traffic would not create or result in a CO "hotspot." Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

3.11 ODORS

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants

- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the County's solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required (30).

3.12 CUMULATIVE IMPACTS

The proposed Project site area is designated as an extreme non-attainment area for ozone, and a non-attainment area for PM_{10}, $PM_{2.5}$, and lead.

The AQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (31). In this report the AQMD clearly states (Page D-3):

> *"…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.*
>
> *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."*

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

CONSTRUCTION IMPACTS

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, proposed Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

OPERATIONAL IMPACTS

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project operational-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, proposed Project operational-source emissions would be considered less than significant on a project-specific and cumulative basis.

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5 CERTIFICATIONS

The contents of this GHG study report represent an accurate depiction of the air pollutant impacts associated with the proposed Dauchy Avenue Project. The information contained in this AQIA report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (619) 788-1971.

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APPENDIX 3.1:

CALEEMOD EMISSIONS MODEL OUTPUTS

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APPENDIX 3.2:

EMFAC2017 OUTPUTS

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Dauchy Street

GREENHOUSE GAS ANALYSIS

CITY OF RIVERSIDE

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April 14, 2022

TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

%	Percent
°F	Degrees Fahrenheit
(1)	Reference
AB	Assembly Bill
AB 32	Global Warming Solutions Act of 2006
AB 1493	Pavley Fuel Efficiency Standards
AB 1181	California Water Conservation Landscaping Act of 2006
Annex I	Industrialized Nations
APA	Administrative Procedure Act
AQIA	Air Quality Impact Analysis
BAU	Business As Usual
C_2F_6	Hexafluoroethane
C_2H_6	Ethane
$C_2H_2F_4$	Tetrafluroethane
$C_2H_4F_2$	Ethylidene Fluoride
CAA	Federal Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGAPS	California LBNL GHG Analysis of Policies Spreadsheet
CALGreen	California Green Building Standards Code
CALSTA	California State Transportation Agency
CALTRANS	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resource Board
CAP	Climate Action Plan
CEC	California Energy Commission
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CDFA	California Department of Food and Agriculture
CF_4	Tetrafluoromethane
CFC	Chlorofluorocarbons
CH_4	Methane
CHF_3	Fluoroform
CH_2FCF	1,1,1,2-tetrafluoroethane
CH_3CF_2	1,1-difluoroethane
City	City of Riverside

CNRA	California Natural Resources Agency
CNRA 2009	2009 California Climate Adaptation Strategy
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
Convention	United Nation's Framework Convention on Climate Change
COP	Conference of the Parties
CPUC	California Public Utilities Commission
CTC	California Transportation Commission
DOF	Department of Finance
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
FBMSM	Facility-Based Mobile Source Measures
FED	Functional Equivalent Document
GCC	Global Climate Change
Gg	Gigagram
GHGA	Greenhouse Gas Analysis
GOBIZ	Governor's Office of Business and Economic Development
GPD	Gallons Per Day
GPY	Gallons Per Year
GWP	Global Warming Potential
H_2O	Water
HFC	Hydrofluorocarbons
HDT	Heavy-Duty Trucks
HHDT	Heavy-Heavy-Duty Trucks
hp	Horsepower
I-215	Interstate 215
IBANK	California Infrastructure and Economic Development Bank
IPCC	Intergovernmental Panel on Climate Change
ISO	Independent System Operator
ITE	Institute of Transportation Engineers
LBNL	Lawrence Berkeley National Laboratory
LCA	Life-Cycle Analysis
LCD	Liquid Crystal Display
LCFS	Low Carbon Fuel Standard
LDA	Light-Duty Auto
LDT1/LDT2	Light-Duty Trucks
LEV III	Low-Emission Vehicle

LHDT	Light-Heavy-Duty Trucks
MDV	Medium-Duty Vehicles
MHT	Medium-Duty Trucks
MHDT	Medium-Heavy-Duty Tucks
MMR	Mandatory Reporting Rule
$MMTCO_2e$	Million Metric Ton of Carbon Dioxide Equivalent
MPG	Miles Per Gallon
MPOs	Metropolitan Planning Organizations
MT/yr	Metric Tons Per Year
$MTCO_2e$	Metric Ton of Carbon Dioxide Equivalent
MWELO	California Department of Water Resources' Model Water Efficient
MY	Model Year
N_20	Nitrous Oxide
NDC	Nationally Determined Contributions
NF_3	Nitrogen Trifluoride
NHTSA	National Highway Traffic Safety Administration
NIOSH	National Institute for Occupational Safety and Health
NO_X	Oxides of Nitrogen
Non-Annex I	Developing Nations
OAL	Office of Administrative Law
OPR	Office of Planning and Research
PFC	Perfluorocarbons
PM_{10}	Particulate Matter 10 microns in diameter or less
$PM_{2.5}$	Particulate Matter 2.5 microns in diameter or less
ppb	Parts Per Billion
ppm	Parts Per Million
ppt	Parts Per Trillion
Project	Dauchy Street
RPS	Renewable Portfolio Standards
RTP	Regional Transportation Plan
RV	Recreational Vehicle
SAR	Second Assessment Report
SB	Senate Bill
SB 32	California Global Warming Solutions Act of 2006
SB 375	Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies
SB 1078	Renewable Portfolio Standards

SB 1368	Statewide Retail Provider Emissions Performance Standards
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCAX	Metrolink
Scoping Plan	California Air Resources Board Climate Change Scoping Plan
Sf	Square Feet
SF_6	Sulfur Hexaflouride
SGC	Strategic Growth Council
SLPS	Short-Lived Climate Pollutant Strategy
SP	Service Population
SR-79	State Route 79
SWCRB	State Water Resources Control Board
TAZ	Traffic Analysis Zones
TIA	Traffic Impact Analysis
UNFCCC	United Nations' Framework Convention on Climate Change
URBEMIS	Urban Emissions
UTR	Utility Tractors
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
WRI	World Resources Institute
ZE/NZE	Zero and Near-Zero Emissions
ZEV	Zero-Emissions Vehicles

EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this Dauchy Street *Greenhouse Gas Analysis* are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1). Table ES-1 shows the findings of significance for potential greenhouse gas (GHG) impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment	3.7	*Less Than Significant*	*n/a*
Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs	3.8	*Less Than Significant*	*n/a*

ES.2 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by the State of California and the South Coast Air Quality Management District (SCAQMD) aimed at the reduction of air pollutant emissions. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of GHG emissions include:

- Global Warming Solutions Act of 2006 (AB32) (2).
- Regional GHG Emissions Reduction Targets (2)/Sustainable Communities Strategies (SB 375) (3).
- Pavley Fuel Efficiency Standards (AB1493). Establishes fuel efficiency ratings for new vehicles (4).
- Title 24 California Code of Regulations (CCR) (California Building Code). Establishes energy efficiency requirements for new construction (5).
- Title 20 CCR (Appliance Energy Efficiency Standards). Establishes energy efficiency requirements for appliances (6).
- Title 17 CCR (Low Carbon Fuel Standard). Requires carbon content of fuel sold in California to be 10% less by 2020 (7).
- California Water Conservation in Landscaping Act of 2006 (AB1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010 to ensure efficient landscapes in new development and reduced water waste in existing landscapes (8).

- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions (9).
- Renewable Portfolio Standards (SB 1078). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020 (10).
- Senate Bill 32 (SB 32). Requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15 (11).

Promulgated regulations that will affect the Project's emissions are accounted for in the Project's GHG calculations provided in this report. In particular, the Pavley Standards, Low Carbon Fuel Standards, and Renewable Portfolio Standards (RPS) will be in effect for the AB 32 target year of 2020, and therefore are accounted for in the Project's emission calculations.

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1 INTRODUCTION

This report presents the results of the GHGA prepared by Urban Crossroads, Inc., for the proposed Dauchy Street ("Project"). The purpose of this GHGA is to evaluate Project-related construction and operational emissions and determine the level of GHG impacts as a result of constructing and operating the proposed Project.

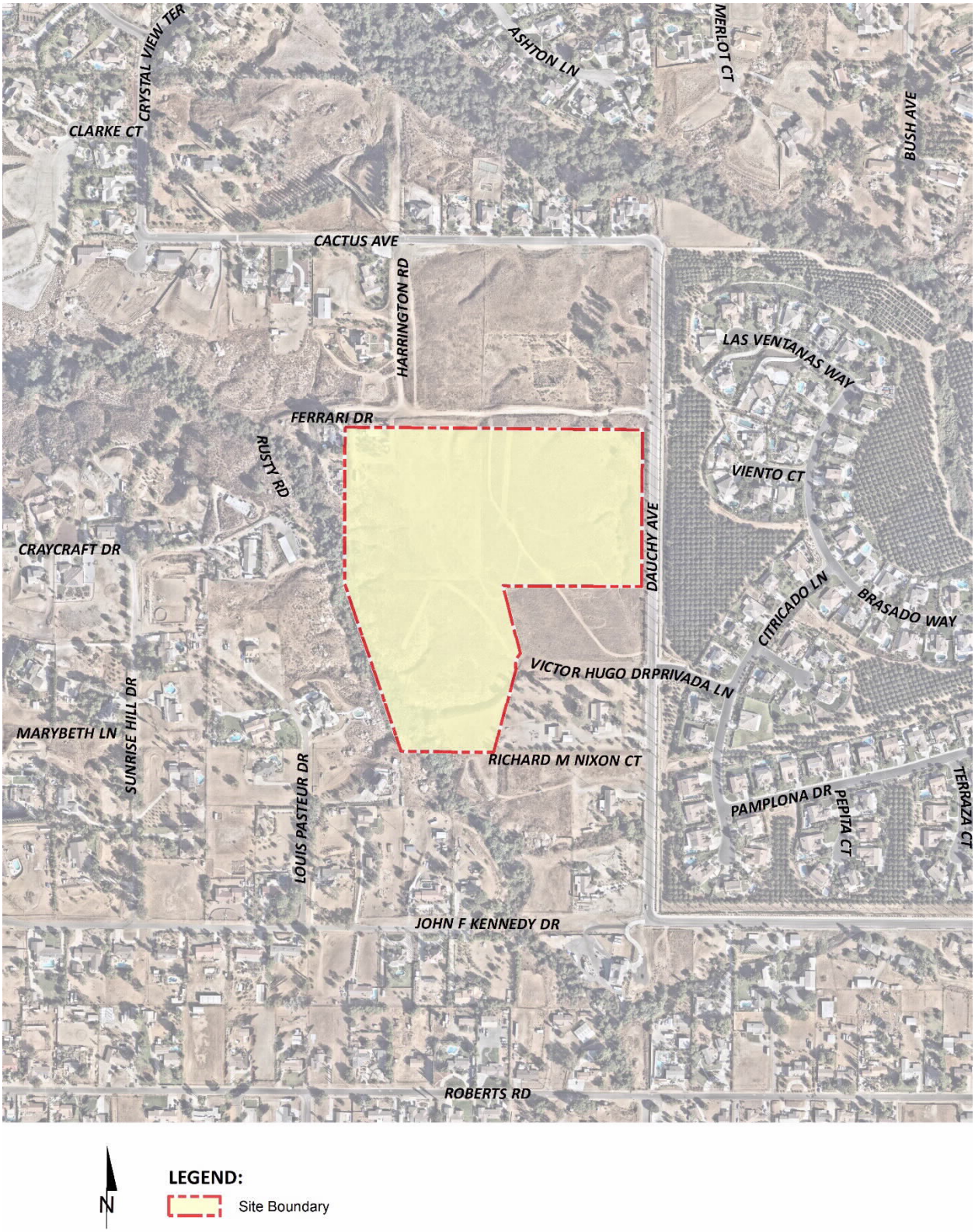
1.1 SITE LOCATION

The proposed Dauchy Street site is located south of Ferrari Drive (APN 276-040-011 and -012), and west of Dauchy Avenue (APN 276-050-029), in the City of Riverside, as shown on Exhibit 1-A. Based on the City of Riverside zoning map, the project site is zoned R-1-1/2-Acre-WC – Single Family Residential and Water Course Overlay Zones (APN 276-040-011 and -012) and RC-WC – Residential Conservation and Water Course Overlay Zones (APN 276-050-029), which allows for development of single-family dwellings. The General Plan designates the Project area as VLDR-OS – Very Low Density Residential and Open Space (APN 276-040-011 and -012) and HR-OS – Hillside Residential and Open Space (APN 276-050-029).

1.2 PROJECT DESCRIPTION

The Project consists of the development of 53 residential dwelling units on three parcels (APN:276-050-029,276-040-011 and -012), as shown on Exhibit 1-B. The current acreage of the three parcels involved in the project is 24.45 acres. With the street vacations indicated Lots "A" and "H" on the Tentative Tract Map, the amount of acreage will increase to 24.73 acres. Accordingly, street improvements on the project frontage along Ferrari Drive and Dauchy Avenue will include curbs, gutters, and sidewalks. Ferrari Drive will also include street side landscaping. Victor Hugo Drive will be paved on its full width. Accordingly, curbs and sidewalks will be installed on the north side of Victor Hugo Drive.

EXHIBIT 1-A: PROJECT LOCATION



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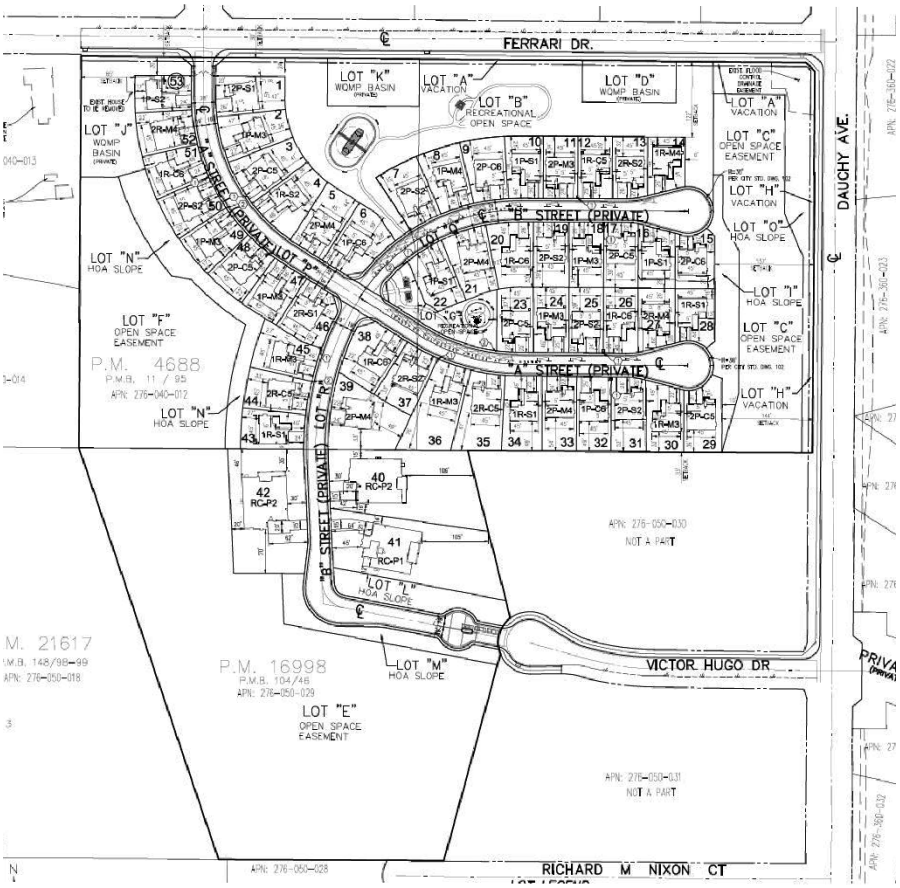
Source: NearMap2020

EXHIBIT 1-B: SITE PLAN



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2 CLIMATE CHANGE SETTING

2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this GHGA cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 3.0 will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

2.2 GLOBAL CLIMATE CHANGE DEFINED

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2, N_2O, CH_4, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

2.3 GREENHOUSE GASES

GREENHOUSE GASES AND HEALTH EFFECTS

GHGs trap heat in the atmosphere, creating a GHG effect that results in global warming and climate change. Many gases demonstrate these properties and as discussed in Table 2-1. For the purposes of this analysis, emissions of CO_2, CH_4, and N_2O were evaluated (see Table 3-1 later in

this report) because these gases are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

TABLE 2-1: GREENHOUSE GASES

Greenhouse Gases	Description	Sources	Health Effects
Water	Water is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to	The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.	There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

TABLE 2-1: GREENHOUSE GASES

Greenhouse Gases	Description	Sources	Health Effects
	which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the earth's surface and heat it up) (12).		
CO_2	CO_2 is an odorless and colorless GHG. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30%. Left unchecked, the concentration of CO_2 in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (13).	CO_2 is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. CO_2 is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (14).	Outdoor levels of CO_2 are not high enough to result in negative health effects. According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of CO_2 can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of CO_2 in the earth's atmosphere are estimated to be approximately 370 ppm, the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of

TABLE 2-1: GREENHOUSE GASES

Greenhouse Gases	Description	Sources	Health Effects
			30,000 ppm averaged over a 15 minute period (15).
CH_4	CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs.	CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH_4. Other anthropocentric sources include fossil-fuel combustion and biomass burning (16).	CH_4 is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to high levels of CH_4 can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate.
N_2O	N_2O, also known as laughing gas, is a colorless GHG. Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb).	N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric	N_2O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (17).

TABLE 2-1: GREENHOUSE GASES

Greenhouse Gases	Description	Sources	Health Effects
		acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. N_2O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction (17).	
Chlorofluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).	CFCs have no natural source but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the	In confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

TABLE 2-1: GREENHOUSE GASES

Greenhouse Gases	Description	Sources	Health Effects
		atmosphere for over 100 years (18).	
HFCs	HFCs are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential (GWP). The HFCs with the largest measured atmospheric abundances are (in order), fluoroform (CHF_3), 1,1,1,2-tetrafluoroethane (CH_2FCF), and 1,1-difluoroethane (CH_3CF_2). Prior to 1990, the only significant emissions were of CHF_3. CH_2FCF emissions are increasing due to its use as a refrigerant.	HFCs are manmade for applications such as automobile air conditioners and refrigerants.	No health effects are known to result from exposure to HFCs.
PFCs	PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The EPA estimates that concentrations of CF_4 in the atmosphere are over 70 parts per trillion (ppt).	The two main sources of PFCs are primary aluminum production and semiconductor manufacture.	No health effects are known to result from exposure to PFCs.
SF_6	SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900) (19). The EPA indicates that concentrations in the 1990s were about 4 ppt.	SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and	In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

TABLE 2-1: GREENHOUSE GASES

Greenhouse Gases	Description	Sources	Health Effects
		as a tracer gas for leak detection.	
Nitrogen Trifluoride (NF_3)	NF_3 is a colorless gas with a distinctly moldy odor. The World Resources Institute (WRI) indicates that NF_3 has a 100-year GWP of 17,200 (20).	NF_3 is used in industrial processes and is produced in the manufacturing of semiconductors, Liquid Crystal Display (LCD) panels, types of solar panels, and chemical lasers.	Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis (21).

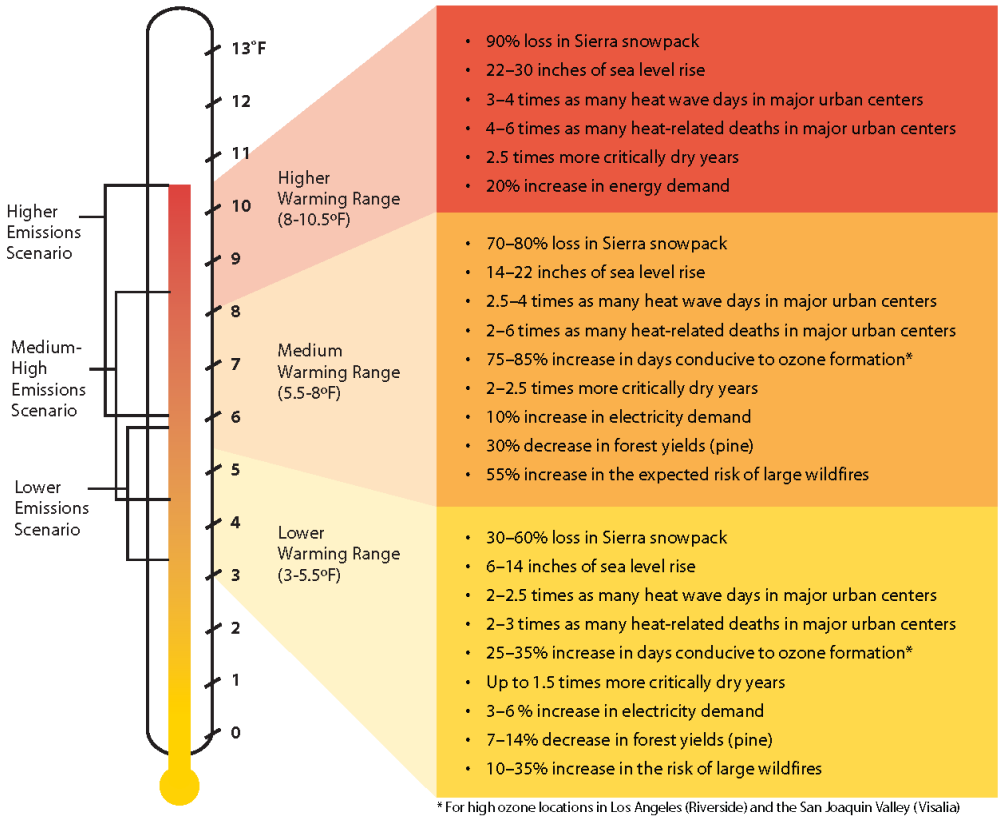
The potential health effects related directly to the emissions of CO_2, CH_4, and N_2O as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (22). Exhibit C presents the potential impacts of global warming (23).

2.4 GLOBAL WARMING POTENTIAL

GHGs have varying GWP values. GWP of a GHG indicates the amount of warming a gas causes over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO_2 is utilized as the reference gas for GWP, and thus has a GWP of 1. CO_2 equivalent (CO_2e) is a term used for describing the difference GHGs in a common unit. CO_2e signifies the amount of CO_2 which would have the equivalent GWP.

The atmospheric lifetime and GWP of selected GHGs are summarized at Table 2-2. As shown in the table below, GWP for the Second Assessment Report, the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment on climate change, range from 1 for CO_2 to 23,900 for SF_6 and GWP for the IPCC's 5th Assessment Report range from 1 for CO_2 to 23,500 for SF_6 (24).

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT, 2070-2099 (AS COMPARED WITH 1961-1990)



Source: Barbara H. Allen-Diaz. "Climate change affects us all." *University of California, Agriculture and Natural Resources*, 2009.

TABLE 2-2: GWP AND ATMOSPHERIC LIFETIME OF SELECT GHGS

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)	
		Second Assessment Report	5th Assessment Report
CO_2	See*	1	1
CH_4	12 .4	21	28
N_2O	121	310	265
HFC-23	222	11,700	12,400
HFC-134a	13.4	1,300	1,300
HFC-152a	1.5	140	138
SF_6	3,200	23,900	23,500

*As per Appendix 8.A. of IPCC's 5th Assessment Report, no single lifetime can be given.
Source: Table 2.14 of the IPCC Fourth Assessment Report, 2007

2.5 GREENHOUSE GAS EMISSIONS INVENTORIES

GLOBAL

Worldwide anthropogenic GHG emissions are tracked by the IPCC for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2017. Based on the latest available data, the sum of these emissions totaled approximately 29,216,501 gigagram (Gg) CO_2e[1] (25) (26) as summarized on Table 2-3.

United States

As noted in Table 2-3, the United States, as a single country, was the number two producer of GHG emissions in 2017.

TABLE 2-3: TOP GHG PRODUCING COUNTRIES AND THE EUROPEAN UNION [2]

Emitting Countries	GHG Emissions (Gg CO_2e)
China	11,911,710
United States	6,456,718
European Union (28-member countries)	4,323,163
India	3,079,810
Russian Federation	2,155,470
Japan	1,289,630
Total	**29,216,501**

STATE OF CALIFORNIA

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls, but is still a substantial contributor to the U.S. emissions inventory total (27). The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 GHG emissions period, California emitted an average 424.1 million metric tons of CO_2e ($MMTCO_2e$) per year (28).

[1] The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2017 data, the UNFCCC data for the most recent year were used. United Nations Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," The most recent GHG emissions for China and India are from 2014.

[2] Used http://unfccc.int data for Annex I countries. Consulted the CAIT Climate Data Explorer in https://www.climatewatchdata.org site to reference Non-Annex I countries of China and India.

2.6 EFFECTS OF CLIMATE CHANGE IN CALIFORNIA

PUBLIC HEALTH

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35% under the lower warming range to 75 to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

WATER RESOURCES

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90%. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

AGRICULTURE

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25% of the water supply needed. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts.

In addition, continued GCC could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

FORESTS AND LANDSCAPES

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90% due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

2.7 REGULATORY SETTING

FEDERAL

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

GHG Endangerment. In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the Supreme Court found that four GHGs, including CO_2, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act (CAA). The Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs— CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the U.S. Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator's findings (29).

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the U.S. On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the U.S.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty (MD) passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the NHTSA issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012. The new standards for model years 2017

through 2025 apply to passenger cars, light-duty trucks, and MD passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 mpg if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks (HDT) and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20% reduction in CO_2 emissions and fuel consumption by the 2018 model year. For HDT and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10-percent reduction for gasoline vehicles and a 15% reduction for diesel vehicles by the 2018 model year (12 and 17% respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10% reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

On April 2, 2018, the EPA signed the Mid-term Evaluation Final Determination, which finds that the model year 2022-2025 GHG standards are not appropriate and should be revised (30). This Final Determination serves to initiate a notice to further consider appropriate standards for model year 2022-2025 light-duty vehicles. On August 24, 2018, the EPA and NHTSA published a proposal to freeze the model year 2020 standards through model year 2026 and to revoke California's waiver under the CAA to establish more stringent standards (31).

Mandatory Reporting of GHGs. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S. and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons per year (MT/yr) or more of GHG emissions are required to submit annual reports to the EPA.

New Source Review. The EPA issued a final rule on May 13, 2010, that establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these CAA permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the Federal Code of Regulations, the EPA states:

> *"This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the CAA, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the*

> *applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for GHG emissions until at least April 30, 2016."*

The EPA estimates that facilities responsible for nearly 70% of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

Standards of Performance for GHG Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of CO_2 for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts would be required to meet an output-based standard of 1,000 pounds of CO_2 per megawatt-hour, based on the performance of widely used natural gas combined cycle technology. It should be noted that on February 9, 2016 the U.S. Supreme Court issued a stay of this regulation pending litigation. Additionally, the current EPA Administrator has also signed a measure to repeal the Clean Power Plan, including the CO_2 standards. The Clean Power Plan was officially repealed on June 19, 2019, when the EPA issued the final Affordable Clean Energy rule (ACE). Under ACE, new state emission guidelines were established that provided existing coal-fired electric utility generating units with achievable standards.

Cap-and-Trade. Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. Successful examples in the U.S. include the Acid Rain Program and the N_2O Budget Trading Program and Clean Air Interstate Rule in the northeast. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Regional GHG Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps CO_2 emissions from power plants, auctions CO_2 emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008 and in 2020 has retained all participating states.

The Western Climate Initiative (WCI) partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15% below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, Manitoba and Ontario are not currently participating. California linked with Quebec's cap-and-trade system January 1, 2014, and joint offset auctions took place in 2015. While the WCI has yet to publish whether it has successfully reached the 2020 emissions goal initiative set in 2007, SB 32, requires that California, a major partner in the WCI, adopt the goal of reducing statewide GHG emissions to 40% below the 1990 level by 2030.

SmartWay Program. The SmartWay Program is a public-private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both GHG emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components (32):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.
2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared towards reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all HDTs will have to comply with the CARB GHG Regulation that is designed with the SmartWay Program in mind, to reduce GHG emissions by making them more fuel-efficient. For instance, in 2015, 53 foot or longer dry vans or refrigerated trailers equipped with a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain a total of 10% or more fuel savings over traditional trailers.

Through the SmartWay Technology Program, the EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions and fuel economy testing, demonstration projects and technical literature review. As a result, the EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies – less idling of the engine when it is not needed would reduce fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel will eventually slow down because of this resistance.
- Retrofit technologies include things such as diesel particulate filters, emissions upgrades (to a higher tier), etc., which would reduce emissions.
- Federal excise tax exemptions.

STATE

Legislative Actions to Reduce GHGs

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32. The California State Legislature enacted AB 32, which required that GHGs emitted in California be reduced to 1990 levels by the year 2020 (this goal has been met[3]). GHGs as defined under AB 32 include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The CARB is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

> *"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."*

Senate Bill 32. On September 8, 2016, Governor Jerry Brown signed the Senate Bill (SB) 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (11).

CARB Scoping Plan Update. In November 2017, CARB released the *Final 2017 Scoping Plan Update*, which identifies the State's post-2020 reduction strategy. The *Final 2017 Scoping Plan Update* reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the LCFS, and much cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce CH_4 emissions from agricultural and other wastes.

[3] Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 GHG emissions period, California emitted an average 424.1 $MMTCO_2e$ (30). This is less than the 2020 emissions target of 431 $MMTCO_2e$.

The *Final 2017 Scoping Plan Update* establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40% decrease in 1990 levels by 2030 (33).

California's climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (CH_4, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the *Final 2017 Scoping Plan Update* framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks.
- LCFS, with an increased stringency (18% by 2030).
- Implementing SB 350, which expands the RPS to 50% RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of zero-emission vehicles (ZEV) trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing CH_4 and hydroflurocarbon emissions by 40% and anthropogenic black carbon emissions by 50% by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20% reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Note, however, that the *Final 2017 Scoping Plan Update* acknowledges that:

> *"[a]chieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."*

In addition to the statewide strategies listed above, the *Final 2017 Scoping Plan Update* also identifies local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide

goal to achieve emissions of no more than 6 metric tons of CO_2e ($MTCO_2e$) or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible; or, a performance-based metric using a CAP or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory (LBNL) and supported by CARB, California, under its existing and proposed GHG reduction policies, could achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that by 2030, emissions could range from 211 to 428 $MTCO_2e$ per year, indicating that "even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40% below the 1990 level [of SB 32]." CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Although the research indicated that the emissions would not meet the State's 80% reduction goal by 2050, various combinations of policies could allow California's cumulative emissions to remain very low through 2050 (34) (35).

Cap-and-Trade Program. The Scoping Plan identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program will help put California on the path to meet its goal of achieving a 40% reduction in GHG emissions from 1990 levels by 2030. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap will be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from regulated entities by more than 16% between 2013 and 2020, and by an additional 40% by 2030. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration.

Covered entities that emit more than 25.000 $MTCO_2e$ per year must comply with the Cap-and-Trade Program. Triggering of the 25.000 $MTCO_2e$ per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" for each

$MTCO_2e$ of GHG they emit. There also are requirements to surrender compliance instruments covering 30% of the prior year's compliance obligation by November of each year (36).

The Cap-and-Trade Program provides a firm cap, which provides the highest certainty of achieving the 2030 target. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in the *First Update to the Climate Change Scoping Plan*:

> *"The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative."* (37)

The Cap-and-Trade Program covered approximately 80% of California's GHG emissions (33). The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported.

SB 375 – the Sustainable Communities and Climate Protection Act of 2008. Passing the Senate on August 30, 2008, Senate Bill (SB) 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40% of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: it (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the CARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

AB 1493. California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22% reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30% reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program (LEV III) or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34% from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

SB 350— Clean Energy and Pollution Reduction Act of 2015. In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50% reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.

- Reorganize the Independent System Operator to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

EXECUTIVE ORDERS RELATED TO GHG EMISSIONS

California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the state and guide the actions of state agencies.

Executive Order B-55-18 and SB 100. Executive Order B-55-18 and SB 100. SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25% of retail sales are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California Environmental Protection Agency (CalEPA), the Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

Executive Order S-3-05. Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07 – Low Carbon Fuel Standard. The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. The CARB adopted the LCFS on April 23, 2009.

The LCFS was challenged in the U.S. District Court in Fresno in 2011. The court's ruling issued on December 29, 2011, included a preliminary injunction against CARB's implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012, pending final ruling on

appeal, allowing CARB to continue to implement and enforce the regulation. The Ninth Circuit Court's decision, filed September 18, 2013, vacated the preliminary injunction. In essence, the court held that LCFS adopted by CARB were not in conflict with federal law. On August 8, 2013, the Fifth District Court of Appeal (California) ruled CARB failed to comply with CEQA and the Administrative Procedure Act (APA) when adopting regulations for LCFS. In a partially published opinion, the Court of Appeal reversed the trial court's judgment and directed issuance of a writ of mandate setting aside Resolution 09-31 and two executive orders of CARB approving LCFS regulations promulgated to reduce GHG emissions. However, the court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while CARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, CARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. On November 16, 2015 the Office of Administrative Law (OAL) approved the Final Rulemaking Package. The new LCFS regulation became effective on January 1, 2016.

In 2018, the CARB approved amendments to the regulation, which included strengthening the carbon intensity benchmarks through 2030 in compliance with the SB 32 GHG emissions reduction target for 2030. The amendments included crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector (38).

Executive Order S-13-08. Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the Order, the 2009 California Climate Adaptation Strategy (CNRA 2009) was adopted, which is the "…first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-30-15. On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40% below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40% below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80% below 1990 levels by 2050 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMTCO_2e$. The Order also requires the state's climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable for local governments and the private sector.

Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature.

CALIFORNIA REGULATIONS AND BUILDING CODES

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 20 CCR. CCR, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. 23 categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles or other mobile equipment (CEC 2012).

Title 24 CCR. CCR Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020.

The CEC indicates that the 2019 Title 24 standards will require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, update indoor and outdoor lighting for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will about 53% less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30% less energy due to lighting upgrades (39).

CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2011, and is administered by the California Building Standards Commission (BSC). CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2019 California Green Building Code Standards that have become effective on January 1, 2020. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction and demolition ordinances and defers to them as the ruling guidance provided, they establish a minimum 65% diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling

infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official. 2019 CALGreen standards are applicable to the Project and require (40):

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phase project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
    - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
    - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
    - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
    - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of note more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).

- Outdoor portable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gal/day (5.303.1.1 and 5.303.1.2).
- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

MWELO. The MWELO was required by AB 1881, the Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Governor Brown's Drought Executive Order of April 1, 2015 (Executive Order B-29-15) directed Department of Water Resources (DWR) to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015 effective December 15, 2015. New development projects that include landscape areas of 500 sf or more are subject to the Ordinance. The update requires:

- More efficient irrigation systems;
- Incentives for graywater usage;
- Improvements in on-site stormwater capture;
- Limiting the portion of landscapes that can be planted with high water use plants; and
- Reporting requirements for local agencies.

CARB Refrigerant Management Program. CARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, CCR. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 pounds of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

Tractor-Trailer GHG Regulation. The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the HD tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires.

Sleeper cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

Phase I and 2 Heavy-Duty Vehicle GHG Standards. CARB has adopted a new regulation for GHG emissions from HDTs and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the EPA rule for new trucks and engines nationally. Existing HD vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation. In September 2011, the EPA adopted their new rule for HDTs and engines. The EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements begin with model year (MY) 2014 with stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include a) HD pickups and vans; b) vocational vehicles; and c) combination tractors. The EPA rule does not regulate trailers.

CARB staff has worked jointly with the EPA and the NHTSA on the next phase of federal GHG emission standards for medium-duty trucks (MDT) and HDT vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later model year HDT vehicles, including trailers. But as discussed above, the EPA and NHTSA have proposed to roll back GHG and fuel economy standards for cars and light-duty trucks, which suggests a similar rollback of Phase 2 standards for MDT and HDT vehicles may be pursued.

SB 97 and the CEQA Guidelines Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research (OPR) shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the OPR pursuant to subdivision (a)." Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA.

On December 28, 2018, the Natural Resources Agency announced the OAL approved the amendments to the CEQA Guidelines for implementing the CEQA. The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

Section 15064.3 was added the CEQA Guidelines and states that in determining the significance of a project's GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. Additionally, a lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use (41).

REGIONAL

The project is within the South Coast Air Basin (SCAB), which is under the jurisdiction of the SCAQMD.

SCAQMD

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold, that could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years

and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:

  - Residential and Commercial land use: 3,000 $MTCO_2e$ per year
  - Industrial land use: 10,000 $MTCO_2e$ per year
  - Based on land use type: residential: 3,500 $MTCO_2e$ per year; commercial: 1,400 $MTCO_2e$ per year; or mixed use: 3,000 $MTCO_2e$ per year

- Tier 4 has the following options:
  - Option 1: Reduce BAU emissions by a certain percentage; this percentage is currently undefined.
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
  - Option 3: 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$/SP/year for projects and 6.6 $MTCO_2e$/SP/year for plans;
  - Option 3, 2035 target: 3.0 $MTCO_2e$/SP/year for projects and 4.1 $MTCO_2e$/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds used the Executive Order S-3-05-year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO_2 concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the project would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if the Project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

LOCAL

City of Riverside General Plan 2025

The City of Riverside 2025 General Plan, adopted in November 2007, outlines the following policies in the Air Quality Element that are applicable to the Proposed Project (43).

Policy AQ-1.3 Separate, buffer and protect sensitive receptors from significant sources of pollution to the greatest extent possible.

Objective AQ-4 Reduce particulate matter, as defined by the EPA, as either airborne photochemical precipitates or windborne dust.

Policy AQ-4.2 Reduce particulate matter from agriculture (e.g., require use of clean non-diesel equipment and particulate traps), construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way and off-road vehicles to the extent possible, as provided in SCAQMD Rule 403.

Policy AQ-4.5 Require the suspension of all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.

Objective AQ-5: Increase energy efficiency and conservation in an effort to reduce air pollution.

Policy AQ-5.1: Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

City of Riverside Municipal Code

Title 19, Chapter 19.570 - Water Efficient Landscaping and Irrigation

Consistent with the Governor's Executive Order No. B-29-15, and the State Model Water Efficient Landscape Ordinance, the City of Riverside adopted Chapter 19.570 of to:

1. Promote the values and benefits of landscaping practices that integrate and go beyond the conservation and efficient use of water;

2. Establish a structure for planning, designing, installing, maintaining, and managing water efficient landscapes in new construction and rehabilitated projects by encouraging the use of a watershed approach that requires cross-sector collaboration of industry, government and property owners to achieve the many benefits possible;

3. Reduce water demands from landscapes without a decline in landscape quality or quantity;

4. Retain flexibility and encourage creativity through appropriate design;

5. Establish provisions for water management practices and water waste prevention for existing landscapes;

6. Use water efficiently without waste by setting a Maximum Applied Water Allowance (MAWA) as an upper limit for water use and reduce water use to the lowest practical amount;

7. Assure the attainment of water efficient landscape goals by requiring that landscapes not exceed a maximum water demand (evapotranspiration adjustment factor of .55 for residential and .45 nonresidential) of its reference evapotranspiration (ET_o) or any lower percentage as may be required;

8. Achieve water conservation by raising the public awareness of the need to conserve water through education and motivation to embrace an effective water demand management program; and

9. Promote the use of recycled water for landscaping.

Any new or rehabilitated landscape is required to prepare and submit an application to the Planning Division for review and approval by the Community and Economic Development Director or his/her designee (42). The planting plan, irrigation plan, and soils management plan shall be reviewed to ensure that all components of the plans adhere to the requirements of Chapter 19.570. No certificate of occupancy or other final City approval shall be issued until the City reviews and approves the landscape and irrigation plans, and the landscape and irrigation are installed in accordance with the approved plans.

City of Riverside Restorative Growthprint Climate Action Plan

The City of Riverside collaborated with the Western Riverside Council of Governments (WRCOG) on a Subregional Climate Action Plan (CAP). The City of Riverside Restorative Growthprint Climate Action Plan (RRG CAP) builds on the WRCOG Subregional CAP commitments and provides the City GHG reduction goals beyond 2020 to 2035. Through the WRCOG Subregional CAP process, the City has adopted a 2020 community wide GHG emissions target of 2,224,908 $MTCO_2e$, which represents a 15 percent reduction from the City's 2010 GHG emissions baseline inventory, and a 2035 emissions target of 1,532,274 $MTCO_2e$, 49 percent below the 2007 baseline. These reduction targets are consistent with the statewide AB 32 goal of reducing emissions to 1990 levels and fulfill the requirements of SB 375.

The RRG-CAP contains GHG reduction measures organized into four primary sectors to meet these targets (44):

- **Energy**: Promote energy efficiency and renewable energy for municipal operations and the community
- **Transportation and Land Use**: Measures to reduce single-occupancy travel, increase non-motorized travel, improve transit access, encourage alternative fuels, and promote sustainable growth patterns.
- **Water**: Measures to reduce water demand by community and municipal operations and to conserve potable water.
- **Solid Waste**: Measures to reduce solid waste during construction and operational activities.

2.8 DISCUSSION ON ESTABLISHMENT OF SIGNIFICANCE THRESHOLDS

The City of Riverside has not adopted its own numeric threshold of significance for determining impacts with respect to GHG emissions. A screening threshold of 3,000 $MTCO_2e$ per year to determine if additional analysis is required is an acceptable approach for small projects. This approach is a widely accepted screening threshold used by the City of Riverside and numerous cities in the South Coast Air Basin and is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required (45). As noted by the SCAQMD:

> *"…the…screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects...the policy objective of [SCAQMD's]*

> *recommended interim GHG significance threshold proposal is to achieve an emission capture rate of 90 percent of all new or modified stationary source projects. A GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that [SCAQMD] staff estimates that these GHG emissions would account for slightly less than one percent of future 2050 statewide GHG emissions target (85 [MMTCO$_2$e/yr]). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to [Best Available Control Technology] (BACT) for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility."* (45)

Thus, and based on guidance from the SCAQMD, if a non-industrial project would emit GHGs less than 3,000 MTCO$_2$e per year, the project is not considered a substantial GHG emitter and the GHG impact is less than significant, requiring no additional analysis and no mitigation. On the other hand, if a non-industrial project would emit GHGs in excess of 3,000 MTCO$_2$e per year, then the project could be considered a substantial GHG emitter, requiring additional analysis and potential mitigation.

As previously discussed, a screening threshold of 3,000 MTCO$_2$e per year is an acceptable approach for small projects to determine if additional analysis is required and is therefore applied for this Project.

3 PROJECT GREENHOUSE GAS IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it will result in a significant GHG impact. The significance of these potential impacts is described in the following section.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related GHG impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines (14 California Code of Regulations §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to GHG if it would (1):

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

3.3 CALIFORNIA EMISSIONS ESTIMATOR MODEL™

On October 17, 2017, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod) v2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (46). Accordingly, the latest version of CalEEMod™ has been used for this Project to determine GHG emissions. Output from the model runs for construction and operational activity are provided in Appendices 3.1 through 3.4. CalEEMod includes GHG emissions from the following source categories: construction, area, energy, mobile, waste, water.

3.3.1 EMFAC2017 EMISSION RATES

On August 19, 2019, the EPA approved the 2017 version of the EMissions FACtor model (EMFAC) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, vehicle miles traveled (VMT) from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (47). This GHGA utilizes annual EMFAC2017 emission factors in order to derive vehicle emissions associated with Project operational activities.

Because the EMFAC2017 emission rates are associated with vehicle fuel types while CalEEMod vehicle emission factors are aggregated to include all fuel types for each individual vehicle class, the EMFAC2017 emission rates for different fuel types of a vehicle class are averaged by activity

or by population and activity to derive CalEEMod emission factors. The equations applied to obtain CalEEMod vehicle emission factors for each emission type are detailed in CalEEMod User's Guide *Appendix A: Calculation Details for CalEEMod* (48).

3.4 CONSTRUCTION AND OPERATIONAL LIFE-CYCLE ANALYSIS NOT REQUIRED

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time (49). Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the project development, infrastructure and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time, an LCA would be extremely speculative and thus has not been prepared.

Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood or documented, and would be challenging to mitigate (50). Additionally, the science to calculate life cycle emissions is not yet established or well defined; therefore, SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

3.5 CONSTRUCTION EMISSIONS

Project construction actvities would generate CO_2 and CH_4 emissions The report *Dauchy Street Air Quality Impact Analysis Report* (Urban Crossroads, Inc.) contains detailed information regarding Project construction activities (51). As discussed in the AQIA, Construction related emissions are expected from the following construction activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

3.5.1 CONSTRUCTION DURATION

For purposes of analysis, construction of Project is expected to commence June 1, 2022, and be completed by September 19, 2023. The construction schedule utilized in the analysis, shown in Table 3-1, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA Guidelines*15064* (52).

TABLE 3-1: CONSTRUCTION DURATION

Phase Name	Start Date	End Date	Days
Site Preparation	6/1/2022	6/14/2022	10
Grading	6/15/2022	7/26/2022	30
Building Construction	7/27/2022	9/19/2023	300
Paving	7/26/2023	9/19/2023	40
Architectural Coating	7/26/2023	9/19/2023	40
Source: CalEEMod 2016.			

3.5.2 CONSTRUCTION EQUIPMENT

Site specific construction fleet may vary due to specific project needs at the time of construction. The associated construction equipment was generally based on CalEEMod 2016.3.2 defaults, and the Project applicant has confirmed that the equipment list is reasonable for the Project's construction. A detailed summary of construction equipment assumptions by phase is provided at Table 3-2. Please refer to specific detailed modeling inputs/outputs contained in Appendices 3.1 and 3.2 of this GHGA.

3.5.3 CONSTRUCTION EMISSIONS SUMMARY

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year project life then adding that number to the annual operational phase GHG emissions (53). As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 3-3.

3.6 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of CO_2, CH_4, and N_2O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- Water Supply, Treatment, and Distribution
- Solid Waste

TABLE 3-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase Name	Equipment	Amount	Hours Per Day
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	2	8
	Excavators	2	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Scrapers	2	8
Building Construction	Air Compressors	1	8
	Cranes	1	8
	Forklifts	3	8
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	3	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8
Source: CalEEMod 2016.			

TABLE 3-3: CONSTRUCTION GHG EMISSIONS

Year	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2e
2022	314.17	0.08	0.00	316.16
2023	343.24	0.07	0.00	345.07
Total Annual Construction Emissions	657.41	0.15	0.00	661.23
Amortized Construction Emissions ($MTCO_2e$)	**21.91**	**0.01**	**0.00**	**22.04**

3.6.1 AREA SOURCE EMISSIONS

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/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 provided in CalEEMod.

3.6.2 ENERGY SOURCE EMISSIONS

Combustion Emissions Associated with Natural Gas and Electricity

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building; the building energy use emissions do not include street lighting[4]. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. To account for the effects of RPS and SB 100 on the energy sector emissions, the intensity factors for calculating energy related emissions have been adjusted to reflect the current status of Southern California Edison's renewable energy sources.

Title 24 Energy Efficiency Standards

California's Energy Efficiency Standards for Residential and Nonresidential Buildings was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will about 53% less energy than homes built under the 2016 standards. (39). The CalEEMod defaults for Title 24 – Electricity, Title 24 – Natural Gas, and Lighting Energy were reduced by 53% for residential uses reflect consistency with the 2019 Title 24 standards.

3.6.3 Mobile Source Emissions

Project mobile source GHG 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. The Project-related GHG impacts are derived primarily from vehicle trips generated by the Project. Trip characteristics available from CalEEMod for the region were used.

3.6.4 Water Supply, Treatment and Distribution

Indirect GHG emissions result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water as well as the sources of the water. CalGreen requires a 20 percent reduction in indoor water use. Therefore, CalEEMod default parameters were modified to reflect this requirement.

3.6.5 Solid Waste

GHG emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CAPCOA 2017). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California

[4] The CalEEMod emissions inventory model does not include indirect emission related to street lighting. Indirect emissions related to street lighting are expected to be negligible and cannot be accurately quantified at this time as there is insufficient information as to the number and type of street lighting that would occur.

Department of Resources Recycling and Recovery (CalRecycle). CalEEMod based solid waste generation on a 2008 waste characterization study. Since the publication of the 2008 survey, statewide diversion has increased by approximately 25 percent. This additional reduction has been included in the modeling.

3.7 EMISSIONS SUMMARY

The annual GHG emissions associated with the operation of the proposed Project are estimated to be 906.49 $MTCO_2e$ per year as summarized in Table 3-4.

TABLE 3-4: PROJECT GHG EMISSIONS

Emission Source	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2e
Annual construction-related emissions amortized over 30 years	21.91	0.01	0.00	22.04
Area Source	12.42	0.00	0.00	12.51
Energy Source	149.61	0.01	0.00	150.27
Mobile Source	628.18	0.03	0.00	628.91
Waste	0.00	12.65	0.75	31.34
Water Usage	15.59	16.41	0.09	19.19
Total CO_2e (All Sources)	**864.27**			
SCAQMD Recommended Screening Threshold	**3,000**			

Source: CalEEMod model output, See Appendices 3.1 through 3.2 for detailed model outputs.

3.8 GREENHOUSE GAS EMISSIONS FINDINGS AND RECOMMENDATIONS

GHG Impact 1: The Project would not generate direct or indirect GHG emission that would result in a significant impact on the environment.

The City of Riverside has not adopted its own numeric threshold of significance for determining impacts with respect to GHG emissions. A screening threshold of 3,000 $MTCO_2e$ per year to determine if additional analysis is required is an acceptable approach for small projects. This approach is a widely accepted screening threshold used by the City and numerous cities in the SCAB and is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required (54).

As shown on Table 3-4, the Project will result in approximately 907 $MTCO_2e$ per year; the proposed Project would not exceed the SCAQMD/City's screening threshold of 3,000 $MTCO_2e$ per year. Thus, project-related emissions would not have a significant direct or indirect impact on GHG and climate change and no mitigation or further analysis is required.

GHG Impact #2: The Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

As previously stated, pursuant to 15604.4 of the CEQA Guidelines, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions (41). As such, the Project's consistency with AB 32, SB 32, and the County's CAP are discussed below.

SB 32/2017 SCOPING PLAN CONSISTENCY

The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Table 3-5 summarizes the project's consistency with the 2017 Scoping Plan. As summarized, the project will not conflict with any of the provisions of the Scoping Plan and in fact supports seven of the action categories.

TABLE 3-5: 2017 SCOPING PLAN CONSISTENCY SUMMARY[5]

Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50 percent of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	Consistent. The Project would use energy from RPU. RPU has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. The Project would not interfere with or obstruct RPU energy source diversification efforts.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		Consistent. Although this measure is directed towards policymakers, the proposed Project would be designed and constructed to implement the energy efficiency measures for new commercial developments and would include several measures designed to reduce energy consumption.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		Consistent. The proposed Project would be designed and constructed to implement the energy efficiency measures, where applicable by including several measures designed to reduce energy consumption. The proposed Project includes energy efficient lighting and fixtures that meet the current Title 24 Standards throughout the Project Site and would be a modern development with energy efficient boilers, heaters, and air conditioning systems.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		

[5] Measures can be found at the following link: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

TABLE 3-5: 2017 SCOPING PLAN CONSISTENCY SUMMARY[5]

Action	Responsible Parties	Consistency
At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	Not applicable. This measure is not within the purview of this Project.
At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.		Not applicable. This measure is not within the purview of this Project.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		Not applicable. This measure is not within the purview of this Project.
Medium- and Heavy-Duty GHG Phase 2.		Not applicable. This measure is not within the purview of this Project.
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.		Not applicable. This measure is not within the purview of this Project.
Last Mile Delivery: New regulation that would result in the use of low NO_X or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.		Not applicable. This measure is not within the purview of this Project.
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the		Not applicable. This measure is not within the purview of this Project.

TABLE 3-5: 2017 SCOPING PLAN CONSISTENCY SUMMARY[5]

Action	Responsible Parties	Consistency
Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	Not applicable. The Project is not within the purview of SB 375 and would therefore not conflict with this measure.
By 2019, adjust performance measures used to select and design transportation facilities		
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g. via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor's Office of Business and Economic Development (GO-Biz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	Not applicable. Although this is directed towards CARB and Caltrans, the proposed Project would be designed to promote and support pedestrian activity on-site and in the Project Site area. The Project Site is within proximity to residential neighborhoods.
By 2019, develop pricing policies to support low-GHG transportation (e.g. low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB	Not applicable. This measure is not within the purview of this Project.
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA, CNRA,	Not applicable. This measure is not within the purview of this Project.

TABLE 3-5: 2017 SCOPING PLAN CONSISTENCY SUMMARY[5]

Action	Responsible Parties	Consistency
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	CARB, Caltrans, CEC, GO-Biz	Not applicable. This measure is not within the purview of this Project.
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18 percent.	CARB	Not applicable. This measure is not within the purview of this Project.
Implement the Short-Lived Climate Pollutant Strategy by 2030		
40 percent reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	Not applicable. This measure is not within the purview of this Project.
50 percent reduction in black carbon emissions below 2013 levels.		Not applicable. This measure is not within the purview of this Project.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA SWRCB, Local Air Districts	Not applicable. Although this measure is directed towards policymakers, the proposed Project would comply with AB 939, which sets a statewide policy that not less than 65 percent of solid waste generated be source reduced, recycled, or composted. Additionally, the proposed Project would be required to have a recycling program and recycling collection. During construction, the proposed Project shall recycle and reuse construction and demolition waste per City Solid Waste procedures.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	Not applicable. This measure is not within the purview of this Project.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA,	Not applicable. This measure is not within the purview of this Project.

TABLE 3-5: 2017 SCOPING PLAN CONSISTENCY SUMMARY[5]

Action	Responsible Parties	Consistency
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity	CARB	Not applicable. This measure is not within the purview of this Project.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments		Not applicable. This measure is not within the purview of this Project.
Establish scenario projections to serve as the foundation for the Implementation Plan		Not applicable. This measure is not within the purview of this Project.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	Not applicable. This measure is not within the purview of this Project.
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection (CAL FIRE), CalEPA and Departments Within	Not applicable. This measure is not within the purview of this Project.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	Not applicable. This measure is not within the purview of this Project.

As shown above, the Project would not conflict with any of the 2017 Scoping Plan elements as any regulations adopted would apply directly or indirectly to the Project. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030 (55).

CITY OF RIVERSIDE RRG CAP

The RRG CAP includes individual measures that would reduce GHG emissions in the City. Consistency with these measures are discussed in Table 3-6.

TABLE 3-6: RRG CAP PROJECT CONSISTENCY

Measure	Description	Project Consistency
State and Regulatory Measures		
SR-1 Renewable Portfolio Standards	Utilities must secure 33% of their power from renewable sources by 2020.	Not Applicable. Establishes the minimum statewide renewable energy mix.
SR-2 2013 California Building Energy Efficiency Standards (Title 24, Part 6)	Mandatory energy efficiency standards for buildings.	Consistent. The project will include a variety of building, water, and solid waste efficiencies consistent with current Title 24 requirements.
SR-3 HERO Residential Program	Financing for homeowners to make energy efficient, renewable energy, and water conservation improvements.	Not applicable. This objective is aimed at government agencies, not private developers.
SR-4 HERO Commercial Program	Financing for business owners to make energy efficient, renewable energy, and water conservation improvements.	Not applicable. This objective is aimed at government agencies, not private developers.
SR-6 Pavley & Low Carbon Fuel Standard	Requirements for vehicles to use cleaner fuels.	Not applicable. This objective is aimed at government agencies, not private developers.
SR-7 Metrolink Expansions	Additional Metrolink transit service provided to Western Riverside County.	Not applicable. The Project is a residential development. As such, this measure is not within the purview of this Project.
SR-8 Express Lanes	Additional express lanes added along major freeways in Western Riverside County.	Not applicable. The Project is a residential development. As such, this measure is not within the purview of this Project.
SR-9 Congestion Pricing	Expansion of the toll lanes along the State Route 91 (SR-91).	Not applicable. This objective is aimed at government agencies, not private developers.
SR-10 Telecommuting	Work arrangement in which employees do not commute to a central place of work.	Not applicable. The Project is a residential development. As such, this measure is not within the purview of this Project.
SR-11 Goods Movement	Efficient movement of goods through inland Southern California.	Not applicable. The Project is a residential development. As such, this measure is not within the purview of this Project.

TABLE 3-6: RRG CAP PROJECT CONSISTENCY

Measure	Description	Project Consistency
SR-12 Electric Vehicle Plan and Infrastructure	Facilitate electric vehicle use by providing necessary infrastructure.	Not applicable. The Project is a residential development. As such, no specific infrastructure is necessary.
SR-13 Construction and Demolition Waste Diversion	Meet mandatory requirement to divert 50% of C&D waste from landfills by 2020 and exceed requirement by diverting 75% of C&D waste from landfills by 2035.	Consistent. The Project will be required recycle a minimum of 50 percent from construction activities and operations per State and City requirements
Local Reduction Measures		
E-1 Traffic and Street Lights	Replace traffic and streetlights with high-efficiency bulbs.	Not applicable. This objective is aimed at government agencies, not private developers. Nonetheless, the project would comply with applicable energy efficiency requirements related to lighting detailed in the Green Building Standards Code (Title 24, California Code of Regulations).
E-2 Shade Trees	Strategically plant trees at new residential developments to reduce the urban heat island effect.	Consistent. The Project landscaping would include trees throughout the development in the common open spaces.
E-3 Local Utility Programs - Electricity	Financing and incentives for business and homeowners to make energy efficient, renewable energy, and water conservation improvements.	Not applicable. This objective is aimed at government agencies, not private developers. Nonetheless, the project would comply with applicable energy efficiency requirements related to lighting detailed in the Green Building Standards Code (Title 24, California Code of Regulations).
E-4 Renewable Energy Production on Public Property	Large scale renewable energy installation on publicly owner property and in public rights of way.	Not applicable. This objective is aimed at government agencies, not private developers.
E5 University of California, Riverside (UCR) Carbon Neutral Program	Collaborate with UCR to achieve a carbon neutral campus.	Not applicable. This objective is aimed at government agencies and the University of California Riverside, not private developers.
T-1 Bicycle Infrastructure Improvements	Expand on-street and off-street bicycle infrastructure, including bicycle lanes and bicycle trails.	Not applicable. This objective is aimed at government agencies, not private developers.

TABLE 3-6: RRG CAP PROJECT CONSISTENCY

Measure	Description	Project Consistency
T-2 Bicycle Parking	Provide additional options for bicycle parking.	Not applicable. This objective is aimed at commercial facilities, not single family residences.
T-3 End of Trip Facilities	Encourage use of non-motorized transportation modes by providing appropriate facilities and amenities for commuters.	Not applicable. This objective is aimed at commercial facilities, not single family residences.
T-4 Promotional Transportation Demand Management	Encourage Transportation Demand Management (TDM) strategies.	Not applicable. This objective is aimed at large employment centers with 100 or more employees. The Project is a residential development. As such, this measure is not within the purview of this Project.
T-5 Traffic Signal Coordination	Incorporate technology to synchronize and coordinate traffic signals along local arterials.	Not applicable. This objective is aimed at government agencies, not private developers.
T-6 Density	Improve jobs-housing balance and reduce vehicle miles traveled by increasing household and employment densities.	Consistent. The Project proposes a residential development. As such, the proposed residential use would increase household density and is ,located near commercial development which would also help to reduce vehicle miles traveled by local residents.
T-7 Mixed-Used Development	Provide a variety of development types and uses.	Not applicable. The project is a residential development and not mixed use. The measure is not applicable. .
T-8 Pedestrian Only Areas	Encourage walking by providing pedestrian-only community areas.	Consistent. The Project provides a pedestrian network along internal streets and along the project boundary.
T-9 Limited Parking	Reduce requirements for vehicle parking in new development projects.	Consistent. The Project would provide the minimum parking required comply with applicable City parking requirements.
T-10 Bus Rapid Transit Services	Implement bus rapid transit service in the subregion to provide alternative transportation options.	Not applicable. This objective is aimed at government agencies, not private developers.
T-11 Voluntary Transportation Demand Management	Encourage employers to create TDM programs for their employees.	Not applicable. This objective is aimed at large employment centers with 100 or more employees. The Project is a residential development. As such, this measure is not within the purview of this Project.

TABLE 3-6: RRG CAP PROJECT CONSISTENCY

Measure	Description	Project Consistency
T-12 Accelerated Bike Plan Implementation	Accelerate the implementation of all or specified components of a jurisdiction's adopted bike plan.	Not applicable. This objective is aimed at government agencies, not private developers. However, the proposed Project would not obstruct the implementation of the adopted bike plan.
T-13 Fixed Guideway Transit	By 2020, complete feasibility study and by 2025 introduce a fixed-route transit service in the jurisdiction.	Not applicable. This objective is aimed at government agencies, not private developers.
T-14 Neighborhood Electric Vehicle Programs	Implement development requirements to accommodate Neighborhood Electric Vehicles and supporting infrastructure.	Not applicable. This objective is aimed at government agencies, not private developers.
T-15 Subsidized Transit	Increase access to transit by providing free or reduced passes.	Not applicable. This objective is aimed at large employment centers with 100 or more employees. The Project is a single-family residential development. As such, this measure is not within the purview of this Project.
T-16 Bike Share Program	Create nodes offering bike sharing at key locations throughout the City.	Not applicable. This objective is aimed at government agencies, not private developers.
T-17 Car Share Program	Offer Riverside residents the opportunity to use car sharing to satisfy short-term mobility needs.	Consistent. The Project would only provide parking areas for residents and while it would not directly support car sharing it would not inhibit the opportunity to use car sharing.
T-18 SB 743 as Alternative to LOS	Use SB 743 to incentivize development in the downtown and other areas served by transit.	Not applicable. This objective is aimed at government agencies, not private developers.
W-1 Water Conservation and Efficiency	Reduce per capita water use by 20% by 2020.	Consistent. The proposed Project would be required to be consistent with applicable water efficiency requirements detailed in the Green Building Standards Code (Title 24, California Code of Regulations). As such, the Project would be equipped with low-flow plumbing fixtures that reduce water use.
SW-1 Yard Waste Collection	Provide green waste collection bins community-wide.	Consistent. The Project would comply with applicable solid waste requirements.
SW-2 Food Scrap and Paper Diversion	Divert food and paper waste from landfills by implementing commercial	Consistent. The Project would be required to participate in applicable waste diversion programs. The Project would also be subject

TABLE 3-6: RRG CAP PROJECT CONSISTENCY

Measure	Description	Project Consistency
	and residential collection programs.	to all applicable State and City requirements for solid waste reduction.

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5 CERTIFICATIONS

The contents of this GHG study report represent an accurate depiction of the GHG impacts associated with the proposed Dauchy Street Project. The information contained in this GHG report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (619) 788-1971.

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APPENDIX 3-1:

CALEEMOD EMISSIONS MODEL OUTPUTS

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APPENDIX 3-2:

EMFAC2017 OUTPUTS

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DAUCHY AVENUE

NOISE IMPACT ANALYSIS

CITY OF RIVERSIDE

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JULY 31, 2023

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
mph	Miles per hour
NR	Noise Reduction
Project	Dauchy Avenue
REMEL	Reference Energy Mean Emission Level
TNM	Traffic Noise Model
STC	Sound Transmission Class

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise abatement measures for the proposed Dauchy Avenue development ("Project"). The Project site is located south of Ferrari Drive, west of Dauchy Street, in the City of Riverside. The Project consists of the development of 53, detached single-family residential dwelling units in gated community. This noise impact analysis was prepared to satisfy the City of Riverside noise level standards and ensure that adequate noise abatement measures are incorporated into the Project's development. In addition, recommendations for exterior and interior noise abatement are identified based on the latest Project site plans.

EXTERIOR NOISE LEVELS

The on-site traffic noise level analysis indicates that the private outdoor living areas (backyards) for lots nearest to Ferrari Drive and Dauchy Street will experience unmitigated exterior noise levels ranging from 49.1 to 64.1 dBA CNEL. According to City of Riverside General Plan Noise Element *Noise/Land Use Noise Compatibility Criteria* for single-family residential land use, the Dauchy Avenue Project will experience unmitigated exterior noise levels that are considered *conditionally acceptable* at Lots 1, 2, 11 through 14, and 53, and all other lots would be exposed to less than 60 CNEL, which would be considered *normally acceptable*. For *conditionally acceptable* noise/land use compatibility, new construction or development should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Therefore, no exterior noise mitigation is required to satisfy the City of Riverside General Plan Noise Element *Noise/Land Use Noise Compatibility Criteria*.

INTERIOR NOISE LEVELS

To satisfy the City of Riverside daytime and nighttime interior noise level standards, residential units will require a Noise Reduction (NR) of up to 19.5 dBA and a windows-closed condition requiring a means of mechanical ventilation (e.g. air conditioning). The Project should provide the following or equivalent noise measures on project plans:

- Windows & Glass Doors: All windows and glass doors with well-fitted, well-weather-stripped assemblies and shall have minimum sound transmission class (STC) ratings of 27.
- Exterior Walls: At any penetrations of exterior walls by pipes, ducts, or conduits, the space between the wall and pipes, ducts, or conduits shall be caulked or filled with mortar to form an airtight seal.
- Roof: Roof sheathing of wood construction shall be per manufacturer's specification or caulked plywood of at least one-half inch thick. Ceilings shall be per manufacturer's specification or well-sealed gypsum board of at least one-half inch thick. Insulation with at least a rating of R-19 shall be used in the attic space.

- Ventilation: Arrangements for any habitable room shall be such that any exterior door or window can be kept closed when the room is in use and still receive circulated air. A forced air circulation system (e.g. air conditioning) or active ventilation system (e.g. fresh air supply) shall be provided which satisfies the requirements of the Uniform Building Code.

With the interior noise abatement measures provided in this study, the proposed Project is expected to satisfy the City of Riverside interior noise level standards for residential development.

OFF SITE TRAFFIC NOISE

Traffic generated by the operation of the proposed Project is not expected to meaningfully influence the traffic noise levels in surrounding off-site areas. The expected Project traffic represents an incremental increase to the existing roadway volumes, which is not expected to generate a barely perceptible noise level increase of 3 dBA CNEL at nearby sensitive land uses adjacent to study area roadways, since a doubling of the existing traffic volumes would be required to generate a 3 dBA CNEL increase. Due to the low traffic volumes generated by the Project, the off-site traffic noise levels generated by the Project are considered less than significant and no further analysis is required.

OPERATIONAL NOISE LEVELS

This operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities at the Project site. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. Consistent with similar residential land uses, the primary noise source would be ground mounted air conditioner condensers.

OFF-SITE LOCATIONS

The Project operational noise levels at the off-site receiver locations are expected to range from 5.5 to 25.0 dBA L_{eq} during the daytime hours (7 a.m. to 10 p.m.) and are expected to range from 2.8 to 22.3 dBA L_{eq} during the nighttime hours (10 p.m. to 7 a.m.). Thus, the operational noise levels associated with the Project will satisfy the City of Riverside 55 dBA L_{eq} daytime and 45 dBA L_{eq} nighttime exterior noise level standards at all the nearby noise sensitive residential receiver locations identified in Chapter 9. Therefore, the operational noise impacts are considered *less than significant* at the nearby off-site noise-sensitive residential receiver locations.

ON-SITE LOCATIONS

The Project operational noise levels at the off-site receiver locations are expected to range from 29.6 to 48.8 dBA L_{eq} during the daytime hours (7 a.m. to 10 p.m.) and 26.9 to 39.0 dBA L_{eq} during nighttime hours (10 p.m. to 7 a.m.). Thus, the operational noise levels associated with the Project will satisfy the City of Riverside 55 dBA L_{eq} daytime and 45 dBA L_{eq} nighttime exterior noise level standards at all the on-site noise sensitive residential properties. Therefore, the incremental Project operational noise impacts are considered *less than significant* at all on-site receiver locations.

CONSTRUCTION NOISE AND VIBRATION IMPACTS

The Project would result in short-term noise level increases at nearest receiver locations, a construction-related daytime noise level threshold of 80 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that construction activities will not exceed the reasonable daytime significance threshold of 80 dBA L_{eq} during Project construction activities at the nearest receiver locations. Therefore, the noise impacts due to Project construction noise is considered *less than significant* under CEQA at all receiver locations.

1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Dauchy Avenue ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides the study methods and procedures for traffic noise analysis, and evaluates the future exterior noise environment.

1.1 SITE LOCATION

The proposed Dauchy Avenue site is located south of Ferrari Drive (APN 276-040-011;12), and west of Dauchy Avenue (APN 276-050-029), in the City of Riverside, as shown on Exhibit 1-A. Based on the City of Riverside zoning map, the project site is zoned R-1-1/2-Acre-WC – Single Family Residential and Water Course Overlay Zones (APN 276-040-011 and -012) and the RC-WC – Residential Conservation and Water Course Overlay Zones (APN 276-050-029), which allows for the development of single-family dwellings. The General Plan designates the Project area as VLDR– Very Low Density Residential and OS – Open Space (APN 276-040-011 and 012) and HR – Hillside Residential and OS – Open Space (APN 276-050-029).

1.2 PROJECT DESCRIPTION

The Project consists of the development of 53 residential dwelling units on three parcels (APN:276-050-029,276-040-011 and -012), as shown on Exhibit 1-B. The current acreage of the three parcels involved in the project is 24.45 acres. With the street vacations indicated Lots "A" and "H" on the Tentative Tract Map, the amount of acreage will increase to 24.73 acres. Accordingly, street improvements on the project frontage along Ferrari Drive and Dauchy Avenue will include curbs, gutters, and sidewalks. Ferrari Drive will also include street adjacent landscaping. Victor Hugo Drive will be paved to its full width. Accordingly, curbs and sidewalks will be installed on the north side of Victor Hugo Drive.

EXHIBIT 1-A: LOCATION MAP