

**INITIAL STUDY/MITIGATED NEGATIVE
DECLARATION FOR THE
WEST SIDE FIRE STATION PROJECT
BEAUMONT, CALIFORNIA**

Prepared for:

CITY OF BEAUMONT
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SECTION 1.0 – PROJECT DESCRIPTION AND ENVIRONMENTAL SETTING

1.1 PROJECT PURPOSE

The City of Beaumont (City) is proposing a new fire station, storage building, parking area, new access roads, and landscaping along the eastern side of Potrero Boulevard in Beaumont, California (Project). The Project is intended to improve fire service response times for local residents, particularly on the western side of the City.

1.2 PROJECT BACKGROUND

According to the General Plan, the City has grown quickly in the last two decades, with a population growth rate four times higher today than in the year 2000. The majority of suburban growth has been in the form of low-density, single-family subdivisions and strip commercial development located away from the City's original town center (City 2020). Rapid expansion of the City has increased pressure on local services, including fire services.

The City contracts with the Riverside County Fire Department in conjunction with the California Department of Forestry and Fire Protection (CAL FIRE) for City-wide fire protection, emergency medical services, and fire safety education. There are currently two existing fire stations located within the City limits. Station 66 (628 Maple Avenue) is the City's primary fire station and has access to two fire engines and 1 squad truck. Station 20 (1550 E. 6th Street) is a CAL FIRE station and operational costs are shared by the City, the City of Banning, and the County of Riverside; it has access to one fire engine. Additionally, CAL FIRE has access to seven shared engines in San Jacinto, five shared engines in Desert Hot Springs, and nine shared engines in Moreno Valley. Current fire service response times in the City are approximately 8 to 12 minutes. The City's goal is a five-minute response time (City 2020).

1.3 PROJECT LOCATION AND SITE CHARACTERISTICS

The City is located in the westernmost portion of Riverside County and is bounded on the west by the City of Calimesa and unincorporated areas of Riverside County, on the north by portions of unincorporated the County, on the south by unincorporated County areas and the City of San Jacinto, and on the east by the City of Banning. Major transportation routes through the City include Interstate 10, State Route (SR) 60, and SR 79.

1.3.1 Project Site

The Project would be located on approximately 1.59 acres spanning portions of three different parcels: APNs 414-120-040, -041, and -042 (Project site; Figure 1). The Project area is generally bounded by San Timoteo Canyon Road to the north, Interstate 10 to the east, SR 60 to the south, and Potrero Boulevard to the west. All parcels within the Project site are zoned and designated in the City's General Plan as Urban Village (UV; City 2020). The UV designation is a mixed-use designation intended for a variety of specialized land uses, including a regional serving commercial, higher density residential development, educational uses, and abundant open space and recreation amenities. The Project, which is considered a Public Safety Facility by the City's Zoning Code, is permitted within the UV zoning and land use designation; thus, no Zone Changes or General Plan Amendments are proposed.

The Project site is also located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Pass Area Plan, Subunit 2 – Badlands/San Bernardino National Forest. A MSHCP consistency

analysis was completed by Cadre Environmental in June 2021. For further information, refer to Section 4.4 or Appendix B of this document.

1.3.2 Surrounding Land Uses and Setting

All parcels directly adjacent to the Project site are vacant, undeveloped land zoned and designated as UV. Across Potrero Boulevard to the east is the Heartland General Plan subarea, governed by the Olivewood (formerly Heartland) Specific Plan. The Specific Plan Area is intended to be a single-family residential community with a total buildout of 1,224 homes (City 2020). The residential portion of the plan is currently under construction.

1.4 PROJECT DESCRIPTION

The Project proposes a new fire station, storage building, parking area, access roads, stormwater infiltration system, landscaping, and irrigation system. Details surrounding the construction and operation of these facilities are provided below.

1.4.1 Project Components

Fire Station

The proposed fire station would be composed of two buildings, totaling approximately 10,760 square feet. Building A would be located on the southwest corner of the Project site and Building B would be located on the southeast corner of the site. A covered, concrete walkway would be constructed to connect the two structures.

The purpose of Building A would be for administrative and communal needs associated with the fire department staff. The structure would be one story tall, totaling 4,730 square feet. The primary public access to the building would be via a front door along the western side of the building, which enters into a lobby. A secondary access is located along the eastern side of the building, entering into the office area. The following amenities would be located within Building A:

- A lobby and public restroom
- Five offices, including a Captain's Office and a Police Office
- A day room, dining area, and kitchen
- Four dorm spaces, with two beds per room
- Four full bathrooms with showers, including one ADA compliant bathroom
- A weight room
- A janitor's closet
- An electrical room
- A communication room

Building B would be used as an apparatus room, with space for two fire engines. Additionally, the building would house an equipment storage room, an ice room, a laundry room, and a generator room. The structure would be one story tall, totaling 4,791 square feet, with access provided via four bays and three external doors. A 1,000-gallon diesel aboveground storage tank and pump will be installed just north of Building B for fire engine fueling onsite.

Storage Building

The Project proposes a 23-foot by 25-foot storage building, totaling approximately 570 square-feet, in the northeastern corner of the site. The storage building will be used for housing extra equipment and vehicles. Access to the storage building will be via one bay and one door. Trash and recycling receptacles would be stored adjacent to the building.

Access Roads

As part of the Project, the City would construct two new access roads along the northern and southern edges of the Project site. The road to the north would be a potential future shared common drive with surrounding land zoned UV, and the road to the south would be named Western Knoll Boulevard (Blvd). The northern access road would be constructed in compliance with County of Riverside requirements, measuring 25 feet wide by 240 feet long. Western Knoll Blvd would be 39 feet wide by 195 feet long and would be designed to accommodate heavy duty equipment such as fire engines. One access point would be constructed along the northern access road for entry to the staff parking lot. Two access points would be constructed along Western Knoll Blvd for entry to the visitor parking lot and Building B.

Parking Lot and Fencing

Approximately 21,569 square feet of paving is proposed onsite. Within the paved portions of the Project site the City would paint 16 parking stalls, divided into staff and visitor parking areas. Staff parking would be located in the northwest area of the site, offering 12 standard 9-foot by 18-foot stalls. Two electric car chargers would be provided, as well as a long-term bike rack. The staff parking area would be covered by two solar-mounted shade structures, totaling 3,560 square-feet. Visitor parking would be located on the southern side of the station, offering three standard stalls and one ADA-compliant 17-foot by 19-foot stall.

The majority of the site would be surrounded by 6-foot perimeter steel fencing with automatic rolling metal vehicle gates limiting access at the southeast and northeast corners. However, the visitor parking area would not be gated to allow for public access to Building A via the front door.

Stormwater Infiltration System

Drainage runoff from the Project site will be captured and directed to an underground storage and infiltration system for water quality treatment. Three vegetated bioretention basins will be installed, with maximum depths of 72 inches, or six feet below the ground surface.

Landscaping and Irrigation

Approximately 18,996 square feet of the Project site would be landscaped with native, drought resistant plant species. A water efficient irrigation system would be also installed. All landscaping and irrigation would comply with the City's Landscaping Standards (Code of Ordinances Section 17.06).

1.4.2 Construction

The Project is expected to break ground as soon as first quarter 2022 and be completed by Quarter 1 (Q1) 2023. Construction activities will likely take place between the hours of 7:00 a.m. and 6:00 p.m. to avoid disturbing nearby residents. However, the Project is classified as a Capital Improvement Project under the City's Code of Ordinances, thus the City's noise control regulations do not apply (Code of Ordinances Section 9.02.100). The site is currently vacant, undisturbed land consisting of non-native grassland/ruderal; riversidean sage scrub; and disturbed/developed vegetation communities (Cadre 2021). The entire 1.59-acre site would be graded and leveled at the start of construction. Approximately

45,010 cubic yards (CY) of cut and 197 CY of fill are anticipated during grading. Approximately 40,041 CY of soil would be exported from the Project site. Ground disturbance would reach depths up to 20 feet from finished grade, associated with installation of the stormwater infiltration system. Equipment anticipated to be used during construction of the Project includes loaders, pick-up trucks, backhoe, water truck, crane, fork lift, asphalt paver, excavators, and cement trucks.

1.4.3 Operations

Project operations are anticipated to begin by Q1 2023. Approximately 8 staff from the local area are anticipated to be employed at the fire station, with shifts running 24 hours a day, seven days a week.

1.4.4 Urban/Wildlands Interface Guidelines and Best Management Practices

The Project site is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Pass Area Plan, Subunit 2 – Badlands/San Bernardino National Forest. Specifically, the Project site is located completely within MSHCP Criteria Area 1015. The MSHCP’s Urban/Wildlands Interface Guidelines presented in Section 6.1.4 are intended to address indirect effects associated with locating commercial, mixed uses and residential developments in proximity to an MSHCP Conservation Area. The 3.23-acre Project site impact area would not be located adjacent to a proposed MSHCP Conservation Area; however, the City will voluntarily implement all Urban/Wildlife Interface Guidelines for the proposed Project site impact area. In addition, the City will implement Best Management Practices to ensure compliance and consistency with MSHCP objectives and goals.

The following Urban/Wildlife Interface Guidelines (UWIGs) and Best Management Practices (BMPs) will be implemented for the Project:

UWIG-1: The Project will comply with all applicable water quality regulations, including obtaining and complying with those conditions established in WDRs and a National Pollutant Discharge Elimination System (NPDES) permits, as warranted. Both of these permits include the treatment of all surface runoff from paved and developed areas, the implementation of applicable BMPs during construction activities (discussed below) and the installation and proper maintenance of structural BMPs to ensure adequate long-term treatment of water before entering into any stream course or offsite Conservation Areas (San Timoteo Creek).

UWIG-2: Stormwater treatment systems will be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant material, or other elements that could degrade or harm adjacent biological or aquatic resources. Toxic sources within the Project site would be limited to those commonly associated with fire stations such as fire retardants and vehicle emissions. In order to mitigate for the potential effects of these toxics, the Project will incorporate structural BMPs, as required in association with compliance with WDRs and the NPDES permit system, in order to reduce the level of toxins introduced into the drainage system and the surrounding areas, as warranted.

UWIG-3: Night lighting associated with the proposed fire station will only be directed toward proposed facility grounds and access roads to reduce potential indirect impacts to wildlife species.

UWIG-4: Because the proposed project development will not result in noise levels that exceed standards established for the City of Beaumont, wildlife within adjacent open space habitats will not be subject to noise that exceeds these established standards. Short-term construction-related noise impacts will be reduced by the implementation of the following:

- During all Project site excavation and grading on-site, the construction contractors will equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the Project site during all project construction, as applicable.
- The construction contractor will limit all construction-related activities that would result in high noise levels to between 7 AM and 6 PM in compliance with the City Municipal Code.
- The construction contractor will limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes will not pass sensitive land uses.

UWIG-5: The landscape plans for the commercial project will avoid the use of invasive species for the portions of the development areas adjacent to the proposed Conservation Areas. Invasive plants that should be avoided are included in Table 6-2 of the MSHCP, *Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area*.

BMP-1: Construction outside the nesting season (between September 15th and February 15th) does not require preconstruction nesting bird surveys. If construction is proposed between February 16th and September 14th, a qualified biologist will conduct a preconstruction nesting bird survey. A report of the findings prepared by a qualified biologist will be submitted to the City for review and approval prior to the initiation of Project activities.

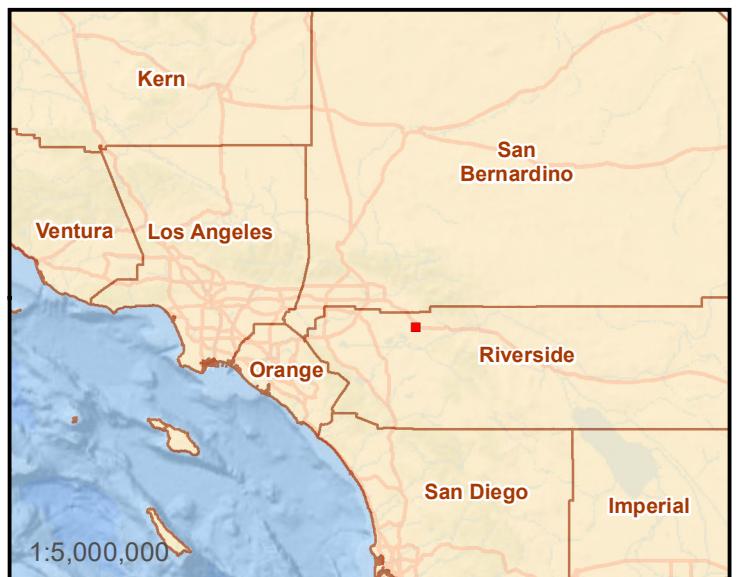
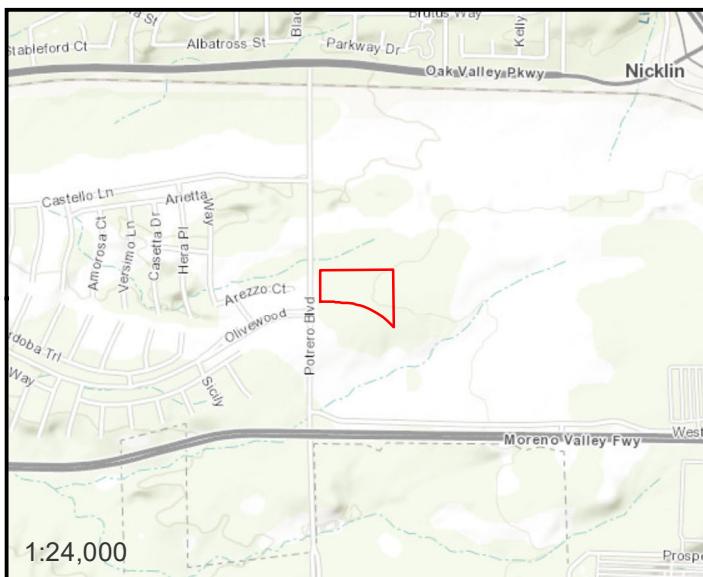
BMP-2: Access to Project site will be via pre-existing and proposed access routes extending west from Potrero Boulevard.

BMP-3: Equipment storage, fueling, and staging areas will be located on upland sites with minimal risks of direct drainage into sensitive habitats. These designated areas will be located in such a manner as to prevent any runoff from entering sensitive habitat (San Timoteo Creek). Necessary precautions will be taken to prevent the release of substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictions (City of Beaumont), USFWS, CDFW, and RWQCB and will be cleaned up immediately and contaminated soils removed to approved disposal areas.

BMP-4: The Project site shall be kept as clean of debris as possible. All food related trash items will be enclosed in sealed containers and regularly removed from the site.

BMP-5: Construction employees will strictly limit their activities, vehicles, equipment, and construction materials to the Project footprint and designated staging areas and routes

of travel. The construction area(s) will be the minimal area necessary to complete the Project and will be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing will be maintained until the completion of all construction activities. Employees will be instructed that their activities are restricted to the construction areas.



■ Project Location



0 75 150 300
Feet

Figure 1
West Side Fire Station
Project Location and Vicinity

SECTION 2.0 – ENVIRONMENTAL DETERMINATION

2.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would potentially be affected by this project, involving at least one impact that is a “Potentially Significant Impact,” as indicated by the checklists on the following pages. For each of the potentially affected factors, mitigation measures are recommended that would reduce the impacts to less than significant levels.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forestry Resources	<input type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input type="checkbox"/> Energy
<input checked="" type="checkbox"/> Geology /Soils	<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Hazards & Hazardous Materials
<input type="checkbox"/> Hydrology /Water Quality	<input type="checkbox"/> Land Use / Planning	<input type="checkbox"/> Mineral Resources
<input type="checkbox"/> Noise	<input type="checkbox"/> Population / Housing	<input type="checkbox"/> Public Services
<input type="checkbox"/> Recreation	<input type="checkbox"/> Transportation	<input type="checkbox"/> Tribal Cultural Resources
<input type="checkbox"/> Utilities /Service Systems	<input type="checkbox"/> Wildfire	<input checked="" type="checkbox"/> Mandatory Findings of Significance

2.2 DETERMINATION

On the basis of this initial evaluation:

1. I find that the project **could not** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
2. I find 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.
3. I find the proposed project **may have a significant effect** on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
4. I find 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.
5. I find 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

Name

Title

SECTION 3.0 – 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. 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 offsite as well as onsite, 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 substantial evidence exists that an effect may be significant. If one or more “Potentially Significant Impact” entries are marked 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 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 within 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 measures 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 significant.

*Note: Instructions may be omitted from final document.

SECTION 4.0 – CHECKLIST OF ENVIRONMENTAL ISSUES

4.1 AESTHETICS

1.	AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.1.1 Impact Analysis

a) *Would the project have a substantial adverse effect on a scenic vista?*

Less Than Significant Impact. According to the City's General Plan Environmental Impact Report (EIR), the City does not contain any specifically designated scenic vistas. The City is located within the San Gorgonio Pass, which serves as a link from the central Inland Empire to the west with the Coachella Valley desert to the east. Primary views of the area are of the San Gorgonio Mountains and the San Bernardino Mountains located north of the City and the San Jacinto Mountains to the southeast. The Project site and directly adjacent land are currently vacant. Although the Olivewood residential community is currently under construction across Potrero Boulevard, a concrete masonry wall has been built around the Specific Plan Area which interrupts views. Thus, public views of the Project site would be associated mainly with intermittent drivers along Potrero Boulevard. Nonetheless, intermittent views of the Project would be consistent with both existing and approved residential development in the vicinity. The Project would have a less than significant impact on scenic vistas.

b) *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

No Impact. No officially designated State scenic highways, eligible State scenic highways, or officially designated County scenic highways traverse or are in proximity to the City (Caltrans 2021). Additionally, the Project site is currently vacant with no trees, rock outcroppings, or historic buildings. Thus, no impacts would occur.

c) *Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced*

(from 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?

Less Than Significant Impact. The Project site and surrounding area is not currently in an urbanized area and is majority vacant land with views of the mountains. The Olivewood residential community is currently under construction directly across Potrero Boulevard; however, a concrete masonry wall has been built around the Specific Plan Area which would interrupt future views of the Project site. No other development is currently proposed for the Project area. Thus, public views of the Project site would be associated mainly with intermittent drivers along Potrero Boulevard. Intermittent views of the Project would be consistent with both existing and approved residential development in the vicinity. The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings; therefore, impacts would be less than significant.

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

Less Than Significant Impact. Existing light sources from the areas around the Project consist of lights from the vehicles and residences in the vicinity of the Project site. No lighting is currently located within the vacant Project site. During construction, the Project would generate light and glare from the presence and operation of vehicles and equipment. Construction activities will likely take place between the hours of 7:00 a.m. and 6:00 p.m. to avoid disturbing nearby residents; however, these hours may fluctuate slightly, as the Project is classified as a Capital Improvement Project under the City's Code of Ordinances. Nonetheless, no construction activities would occur during nighttime hours. Once operational, the Project would include new permanent lighting from outdoor building lights and security lighting for the parking area. In compliance with the City's outdoor lighting standards, all lighting would be fully shielded, side shielded, or internally shielded to the maximum extent practicable and would be dimmed by at least 50 percent beginning at 10:00 p.m. (Section 8.50.080). Impacts would be less than significant.

4.2 AGRICULTURE & FORESTRY RESOURCES

	AGRICULTURE & 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 Department 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 compiled 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 forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
2.					

(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d)	Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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 the conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.2.1 Impact Analysis

a) *Would the project 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?*

No Impact. The Project site is identified as “Other Land” by the Department of Conservation, Division of Land Resource Protection Farmland Mapping and Monitoring Program. Other Land is land not included in any other mapping category. Examples of this category are low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. No prime farmland, unique farmland, or farmland of statewide importance occur on the Project site. The Project would not convert farmland to a non-agricultural use. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

b) *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

No Impact. The Project site is not under a Williamson Act Contract, as there are no lands with active Williamson Act contracts within the City. Additionally, the Project site is currently zoned UV and would not conflict with existing zoning for agricultural use. Therefore, no impacts would occur.

c) *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

No Impact. The City does not have a zoning designation for, nor does it contain forestry related timberland or timberland production sites within City limits. Furthermore, the Project site has a current zoning of UV. Therefore, no impacts would occur.

d) *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

No Impact. The parcels of the Project site are currently vacant with no trees onsite. The Project site consists of a mix of ruderal vegetation, disturbed ground, and sage scrub (Appendix B). It would not be considered forest land. Implementation of the Project would not result in loss of forest land or conversion of forest land to non-forest use. The 2040 General Plan does not include any lands designated as forest land within the General Plan area (City 2020). Therefore, no loss of forest land or conversion of forest land to non-forest use will result from the implementation of the Project. No impacts are identified or anticipated, and no mitigation measures are required.

e) *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or the conversion of forest land to non-forest use?*

No Impact. The Project site does not support agricultural or forest land use. Implementation of the Project would not result in the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use onsite and offsite. Therefore, no impacts would occur.

4.3 AIR QUALITY

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:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The Project site is located in the City of Beaumont within the County of Riverside. The proposed Project site is located within the South Coast Air Basin (Air Basin), and air quality regulation is administered by the South Coast Air Quality Management District (SCAQMD). The SCAQMD implements the programs and regulations required by the federal and State Clean Air Acts.

Atmospheric Setting

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographical features. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with physical features of the landscape to determine their movement and dispersal, and consequently, their effect on air quality. The combination of topography and inversion layers generally prevents dispersion of air pollutants in the Air Basin.

The climate of the Air Basin lies in the semi-permanent high-pressure zone of the eastern Pacific, which results in a mild climate, tempered by cool sea breezes. Although the Air Basin has a semiarid climate, the air near the surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry air is brought into the basin by offshore winds, the ocean effect is dominant. Periods of heavy fog are frequent; and low stratus clouds, often referred to as "high fog," are a characteristic climate feature. Average temperatures for Beaumont Pump Plant¹ (WRCC 2021), range from an average low of 36 degrees Fahrenheit (°F) in January to an average high of 93 °F in July. Rainfall averages approximately 21 inches a year, with almost all annual rainfall coming from the fringes of mid-latitude storms from late November to early April and summers being almost completely dry.

Winds are an important parameter in characterizing the air quality environment of a project site because they determine the regional pattern of air pollution transport and control the rate of dispersion near a source. Daytime winds in the Air Basin are usually light breezes from off the coast as air moves regionally onshore from the cool Pacific Ocean. These winds are usually the strongest in the dry summer months. Nighttime winds in the Air Basin result mainly from the drainage of cool air off the mountains to the east, and they occur more often during the winter months and are usually lighter than the daytime winds. Between the periods of dominant airflow, periods of air stagnation may occur, both in the morning and evening hours. Whether such a period of stagnation occurs is one of the critical determinants of air quality conditions on any given day.

During the winter and fall months, surface high-pressure systems north of the Air Basin, combined with other meteorological conditions, can result in very strong winds from the northeast called "Santa Ana Winds." These winds normally have durations of a few days before predominant meteorological conditions are reestablished. The highest wind speed typically occurs during the afternoon due to daytime thermal convection caused by surface heating. This convection brings about a downward transfer of momentum from stronger winds aloft. It is not uncommon to have sustained winds of 60 miles per hour with higher gusts during a Santa Ana Wind.

Regulatory Setting

The proposed Project site lies within the Air Basin, which is managed by the SCAQMD. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), inhalable particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), and lead. The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility.

Areas are classified under the federal Clean Air Act as either "attainment" or "nonattainment" areas for each criteria pollutant, based on whether the NAAQS have been achieved or not. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). The Air Basin has been designated by the federal Environmental Protection Agency (EPA) as a nonattainment area for O₃ and PM_{2.5}. Currently, the Air Basin is in attainment with the NAAQS for CO, SO₂, NO₂, and PM₁₀, and the Riverside County portion of the Air Basin is designated as nonattainment for lead.

The EPA has designated the Air Basin as extreme nonattainment for the 8-hour average ozone standard. In 2015, the EPA strengthened its 8-hour "primary" and "secondary" ozone standards to 0.070 parts per

¹ Obtained from: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0607>

million (ppm). The previous standard, set in 2008, was 0.075 ppm. The SCAQMD, the agency principally responsible for comprehensive air pollution control in the Air Basin, adopted the 2016 Air Quality Management Plan (AQMP) in March 2016 that provides measures to reduce 8-hour ozone levels to below the federal standard by 2037.

Additionally, the EPA has designated the Air Basin as nonattainment for PM_{2.5}. In 1997, the EPA established standards for PM_{2.5} (particles less than 2.5 micrometers), which were not implemented until March 2002. The 1997 PM_{2.5} standard of 15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) was attained on August 24, 2016. However, on December 14, 2012, the EPA revised the primary annual PM_{2.5} NAAQS from 15 $\mu\text{g}/\text{m}^3$ to 12 $\mu\text{g}/\text{m}^3$. The 2012 AQMP provides measures to reduce PM_{2.5} emissions to within the federal standard by December 31, 2025. PM_{2.5} is a subset of the PM₁₀ emissions whose standards were developed to complement the PM₁₀ standards that cover a full range of inhalable particle matter. For the PM₁₀ health standards, the annual PM₁₀ standard was revoked by the EPA on October 17, 2006; and the 24-hour average PM₁₀ attainment status for the Air Basin was redesignated to attainment (maintenance) on July 26, 2013.

The Air Basin has been designated by CARB as a nonattainment area for O₃, NO₂, PM₁₀, and PM_{2.5}. Currently, the Air Basin is in attainment with the State ambient air quality standards for CO, SO₂, and sulfates and is unclassified for visibility-reducing particles and hydrogen sulfide. The adopted AQMPs provide measures to meet the State standards for ozone, NO₂, PM₁₀, and PM_{2.5}. Table 1 presents the designations and classifications applicable to the proposed Project area.

Table 1: Designations/Classifications for the Project Area

Pollutant	Average Time Standard	National Standards Attainment Date ¹	California Standards ²
1979 1-Hour Ozone (O₃)³	1-Hour (0.12 ppm)	Nonattainment (Extreme) 2/6/2023	Nonattainment
1997 8-Hour Ozone (O₃)⁴	8-Hour (0.08 ppm)	Nonattainment (Extreme) 6/15/2024	
2008 8-Hour Ozone (O₃)	8-Hour (0.075 ppm)	Nonattainment (Extreme) 7/20/2032	
2015 8-Hour Ozone (O₃)	8-Hour (0.070 ppm)	Nonattainment (Extreme) 8/3/2038	
Carbon Monoxide (CO)	1-Hour (35 ppm) 8-Hour (9 ppm)	Attainment (Maintenance) 6/11/2007 (attained)	Maintenance
Nitrogen Dioxide (NO₂)⁵	1-Hour (100 ppb)	Unclassifiable/Attainment Attained	Attainment
	Annual (0.053 ppm)	Attainment (Maintenance) 9/22/1998	
Sulfur Dioxide (SO₂)⁶	1-Hour (75 ppb)	Designation Pending/ Pending	Attainment
	24-Hour (0.14 ppm) Annual (0.03 ppm)	Unclassifiable/Attainment 3/19/1979 (attained)	
Particulate Matter (PM₁₀)	24-Hour (150 $\mu\text{g}/\text{m}^3$)	Attainment (Maintenance) 7/26/2013	Nonattainment

Table 1: Designations/Classifications for the Project Area

Pollutant	Average Time Standard	National Standards Attainment Date ¹	California Standards ²
Particulate Matter (PM _{2.5})	24-Hour (35 µg/m ³)	Nonattainment (Serious) 12/31/2019	Nonattainment
	1997 Annual (15.0 µg/m ³)	Attainment 8/24/2016	
	Annual (12.0 µg/m ³)	Nonattainment 12/31/2025	
Lead (Pb)	3-Months Rolling (0.15 µg/m ³)	Nonattainment (Partial) ⁷ 12/31/2015	Nonattainment

Note:

¹ Obtained from <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=14>

² Obtained from <http://www.arb.ca.gov/design/adm/adm.htm>.

³ 1-hour O₃ standard (0.12 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard based on 2008-2010 data has some continuing obligations under the former standard.

⁴ 1997 8-hour O₃ standard (0.08 ppm) was reduced (0.075 ppm) in 2008; the 1997 O₃ standard and most related implementation rules remain in place until the 1997 standard is revoked by U.S. EPA.

⁵ New NO₂ 1-hour standard, effective August 2, 2010; attainment designations January 20, 2012; annual NO₂ standard retained.

⁶ The 1971 annual and 24-hour SO₂ standards were revoked, effective August 23, 2010; however, these 1971 standards will remain in effect until one year after U.S. EPA promulgates area designations for the 2010 SO₂ 1-hour standard. Area designations are expected in 2012, with Basin designated Unclassifiable/Attainment

⁷ Partial Nonattainment designation – Los Angeles County portion of Basin only. Expect redesignation to attainment based on current monitoring data.

Monitored Air Quality

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates of the existing emissions in the Air Basin provided in the Final 2016 AQMP, March 2017, indicate that, collectively, mobile sources account for 33 percent of the volatile organic compounds (VOC), 88 percent of emissions from nitrogen oxides (NOx), and 35 percent of directly emitted PM_{2.5}, with another 10 percent of PM_{2.5} from road dust. However, the mobile source regulations currently in place are anticipated to reduce the share of emissions currently produced by mobile sources; and by 2031 mobile source emissions are anticipated to create 14 percent of VOC emissions, 30 percent of NOx emissions, and 23 percent of PM_{2.5} emissions with another 14 percent of PM_{2.5} from road dust.

The SCAQMD has divided the Air Basin into 38 air monitoring areas with a designated ambient air monitoring station representative of each area. The Proposed Project site is located on the western edge of Air Monitoring Area 29, which covers the northern portion of Riverside County from just west of the project site to the desert. The nearest air monitoring station to the project site is the Banning Airport Monitoring Station (Banning Station), which is located approximately nine miles east of the project site at 200 S. Hathaway Street, Banning. The monitoring data is presented in Table 2 and shows the most recent three years of monitoring data from CARB.

Table 2: Ambient Air Quality Monitoring Summary

Air Pollutant ¹	2018	2019	2020
Ozone			
Max 1 Hour (ppm)	0.119	0.119	0.150
Days > CAAQS (0.09 ppm)	33	24	29
Max 8 Hour (ppm)	0.106	0.096	0.115
Days > NAAQS (0.070 ppm)	69	59	68
Days > CAAQS (0.070 ppm)	69	62	71
Nitrogen Dioxide (NO₂)			
Max 1 Hour (ppb)	50.6	56.0	51.1
Days > NAAQS (100 ppb)	0	0	0
Days > CAAQS (180 ppb)	0	0	0
Particulate Matter (PM₁₀)			
Max Daily California Measurement	39.3	63.8	69.3
Days > NAAQS (150 µg/m ³)	0	0	0
Days > CAAQS (50 µg/m ³)	0	2	1
National Average (20 µg/m ³)	20.1	17.7	21.2
Particulate Matter (PM_{2.5})			
Max Daily National Measurement	32.0	23.4	46.7
Days > NAAQS (35 µg/m ³)	0	0	3
State Average (12 µg/m ³)	ND	9.5	10.5
Abbreviations: > = exceed ppm = parts per million ppb = parts per billion µg/m ³ = micrograms per cubic meter CAAQS = California Ambient Air Quality Standard NAAQS = National Ambient Air Quality Standard ND = Insufficient or No Data Bold = exceedance			
¹ Measurements taken from Banning Airport Station Source: http://www.arb.ca.gov/adam/			

California Emissions Estimator Model™ Employed To Estimate AQ Emissions

In May 2021, 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) v2020.4.0. The purpose of this model is to more accurately calculate construction-source and operational-source criteria pollutants (NO_x, VOCs, PM10, PM2.5, SO_x, and CO) and greenhouse gas (GHG) emissions from direct and indirect sources and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod has been used for this proposed Project to determine construction and operational impacts related to the proposed Project. The input parameters and outputs from the model runs are provided in Appendix A.

4.3.1 Impact Analysis

a) *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

Less Than Significant Impact. CEQA requires a discussion of any inconsistencies between a Project and applicable general plans (GP) and regional plans (CEQA Guidelines Section 15125). The regional plan that applies to the Project includes the SCAQMD AQMP. Therefore, this section discusses any potential inconsistencies of the Project with the AQMP and the County of Riverside General Plan.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the Project would interfere with the region's ability to comply with federal and State air quality standards. If the decision-makers determine that the Project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD CEQA Handbook states that "New or amended GP Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A Project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

- (1) Whether the project will result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
- (2) Whether the project will exceed the assumptions in the AQMP in 2010 or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

Criterion 1 – Increase in the Frequency or Severity of Violations?

Based on the air quality modeling analysis contained in Appendix A, it was determined that short-term construction impacts and long-term operations impacts would not result in significant impacts based on the SCAQMD regional, local, and toxic air contaminant thresholds of significance.

Therefore, the Proposed Project is not expected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for the first criterion.

Criterion 2 – Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the Project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the Project are based on the same forecasts as the AQMP. The AQMP is developed through use of the planning forecasts provided in the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal), adopted September 3, 2020 and the 2019 Federal Transportation Improvement Program (2019 FTIP), adopted September 2018. The Connect SoCal is a major planning document for the regional transportation and land use network within southern California. The Connect SoCal is a long-range plan that is required by federal and State requirements placed on SCAG and is updated every four years. The 2019 FTIP provides long-range planning for future transportation improvement projects that are constructed with State and/or federal funds within southern California. Local governments are required to use these plans as the basis of their plans for the purpose of consistency with applicable regional plans under CEQA.

The Project consists of development of a fire station. The Project site is designated as Urban Village (UV) in the General Plan and is zoned Urban Village (UV), which allows for fire station uses. The Project is consistent with the current land use designations and would not require a General Plan Amendment or zone change. In addition, project construction would be required to comply with SCAQMD Rules

and Regulations, including Rules 402 and 403 that control the emissions of air contaminants, odors, and fugitive dust. Therefore, based on the above, the Project is not anticipated to exceed the AQMP assumptions for the Project site and is found to be consistent with the AQMP for the second criterion.

Based on the discussion above, the Project will not result in an inconsistency with the SCAQMD AQMP. Accordingly, the Project would not conflict with or obstruct implementation of the applicable air quality plan

b) Would the project 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?

Less Than Significant Impact. The proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard. As shown above in Table 1, the Project area is designated as a federal and/or State nonattainment area for ozone and PM_{2.5}. To estimate if the proposed Project may adversely affect the air quality in the region, the SCAQMD has prepared the CEQA Air Quality Handbook (SCAQMD 1993) to provide guidance to those who analyze the air quality impacts of proposed projects. The SCAQMD CEQA Air Quality Handbook states that any project in the Air Basin with daily emissions that exceed any of the identified significance thresholds should be considered as having an individually and cumulatively significant air quality impact. For the purposes of this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table 3.

Table 3: Regional Thresholds of Significance

	Pollutant Emissions (Pounds/Day)						
	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}	Lead
Construction	75	100	550	150	150	55	3
Operation	55	55	550	150	150	55	3

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

In order to assess local air quality impacts, the SCAQMD has developed LSTs to assess the Project-related air emissions in the Project vicinity. SCAQMD has also provided Final Localized Significance Threshold Methodology (LST Methodology), July 2008, which details the methodology to analyze local air emission impacts. The LST Methodology found that the primary emissions of concern are NO₂, CO, PM₁₀, and PM_{2.5}.

The LST Methodology provides look-up tables with different thresholds based on the location and size of the project site and distance to the nearest sensitive receptors. The look-up tables provide 1-acre, 2-acre, and 5-acre project sizes. The proposed Project site is 1.59 acres and the Project would include offsite road improvements that would disturb approximately 1.0 acre. As such, the Project is anticipated to disturb up to 2.59 acres. In order to provide a conservative analysis, the 2-acre look-up tables thresholds have been utilized in this analysis.

The Project site is located in Air Monitoring Area 29, Banning Airport. The nearest sensitive receptors to the proposed Project site are single-family homes (currently under construction) that are located as near as 50 feet (15 meters) west of the proposed offsite road improvements to Potrero Boulevard.

According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25-meter thresholds. Table 4 shows the LSTs for NOx, CO, PM₁₀, and PM_{2.5} for both construction and operational activities.

Table 4: Local Thresholds of Significance

Activity	Allowable Emissions (pounds/Day) ¹			
	NOx	CO	PM ₁₀	PM _{2.5}
Construction	149	1,541	10	6
Operation	149	1,541	3	2

¹ The nearest sensitive receptors are single-family homes (currently under construction) located as near as 50 feet (15 meters) from proposed offsite road improvements to Potrero Boulevard. According to SCAQMD methodology, all receptors closer than 25 meters are based on the 25-meter threshold.

Source: SCAQMD's Mass Rate Look-Up Tables for two acres in Air Monitoring Area 29 found at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2>

The following section calculates the potential air emissions associated with the construction and operations of the proposed Project and compares the emissions to the SCAQMD standards.

Construction

Construction of the proposed Project would create air emissions primarily from equipment exhaust and fugitive dust. The air emissions from the Project were analyzed through use of the CalEEMod model (Appendix A). Construction activities for the Project are anticipated to start in the first quarter of 2022 and be completed by first quarter of 2023. The construction activities would include site preparation and grading of the Project site, building construction, paving, and application of architectural coatings. The proposed Project is anticipated to require the export of 40,041 cubic yards (CY) of dirt during grading activities. As such, the soil import function in CalEEMod was enabled, and 40,041 CY of export was modeled accordingly. The estimated maximum daily construction emissions without mitigation are summarized in Table 5.

Table 5: Construction-Related Maximum Daily Criteria Pollutant Emissions (Without Mitigation)

Construction Year & Season	Emissions (Pounds/Day) ¹					
	VOC	NOx	CO	SOX	PM ₁₀	PM _{2.5}
Summer 2022	2.38	49.22	16.81	0.17	8.95	3.84
Winter 2022	2.34	50.99	16.94	0.17	8.95	3.84
Summer 2023	12.53	14.12	15.53	0.03	1.05	0.71
Winter 2023	12.53	14.15	15.32	0.03	1.05	0.71
Maximum Daily Construction Emissions	12.53	50.99	16.94	0.17	8.95	3.84
SCAQMD Regional Threshold	75	100	550	150	150	55
SCAQMD Local Threshold	--	149	1,541	--	10	6
Thresholds Exceeded?	NO	NO	NO	NO	NO	NO

¹ Based on adherence to fugitive dust suppression requirements from SCAQMD Rule 403.

Source: CalEEMod Version 2020.4.0.

As shown in Table 5, maximum daily construction emissions would not exceed either the SCAQMD regional and local criteria pollutant thresholds. In addition, construction emissions would be short-term, limited only to the period when construction activity is taking place. As such, construction-

related criteria pollutant emissions would be less than significant for the Project and no mitigation is required.

Operations

Operational activities associated with the proposed Project would not result in significant emissions of CO, VOCs, NO_x, SO_x, PM₁₀, and PM_{2.5}. Less than significant operational-related emissions are expected from the following primary sources: area source emissions, energy source emissions, mobile source emissions, and the proposed backup generator emissions. The proposed Project-related operational air quality impacts derive primarily from vehicle trips generated by the proposed Project. Table 6 summarizes the proposed Project's daily regional emissions from ongoing operations. Detailed construction model outputs are presented in Appendix A.

Table 6: Operations-Related Maximum Daily Criteria Pollutant Emissions (Without Mitigation)

Operational Activities – Summer Scenario	Emissions (Pounds/Day)					
	VOC	NO _x	CO	SOX	PM ₁₀	PM _{2.5}
Area Source ¹	0.28	<0.00	<0.00	<0.00	<0.00	<0.00
Energy Source ²	<0.00	0.01	0.01	<0.00	<0.00	<0.00
Mobile ³	0.69	0.80	5.79	0.01	1.23	0.33
Backup Generator	0.07	0.23	0.26	<0.00	0.01	0.01
Total Maximum Daily Emissions	1.05	1.04	6.05	0.01	1.24	0.35
SCAQMD Regional Threshold	55	55	550	150	150	55
SCAQMD Local Threshold	--	149	1,541	--	3	2
Thresholds Exceeded?	NO	NO	NO	NO	NO	NO
Operational Activities – Winter Scenario	Emissions (Pounds/Day)					
	VOC	NO _x	CO	SOX	PM ₁₀	PM _{2.5}
Area Source	0.28	<0.00	<0.00	<0.00	<0.00	<0.00
Energy Source	<0.00	0.01	0.01	<0.00	<0.00	<0.00
Mobile	0.58	0.85	5.20	0.01	1.23	0.33
Backup Generator	0.07	0.23	0.26	<0.00	0.01	0.01
Total Maximum Daily Emissions	0.93	1.09	5.47	0.01	1.24	0.35
SCAQMD Regional Threshold	55	55	550	150	150	55
SCAQMD Local Threshold	--	149	1,541	--	3	2
Thresholds Exceeded?	NO	NO	NO	NO	NO	NO

Note:

¹ Area sources consist of emissions from consumer products, architectural coatings, and landscape equipment.

² Energy usage consists of emissions from onsite natural gas usage.

³ Mobile sources consist of emissions from vehicles and road dust.

⁴ Backup generator based on a 50 kW (86 Horsepower diesel generator that has a cycling schedule of 30 minutes per week)

Source: CalEEMod Version 2020.4.0

As shown in Table 6, operations-related emissions would not exceed either SCAQMD regional or local thresholds. As such, operations-related criteria pollutant emissions would be less than significant for the Project and no mitigation is required

c) *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Less than Significant Impact. The proposed Project would not expose nearby sensitive receptors to substantial criteria pollutants, including CO hotspots, and toxic air contaminants (TACs). The nearest sensitive receptor to the proposed Project are single-family homes (currently under construction) that are as near as 120 feet west of the Project site. As discussed above in (b), the local concentrations of criteria pollutant emissions have been calculated for construction and operational activities. The analysis above found that less than significant criteria pollutant concentrations would occur during construction and operation of the Project at the nearby sensitive receptors. As such, a less than significant impact would occur to sensitive receptors from localized criteria pollutant concentrations.

According to SCAQMD methodology, health effects from TACs are usually described in terms of “individual cancer risk.” “Individual Cancer Risk” is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology.

Construction-Related TAC Emissions

Construction of the proposed Project would generate TAC emissions from the onsite operation of diesel-powered equipment in the form of diesel particulate matter (DPM). Cancer potency factors for DPM and other TACs are based on animal lifetime studies or worker studies where there is a long-term exposure to the carcinogenic agent.² Given the relatively limited number of heavy-duty construction equipment, the varying distances to the nearby sensitive receptors that construction equipment would operate, and the short-term construction schedule, the proposed Project would not result in a long-term (i.e., 70 years) substantial source of toxic air contaminant emissions and corresponding individual cancer risk. In addition, California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449 regulates emissions from off-road diesel equipment in California. This regulation limits idling of equipment to no more than five minutes and requires equipment operators to label each piece of equipment and provide annual reports to CARB of their fleet’s usage and emissions. This regulation also requires systematic upgrading of the emission Tier level of each fleet; currently, no commercial operator is allowed to purchase Tier 0 or Tier 1 equipment and by January 2023 no commercial operator is allowed to purchase Tier 2 equipment. In addition to the purchase restrictions, equipment operators need to meet fleet average emissions targets that become more stringent each year between years 2014 and 2023. Therefore, less than significant short-term toxic air contaminant impacts would occur during construction of the proposed Project.

Operations-Related TAC Emissions

Particulate matter (PM) from diesel exhaust is the predominant TAC in most areas; and, according to The California Almanac of Emissions and Air Quality 2013 Edition, prepared by CARB, about 80 percent of the outdoor TAC cancer risk is from diesel exhaust. Some chemicals in diesel exhaust, such as benzene and formaldehyde have been listed as carcinogens by State Proposition 65 and the Federal Hazardous Air Pollutants program. According to *Health Risk Assessments for Proposed Land Use Project*, prepared by CAPCOA, July 2009, recommends that sensitive receptors should not be placed near distribution centers that generate more than 100 truck deliveries per day or more than 40 truck deliveries per day with transport refrigeration units (TRUs). Since the proposed Project would generate well below the 100 trucks per day threshold that would have the potential to create a

² From *Guidance Manual for Preparation of Health Risk Assessments*, prepared by OEHHA, February 2015.

significant TAC impact at the nearby sensitive receptors as determined by CAPCOA's screening criteria, a less than significant TAC impact would occur during the ongoing operations of the proposed Project, and no mitigation would be required.

Therefore, operation of the proposed Project would result in a less than significant exposure of sensitive receptors to substantial pollutant concentrations.

CO "Hot Spot"

The proposed Project would not result in potentially adverse CO concentrations or "hot spots." At the time of the 1993 Handbook, the Air Basin was designated nonattainment under the CAAQS and NAAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technologies on industrial facilities, CO concentrations in the Air Basin and in the state have steadily declined. In 2007, the Air Basin was designated in attainment for CO under both the CAAQS and NAAQS. SCAQMD conducted a CO hot spot analysis for attainment at the busiest intersections in Los Angeles during the peak morning and afternoon periods and did not predict a violation of CO standards. The four intersections analyzed by the SCAQMD were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning and LOS F in the evening peak hour.

Since the nearby intersections to the Project are much smaller with less traffic than what was analyzed by the SCAQMD and since the CO concentrations are now approximately 60 percent lower than when CO was designated in attainment in 2007, no local CO Hotspot are anticipated to be created from the proposed project and no CO Hotspot modeling was performed. Therefore, a less than significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed Project.

d) *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

Less Than Significant Impact. Potential sources that may emit odors during construction activities include the application of coatings such as asphalt pavement, paints and solvents and from emissions from diesel equipment. Standard construction requirements that limit the time of day when construction may occur as well as SCAQMD Rule 1108 that limits VOC content in asphalt and Rule 1113 that limits the VOC content in paints and solvents would minimize odor impacts from construction. As such, the objectionable odors that may be produced during the construction process would be temporary and would not likely be noticeable for extended periods of time beyond the Project site's boundaries. Through compliance with the applicable regulations that reduce odors and due to the transitory nature of construction odors, a less than significant odor impact would occur and no mitigation would be required.

Potential sources of odor emission during operation of the Project would include diesel emissions from the fire trucks and backup generator as well as odors from trash storage areas. All fire trucks that operate on the project site will be required to meet State emissions standards that require the use of diesel particulate filters that would minimize odors created from the fire trucks. The operation of the backup diesel generator would be limited to 200 hours or less per year and would include an exhaust stack with a diesel particulate filter that would limit the exhaust and associated odors created

from the generator to negligible levels. Pursuant to City regulations, permanent trash enclosures that protect trash bins from rain as well as limit air circulation would be required for the trash storage areas. Due to the distance of the nearest sensitive receptor from the project site and through compliance with SCAQMD's rules that include Rule 402 (odor regulations) and Rule 1110.2 (backup generator regulations) and the City's trash storage regulations, a less than significant impact related to odors would occur during the on-going operations of the proposed Project. Operational-related odor impacts would be less than significant and no mitigation would be required. Therefore, a less than significant odor impact would occur and no mitigation would be required.

Therefore, construction and operation of the proposed Project would not create objectionable odors affecting a substantial number of people, and impacts would be less than significant

4.4 BIOLOGICAL RESOURCES

4.	BIOLOGICAL RESOURCES. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The Project site is located within the MSHCP Pass Area Plan, Subunit 2 – Badlands/San Bernardino National Forest. Since the Project is proposed by City of Beaumont, a Habitat Evaluation and Acquisition Negotiation Strategy determination is not required. Nonetheless, a MSHCP Consistency Analysis (Appendix B) and a Determination of Biologically Equivalent or Superior Preservation (DBESP) Analysis (Appendix C) were prepared by Cadre Environmental (Cadre) in June 2021 for use during the required

Joint Project Review. The California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) reviewed the MSHCP Consistency Analysis and provided documentation stating they agree with the findings. Results from the MSHCP Consistency Analysis and DBESP are incorporated below, but for further information regarding methods please refer to Appendices B and C.

4.4.1 Impact Analysis

a) *Would the project have a substantial adverse effect, either directly or through habitat modification, on any species identified as 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?*

Less Than Significant Impact With Mitigation. The Project is located within MSHCP Criteria Area 1015. Of the 146 candidate, sensitive, or special status species covered by the MSHCP, no surveys are required for 106 of these Covered Species. Covered Species for which surveys may be required by applicants for public and private development projects include 4 birds, 3 mammals, 3 amphibians, 3 crustaceans, 14 Narrow Endemic Plants, and 13 other sensitive plants. Of these 40 species, survey area maps are provided in the MSHCP for 34 species, and surveys are required within suitable habitat areas in locations identified on these maps in the MSHCP Plan. The remaining six species are associated with riparian/riverine areas and vernal pools and include least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, Riverside fairy shrimp, Santa Rosa Plateau fairy shrimp, and vernal pool fairy shrimp. Although there are no survey area maps for these six species, surveys for these species, if necessary, are required to be undertaken as described in Section 6.1.2 of the MSHCP.

The MSHCP Consistency Analysis prepared for the Project determined that the Project site occurs within a predetermined Survey Area for two MSHCP narrow endemic plant species: Marvin's (Yucaipa) onion (*Allium marvinii*) and many-stemmed dudleya (*Dudleya multicaulis*). However, no undisturbed vegetation communities or suitable clay substrates representing suitable habitat for these species were documented within the Project site. Therefore, Cadre determined that no additional surveys for these species are required.

The Project site also occurs within a predetermined Survey Area for the burrowing owl (*Athene cunicularia*). However, no potential burrowing owl burrows or characteristic sign such as white-wash, feathers, tracks, or pellets were detected within or immediately adjacent to the Project site. Thus, it was determined by Cadre that the Project site is not currently occupied by burrowing owl. Regardless, the species could colonize the Project site in the future; therefore, in compliance with MM-BIO-1 a MSHCP 30-day preconstruction survey will be conducted immediately prior to the initiation of project activities to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP.

According to the MSHCP Consistency Analysis, the Project site is not located within a Survey Area for criteria area plants, amphibians, or mammals. Additionally, no Section 6.1.2 riparian scrub, forest or woodland habitat or vernal pool, ephemeral depressions, stock ponds, road ruts or other wetland features are located within or adjacent to the Project site. Therefore, no suitable habitat for MSHCP Section 6.1.2 species was documented within the Project site including fairy shrimp, least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus*).

One of the twenty-eight MSHCP species not adequately covered has the potential to occur within the Project site impact area. The grasshopper sparrow (*Ammodramus savannarum*) has potential to occur onsite based on the presence of suitable nonnative grassland and large open space land adjacent to the Project site. Nonetheless, Cadre determined that impacts to 1.85 acres of non-native grassland/ruderal habitat would not conflict with conservation goals for the species because the MSHCP characterizes core conservation areas as consisting of large, >2,000 acres of grassland habitat or grassland-dominated habitat or smaller areas consisting of at least 500 acres of contiguous grassland habitat or grassland-dominated habitat.

With implementation of voluntary UWIGs and BMPs listed in Section 1.4.4 and mitigation measure MM-BIO-1 below, impacts to candidate, sensitive or special status species identified in the MSHCP would be less than significant.

MM-BIO-1: A MSHCP 30-day preconstruction survey shall be conducted by a licensed biologist immediately prior to the initiation of project activities to ensure protection of burrowing owl and compliance with the conservation goals as outlined in the MSHCP.

- b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*
- c) Would the project 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?*

Less Than Significant Impact With Mitigation Incorporated. As part of the DBESP, a formal jurisdictional delineation and MSHCP Section 6.1.2 assessment was conducted by Helix Environmental Planning in June 2021. 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 U.S. Army Corps of Engineers (USACE) pursuant to Clean Water Act (CWA) Section 404; wetland and non-wetland waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board 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 California Fish and Game Code (CDFG Code); and Riparian/Riverine Areas and Vernal Pools defined in Section 6.1.2 of the Western Riverside County MSHCP. Regulated activities within inland streams, wetlands and riparian areas in Western Riverside County fall under the jurisdiction of the MSHCP 6.1.2.

According to the DBESP, no evidence of vernal pool, ephemeral depressions, stock ponds, road ruts or other wetland features were recorded on the Project site. Further, no vegetation communities representing MSHCP Section 6.1.2 riparian scrub, forest or woodland resources were documented within or adjacent to the Project site.

An approximately 0.07-acre incised ravine dominated by non-native grassland/ruderal and Riverside sage scrub vegetation extends into the northern region of the Project site, which represents a MSHCP Section 6.1.2 riverine resource. The Project results in permanent impacts to this feature. To meet the criteria of a biologically equivalent or superior alternative, the City will offset permanent impacts to 0.07-acre of MSHCP Section 6.1.2 riverine resources (ravine) located within the

northern region of the Project site by purchasing 0.07 acre (1:1) of re-establishment credits from the Riverpark Mitigation Bank located within the San Jacinto watershed, and purchasing 0.07 acre (1:1) of re-habilitation credits from the Riverpark Mitigation Bank located within the San Jacinto watershed in accordance with MM-BIO-2.

With implementation of voluntary UWIGs and BMPs listed in Section 1.4.4 and mitigation measure MM-BIO-2 below, impacts to riparian habitat, federally protected wetlands, and other sensitive communities would be less than significant.

MM-BIO-2: The City shall offset permanent impacts to 0.07-acre of MSHCP Section 6.1.2 riverine resources (ravine) located within the northern region of the Project site by:

1. Purchasing 0.07 acre (1:1) of re-establishment credits from the Riverpark Mitigation Bank located within the San Jacinto watershed, and
2. Purchasing 0.07 acre (1:1) of re-habilitation credits from the Riverpark Mitigation Bank located within the San Jacinto watershed.

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

Less Than Significant Impact. The Timoteo Creek floodprone area (Proposed Constrained Linkage 22) located approximately 1,000 feet north of the Project site represents a significant regional wildlife travel route and movement corridor. Proposed Constrained Linkage 22 is comprised of the portion of San Timoteo Creek extending west from I-10 to De Anza Cycle Park. The linkage provides habitat for certain species and a connection to Core Area in the Badlands. Species for which habitat is provided for within the linkage include least Bell's vireo and Los Angeles pocket mouse. In addition to maintenance of habitat quality, maintenance of floodplain processes along the San Timoteo Creek is important for these species. The linkage likely also provides for movement of common mammals such as bobcat (Appendix B). The Project site would not be located adjacent to or result in direct and/or indirect impacts to Proposed Constrained Linkage 22.

Nonetheless, the Project site and adjacent vegetation is expected to potentially provide nesting habitat for migratory birds protected under the California Department of Fish and Wildlife (CDFW) Codes. Avoidance measures for potential direct/indirect impacts to common and sensitive bird and raptor species will require compliance with the CDFW Code Section 3503. Further, as stated in Section 1.4.4, UWIGs and BMPs will be voluntarily implemented by the City. Compliance with CDFW Code Section 3503 and implementation of the listed UWIGs and BMPs would ensure impacts to migratory bird species would be less than significant.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The Project site consists of 1.16 acres of non-native grassland ruderal habitat, 0.22 acre of riversidean sage scrub habitat, and 0.21 acre of disturbed/developed land. No trees would be removed as part of the Project. Additionally, the Project would not conflict with any policies within

the MSHCP, as outlined in the Project's MSHCP Consistency Analysis (Appendix B). No impacts would occur.

f) *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservancy Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

Less Than Significant Impact. As mentioned above, the Project is located within MSHCP Criteria Area 1015. Conservation within Criteria Cell 1015 (155 acres total) focuses on the conservation of approximately 5% (7.8 acres) of chaparral habitat in the northern region of the Cell. A total of approximate 8.5 acres (5.5%) of chaparral habitat located in the northern region of Criteria Cell 1015, is approximately 600 feet north of the Project site, and would not be directly or indirectly impacted as a result of project initiation. Additionally, the Project would implement UWIGs and BMPs listed in Section 1.4.4 above, to ensure compliance and consistency with MSHCP objectives and goals. Impacts would thus be less than significant.

4.5 CULTURAL RESOURCES

5.	CULTURAL RESOURCES. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c)	Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Chambers Group, Inc. (Chambers Group) prepared a Cultural Resources Letter Report (Letter Report) for the Project in December 2021. The Letter Report includes results of a cultural resources records search and literature review for the Project site and study area, as well a pedestrian field survey (Appendix D). A summary of results from the Letter Report are incorporated below, but for further information regarding methods please refer to Appendix D.

4.5.1 Impact Analysis

- a) *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*
- b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*
- c) *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

Less Than Significant Impact With Mitigation Incorporated. Chambers Group requested a records search from the California Historical Resources Information System (CHRIS) Eastern Information Center (EIC) at California State University, Riverside on October 13, 2021. At this time no records search results have been provided by the EIC due to COVID-19 related delays. However, in addition to the records search, Chambers Group archaeologists completed an extensive background research to

determine if any additional historic properties, landmarks, bridges, or other potentially significant or listed properties are located within the Project footprint or one-half-mile study area. This background research included, but was not limited to, the NRHP, California State Historic Property Data Files, California State Historical Landmarks, California Points of Historical Interest, Office of Historic Preservation Archaeological Determinations of Eligibility, historic aerial imagery accessed via NETR Online, Historic U.S. Geological Survey topographic maps, Built Environment Resource Directory (BERD), and California Department of Transportation (Caltrans) State and Local Bridge Surveys. Additionally, Chambers Group archaeologists reviewed the Riverside County Historical Landmarks inventory, as well as the Riverside Historical Society and local historical newspaper clippings via Newspapers.com, ProQuest Historical Newspapers.com, and the California Digital Newspaper Collection. As a result of the archival research, no previously recorded resources or any other listed or potentially significant properties are located within the Project site

Additionally, based on the review of available historic photographs and aerial imagery, Chambers Group archaeologists observed that the Project site has been open space with no built environment features visible from 1966 to 2012. Historic topographic maps show the area as open space from 1954 through 2015. The historic aerial imagery and topographic maps indicate that the current alignment of Potrero Blvd was constructed as a paved roadway between 2010 and 2012 (NETRonline 2021).

During the pedestrian field survey onsite, no evidence of prehistoric or historic archaeological resources were identified within the Project site. Nonetheless, without the record search results from the EIC it remains unknown if any previously recorded resources are located within the Project site. Therefore, to prevent significant impacts to potential historical or archaeological resources onsite the City will implement mitigation measures MM-CUL-1 through MM-CUL-5 below. With implementation of MM-CUL-1 through MM-CUL-5, impacts would be less than significant.

MM-CUL-1 Prior to issuance of grading permits, City of Beaumont shall retain a Qualified Professional Archaeologist to develop and implement a Cultural Resource Mitigation Monitoring Program (CRMP). The CRMP shall address the details of all activities, provide procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant, and address potential impacts to undiscovered buried archaeological resources associated with the Proposed Project. The CRMP shall be provided to the City for review and approval prior to issuance of the grading permit. The CRMP shall contain at a minimum the following:

- a. Qualified Archaeological Monitor – An adequate number of Qualified Archaeological Monitors shall be on site to ensure all earth-moving activities are observed for areas being monitored. This includes all grubbing, grading, and trenching on site. Inspections shall vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections shall be determined and directed by the Registered Professional Archaeologist. The Registered Professional Archaeologist may submit a detailed letter to the City during grading requesting a modification to the monitoring program if circumstances are encountered that reduce the need for monitoring.

b. Cultural Sensitivity Training – The Registered Professional Archaeologist, and a representative of the consulting tribe(s), shall attend the pre-grading meeting with the contractors to provide Cultural Sensitivity Training for all construction personnel. Training shall include a brief review of the cultural sensitivity of the Project site and the surrounding area; the areas to be avoided during grading activities; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event unanticipated cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. This shall be a mandatory training, and all construction personnel must attend prior to beginning work on the Project site. A sign-in sheet for attendees of this training shall be included in the Cultural Resources Monitoring Report.

MM-CUL-2 The Contractor shall provide the Registered Professional Archaeologist with a schedule of initial potential ground-disturbing activities. A minimum of 48 hours will be provided to the Consultant of commencement of any initial ground-disturbing activities such as vegetation grubbing or clearing, grading, trenching, or mass excavation.

As detailed in the schedule provided, an Archaeological Resources Monitor shall be present on site at the commencement of ground-disturbing activities related to the Project. The monitor shall observe initial ground-disturbing activities. All monitors will have stop-work authority to allow for recordation and evaluation of finds during construction. The monitor will maintain a daily record of observations to serve as an ongoing reference resource and to provide a resource for final reporting upon completion of the Project.

The Archaeological Monitor and the Lead Contractor and subcontractors shall maintain a line of communication regarding schedule and activity such that the monitor is aware of all ground-disturbing activities in advance in order to provide appropriate oversight.

MM-CUL-3 If archaeological resources are discovered, construction shall be halted within 50 feet of the find and shall not resume until a Qualified Archaeologist can determine the significance of the find and whether the find has been fully investigated, documented, and cleared. If the Qualified Archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the City shall implement an archaeological data recovery program.

MM-CUL-4 At the completion of all ground-disturbing activities, the Consultant shall prepare an Archaeological Resources Monitoring Report summarizing all monitoring efforts and observations, as performed, and any and all prehistoric or historic archaeological finds as well as providing follow-up reports of any finds to the Eastern Information Center (EIC), as required.

MM-CUL-5 Unanticipated discovery of Human Remains: In the unlikely event that human remains are discovered during ground-disturbing activities, then the Proposed Project would be subject to California Health and Safety Code 7050.5, CEQA Section 15064.5, and California Public Resources Code Section 5097.98. If human remains are found during ground-disturbing activities, State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Ventura County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner shall be notified immediately. If the human remains are determined to be prehistoric, the County Coroner shall notify the NAHC, which shall notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

4.6 ENERGY

6.	ENERGY Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Energy conservation management in the State was initiated by the 1974 Warren-Alquist State Energy Resources Conservation and Development Act that created the California Energy Resource Conservation and Development Commission (currently named California Energy Commission [CEC]), which was originally tasked with certifying new electric generating plants based on the need for the plant and the suitability of the site of the plant. In 1976 the Warren-Alquist Act was expanded to include new restrictions on nuclear generating plants, that effectively resulted in a moratorium of any new nuclear generating plants in the State. The following lists specific regulations adopted by the State in order to reduce the consumption of energy.

- CCR Title 20 – Regulations for appliance efficiency standards;
- CCR Title 24 Part 6 – Energy efficiency standards for residential and nonresidential buildings;
- CCR Title 24 Part 11 – CalGreen Building Standards;
- SB 100 – Regulations for retail sales of electricity;
- EO N-79-20 – Requires all new passenger vehicles and trucks to be zero-emission by the year 2035; and
- AB 1109 – Requires the use of high-efficiency lighting in new structures.

4.6.1 Impact Analysis

a) *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?*

Less Than Significant Impact. The proposed Project would not result in a significant environmental impact due to use of energy resources during construction and operation. Energy resources that would potentially be impacted include electricity, natural gas, and petroleum-based fuel supplies and distribution systems. This analysis includes a discussion of the potential energy impacts of the proposed Project, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. A general definition of each of these energy resources is provided below.

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for onsite distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands. In 2020, SCE, which provides electricity to the Project vicinity, provided 83,533 gigawatt-hours (GWh) per year of electricity (CEC 2020).

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the state, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network; and, therefore, resource availability is typically not an issue. Natural gas satisfies almost one-third of the state's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet. In 2020, Riverside County consumed 436.94 Million Therms of natural gas.

Petroleum-based fuels currently account for a majority of the California's transportation energy sources and primarily consist of diesel and gasoline types of fuels. However, the state has been working on developing strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHG emissions from the transportation sector, and reduce vehicle miles traveled (VMT). Accordingly, petroleum-based fuel consumption in California has declined. According to the CEC, in 2017, 1,052 million gallons of gasoline and 148 million gallons of diesel was sold in Riverside County (CEC 2018).

The following section calculates the potential energy consumption associated with the construction and operations of the proposed Project and provides a determination if any energy utilized by the proposed Project is wasteful, inefficient, or unnecessary consumption of energy resources.

Construction Energy

The construction activities for the proposed Project are anticipated to include demolition and grading of the Project site, building construction and application of architectural coatings to the proposed 71-unit affordable housing apartment complex, and paving of the proposed parking lot and onsite roads. The proposed Project would consume energy resources during construction in three general forms:

1. Petroleum-based fuels used to power off-road construction vehicles and equipment on the Project site and construction worker travel to and from the Project site, as well as delivery and haul truck trips (e.g., hauling of demolition material to offsite reuse and disposal facilities)
2. Electricity associated with the conveyance of water that would be used during Project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power
3. Energy used in the production of construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass

Construction-Related Electricity

During construction the proposed Project would consume electricity to construct the new structures and infrastructure. Electricity would be supplied to the Project site by Southern California Edison (SCE) and would be obtained from the existing electrical lines in the vicinity of the Project site. The use of electricity from existing power lines rather than temporary diesel- or gasoline-powered generators would minimize impacts on energy use. Electricity consumed during Project construction would vary throughout the construction period based on the construction activities being performed. Various construction activities include electricity associated with the conveyance of water that would be used during Project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power. Such electricity demand would be temporary and nominal and would cease upon the completion of construction. Overall, construction activities associated with the proposed Project would require limited electricity consumption that would not be expected to have an adverse impact on available electricity supplies and infrastructure. Therefore, the use of electricity during Project construction would not be wasteful, inefficient, or unnecessary.

Construction-Related Natural Gas

Construction of the proposed Project typically would not involve the consumption of natural gas. Natural gas would not be supplied to support construction activities, thus construction would not create a demand. Since the Project site is currently developed and currently has natural gas service to the Project site, construction of the proposed Project would be limited to installation of new natural gas connections within the Project site. Development of the proposed Project would likely not require extensive infrastructure improvements to serve the Project site. Construction-related energy usage impacts associated with the installation of natural gas connections are expected to be confined to trenching in order to place the lines below surface. Therefore, construction-related impacts to natural gas supply and infrastructure would be less than significant.

Construction-Related Petroleum Fuel Use

Petroleum-based fuel usage represents the highest amount of transportation energy potentially consumed during construction, which would be utilized by both off-road equipment operating on the proposed Project site and on-road automobiles transporting workers to and from the Project site and on-road trucks transporting equipment and supplies to the Project site.

The off-road construction equipment fuel usage was calculated through use of the off-road equipment assumptions and fuel use assumptions provided in Appendix B, which found that the off-road equipment utilized during construction of the Project would consume 27,904 gallons of fuel. The on-road construction trips fuel usage was calculated through use of the construction vehicle trip assumptions and fuel use assumptions provided in Appendix E, which found that the on-road trips generated from construction of the Project would consume 18,788 gallons of fuel. As such, the combined fuel used from off-road construction equipment and on-road construction trips for the Project would result in the consumption of 46,692 gallons of petroleum fuel. This equates to 0.04 percent of the gasoline and diesel consumed annually in Riverside County. As such, the construction-related petroleum use would be nominal, when compared to current county-wide petroleum usage rates.

Construction activities associated with the proposed Project would be required to adhere to all State and SCAQMD regulations for off-road equipment and on-road trucks, which provide minimum fuel efficiency standards. As such, construction activities for the proposed Project would not result in the wasteful, inefficient, and unnecessary consumption of energy resources. Impacts regarding transportation energy would be less than significant. Development of the proposed Project would not result in the need to manufacture construction materials or create new building material facilities specifically to supply the proposed Project. It is difficult to measure the energy used in the production of construction materials such as asphalt, steel, and concrete; therefore, it is reasonable to assume that the production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest of minimizing the cost of doing business.

Operational Energy

The ongoing operation of the proposed Project would require the use of energy resources for multiple purposes including, but not limited to, heating/ventilating/air conditioning (HVAC), refrigeration, lighting, appliances, and electronics. Energy would also be consumed during operations related to water usage, solid waste disposal, landscape equipment, and vehicle trips.

Operations-Related Electricity

Operation of the proposed Project would result in consumption of electricity at the Project site. According to the CalEEMod model printouts (Appendix A), the Project would consume 107,756 kilowatt-hours per year of electricity. This equates to 0.0001 percent of the electricity consumed annually by SCE. As such, the operations-related electricity use would be nominal when compared to current electricity usage rates by SCE.

The proposed Project would comply with all federal, State, and City requirements related to the consumption of electricity, including California Code of Regulations (CCR) Title 24, Part 6 Building Energy Efficiency Standards and CCR Title 24, Part 11: California Green Building Standards. The CCR

Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the proposed building, including enhanced insulation, use of energy efficient lighting and appliances, as well as requiring a variety of other energy-efficiency measures to be incorporated into all of the proposed structure. Therefore, it is anticipated the proposed Project will be designed and built to minimize electricity use and that existing and planned electricity capacity and electricity supplies would be sufficient to support the proposed Project's electricity demand. Thus, impacts with regard to electrical supply and infrastructure capacity would be less than significant, and no mitigation measures would be required.

Operations-Related Natural Gas

Operation of the proposed Project would result in increased consumption of natural gas at the Project site. According to the CalEEMod model printouts (Appendix A), the Project would consume 38 MBTU per year of natural gas. This equates to 0.00009 percent of the natural gas consumed annually in Riverside County. As such, the operations-related natural gas use would be nominal, when compared to current natural gas usage rates in the County.

The proposed Project would comply with all federal, State, and City requirements related to the consumption of natural gas, including CCR Title 24, Part 6 Building Energy Efficiency Standards and CCR Title 24, Part 11: California Green Building Standards. The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the proposed structures, including enhanced insulation as well as use of efficient natural gas appliances and HVAC units. Therefore, it is anticipated the proposed Project will be designed and built to minimize natural gas use and that existing and planned natural gas capacity and natural gas supplies would be sufficient to support the proposed Project's natural gas demand. Thus, impacts with regard to natural gas supply and infrastructure capacity would be less than significant, and no mitigation measures would be required.

Operations-Related Vehicular Petroleum Fuel Usage

Operation of the Project would result in increased consumption of petroleum-based fuels related to vehicular travel to and from the Project site. As calculated in Appendix E, the Project would consume 15,895 gallons of transportation fuel per year. This equates to 0.001 percent of the gasoline and diesel consumed in the County annually. As such, the operations-related petroleum use would be nominal when compared to current petroleum usage rates in the County.

Additionally, the Project would comply with all federal, State, and County requirements related to the consumption of transportation energy, including CCR Title 24, Part 11, the CALGreen Code, which requires all new parking lots to provide preferred parking for clean air vehicles. Therefore, it is anticipated the Project will be designed and built to minimize transportation energy through the promotion of the use of electric-powered vehicles and that existing and planned capacity and supplies of transportation fuels would be sufficient to support the Project's demand. Thus, impacts regarding transportation energy supply and infrastructure capacity would be less than significant, and no mitigation measures would be required.

b) Would the project Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The applicable plan for the Project is the Beaumont General Plan, December 1, 2020, that provides policies in several sections of the General Plan that promote renewable energy and energy efficiency. The Project would be required to meet the Title 24, Part 6 building energy efficiency requirements that require incorporation of several energy efficiency measures into the design of the proposed structures that includes use of LED lighting, enhanced insulation and windows, and high efficiency ventilation and appliances. In addition, the Proposed Project would be required to meet the Part 11 California Green Building Standards Code (CalGreen), which provides minimum requirements for bicycle parking, carpool/vanpool/electric vehicle parking spaces, use of water-efficient plumbing and landscaping fixtures, recycling and use of recycled materials in building products. Specific CalGreen requirements that are applicable to the Project include requiring that a minimum of 65 percent of construction waste be diverted from landfills, providing bicycle parking spaces, as well as providing electric vehicle charging stations within the proposed parking lot. Through implementation of the above programs, regulations, and policies, the proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant.

4.7 GEOLOGY AND SOILS

7.	GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

7.	GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(f)	Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A Geotechnical Report was prepared for the Project by Soils Southwest, Inc. in June 2020 (Appendix F). Geotechnical evaluations included subsurface explorations using truck-mounted hollow-stem auger drilling rig, soil sampling, necessary laboratory testing, and engineering analyses. The report presents the preliminary results and recommendations for the Project site, which are summarized below. For more details regarding methods, refer to Appendix F.

4.7.1 Impact Analysis

a) i) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

ii) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?*

Less Than Significant Impact. The nearest earthquake fault to the Project site is the Claremont Fault within the San Jacinto Fault Zone, approximately 4.62 miles southwest (Appendix F; DOC 2021b). The Project site is not situated within an Alquist-Priolo Fault Zone. However, as per the current California Building Code (CBC), the Project site is located within Seismic Zone 4, where it is likely that during life expectancy of the subject development moderate to severe ground shaking may be anticipated. According to the Project's Geotechnical Report, adverse effects due to ground-shaking would be minimized by using the 2019 ASCE 7-16 Standard Recommended Seismic Design Parameters described in Chapter 16 of the current 2019 CBC (Appendix F). With adherence to the 2019 CBC, impacts would be less than significant.

iii) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?*

Less Than Significant Impact. According to the Geotechnical Report, the groundwater table underlying the Project site is at a depth in excess of 100 feet. Thus, based on the State's DMG Special Publication SP-117, the Project site is considered non-susceptible to seismically induced soils liquefaction. Additionally, the potential for surface rupture resulting from nearby fault movement is not known for certainty, but the Geotechnical Report determined that surface rupture is unlikely due to the closest fault being 4.62 miles away (Appendix F). Therefore, the risk of loss, injury or death involving seismic-related ground failure or liquefaction on the Project site is low; thus, impacts would be less than significant.

iv) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?*

Less Than Significant Impact. The Project site is relatively flat, with elevations onsite ranging from approximately 2470 to 2480 feet. The Department of Conservation's Earthquake Hazards Zone Application does not distinguish the Project site as a landslide zone (DOC 2021b). The Geologic Report also notes that no obvious signs of previous landslide activity were observed within the Project site during field explorations. The risk of loss, injury, or death involving landslides on the Project site is low, therefore impacts would be less than significant.

b) *Would the project result in substantial soil erosion or the loss of topsoil?*

Less Than Significant Impact. Project construction would be subject to local and state codes and requirements for erosion control and grading. Construction activities would disturb more than one acre, therefore the Project must adhere to the provisions of the NPDES Construction General Permit. Construction activities subject to this permit include clearing, grading, and other soil disturbances, such as stockpiling and excavating. The NPDES Construction General Permit requires implementation of a Storm Water Pollution Prevent Plan (SWPPP), which includes Best Management Practices (BMPs) to prevent erosion and protect the quality of stormwater runoff. Sediment-control BMPs may include stabilized construction entrances, straw wattles on earthen embankments, sediment filters on existing inlets, or the equivalent.

In addition, grading activities would be required to conform to the most current version of the CBC, the City Code of Ordinances, the approved grading plans, and good engineering practices. The Project must also comply with SCAQMD Rule 402 (Nuisance) and Rule 403 (Fugitive Dust), which would reduce construction erosion impacts. Rule 403 requires control measures to reduce fugitive dust from active operations, storage piles, or disturbed surfaces, with a goal to omit visibility beyond the property line or avoid exceedance of 20% opacity. Rule 402 requires dust suppression techniques be implemented to prevent dust and soil erosion from creating a nuisance off site. Compliance with these federal, regional, and local requirements would reduce the potential for both onsite and offsite erosion effects to accepted levels during Project construction. Upon completion of construction activities, ground surfaces would be stabilized by Project structures, paving, and landscaping.

Operation of the Project would not cause substantial soil erosion, since the Project design would include appropriate drainage systems and landscaping to ensure no soil erosion results from Project operations involving the use of water. Therefore, impacts associated with soil erosion and topsoil loss would be less than significant.

c) *Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

Less Than Significant Impact With Mitigation Incorporated. As mentioned above, the risk of loss, injury, or death involving landslides and liquefaction on the Project site is low. However, the Project site is situated at about 4.62 miles from the San Jacinto fault capable of generating an earthquake magnitude M=7.0 and Peak Ground Acceleration of 0.575g. Considering the proximity of the earthquake fault as described, the Geotechnical Report concluded that there is potential for some ground settlement due to ground shaking on the Project site. Settlement is the downward movement

of the ground (soil) when a load is applied to it. The estimated total ground settlements for the Project site was found to be 1-inch, which is considered structurally tolerable for the Project (Appendix F).

Seismically induced lateral spreading involves lateral movement of existing soils due to ground shaking. Lateral spreading is demonstrated by near vertical cracks with predominantly horizontal movement of the soil mass involved. The Geotechnical Report observed no obvious signs of ground rupture on the Project site during field explorations, determining that the potential for seismically induced lateral-spreading is remote (Appendix F).

Considering the current topography and adjacent possible accessways, it is assumed that for future service vehicle accessibility the current site grades will be lowered by about 12 to 14 feet, or more. Following lowering to the proposed grades, site preparations should include sub-excavations of the exposed surface to sufficient depth so as to maintain a minimum 24-inch-thick compacted fill mat blanket underneath footings or minimum 5 feet, encompassing in minimum the planned building footprint areas and minimum 5 feet beyond. Actual planar extents and depth of sub-excavations should be determined by soils engineer during site preparations and grading. The Project site is considered grossly stable and suitable for the Project provided the assumptions, recommendations, and opinions included in the Geotechnical Report are considered in design and construction. These construction considerations are included as MM-GEO-1 and MM-GEO-2 below. With implementation of MM-GEO-1 and MM-GEO-2, impacts would be less than significant.

MM-GEO-1: The following recommendations shall be considered by the City's contractor during construction of the Project.

- Temporary excavations up to 4 feet in depth may be made without rigorous lateral supports. Excavated surface shall be "dampened" in order to minimize potential surface soil raveling. No surcharge loading shall be allowed within an imaginary 1:1 line drawn upward from toe of temporary excavations.
- If vertical excavations exceeding 4 feet become warranted, such shall be achieved using shoring to support side walls. Supplemental recommendations of such will be supplied on request.
- Dry and gravelly in nature, the site soils are considered susceptible to caving. Temporary excavations in excess of 4 feet shall be made at a slope 2 to 1 (h:v), or flatter, and as per the construction guidelines as provided by the Cal-OSHA.
- Flexible paving/parking, if used, based on an estimated Traffic Index (TI) and on the estimated soils R-value of 60 as based on soil Sand Equivalent, SE, of 45, the following paving sections are supplied for estimation purposes. Following mass grading, the paving sections supplied shall be verified based on actual soil R-value testing on representative soils sampled from street finish grades.

Service Area	Traffic Index, TI	Paving Type	Paving Thickness (net), inch.
Interior Driveways	6.5	a.c over Local Soils	5" a.c. over 6' CI 2 Base
Off-Site			
Street Widening	8.0	a.c over Class II base	6" a.c over 8" CI.2 base

- For ac over Class II base, or on Crushed Miscellaneous Base (CMB) materials, the upper 18-inch of subgrade soils shall be processed and compacted to minimum 95%.
- Base material used shall conform to the Caltrans Class II specification compacted to minimum 95%. The pavement sections supplied shall be verified by the local public agency for their approval prior to their use to the project.
- Utility trench backfill within the structural pad and beyond shall be placed in accordance with the following recommendations:
 - Trench backfill shall be placed in 6 to 8-inch thin lifts mechanically compacted to 90 percent or better of the laboratory maximum dry density for the soils used. Within areas of paving, upper 1.5 feet of the trench backfill shall be compacted to 95%, or better. No water-jetting shall be considered for compaction in lieu of the mechanical compaction described.
 - Exterior trenches along a foundation or a toe of a slope and extending below a 1:1 imaginary line projected from the outside bottom edge of the footing or toe of the slope shall be compacted to 90 percent of the Maximum Dry Density for the soils used during backfill. All trench excavations shall conform to the requirements and safety as specified by the Cal-OSHA
- No clearing or grading operation of the site shall be performed without the presence of a representative of Soils Southwest, Inc. An on-site pre-grading meeting shall be arranged between the soils engineer and the grading contractor prior to any construction.
- No fill shall be placed, spread, or rolled during unfavorable weather conditions. Where the work is interrupted by heavy rains, fill operations shall not be resumed until moisture conditions are considered favorable by the soils engineer.
- In order to minimize potential differential settlement to foundations, use of planters requiring heavy irrigation shall be restricted from using adjacent to footings. In event such becomes unavoidable, planter boxes with sealed bottoms, shall be considered.
- Only the amount of irrigation necessary to sustain plant life shall be provided. Pad drainage shall be directed towards streets and to other approved areas away from foundations. Slope areas shall be planted with draught resistant vegetation. Over watering landscape areas could adversely affect the proposed site development during its life-time use.
- Recommendations provided are based on assumption that structural footings and slab-on-grade be established exclusively into engineered compacted fills of non-expansive in nature. Excavated footings shall be inspected, verified, and certified by soils engineer prior to steel and concrete placement. Structural backfills discussed shall be placed under direct observations and testing by Soils Southwest, Inc. Excess soils generated from footing trench excavations shall be removed from pad areas and such shall not be allowed on concrete slab-subgrades.

MM-GEO-2:

The following recommendations shall be implemented during the earth work/general grading associated with the Project's construction.

- Site preparations and grading shall involve over excavation and replacement of local soils as structural fill compacted to the minimum relative compactions as described above.
- Local soils free of debris, large rocks and organic shall be considered suitable for reuse as backfill. Loose soils, formwork and debris shall be removed prior to backfilling retaining walls. On-site sand backfill shall be placed and compacted in accordance with the recommended specifications provided below. Where space limitations do not allow conventional backfilling operations, special backfill materials and procedures may be required. Pea gravel or other select backfill can be used in limited space areas. Recommendations for placement and densification of pea gravel or other special backfill can be provided during construction.
- Adequate positive drainage shall be provided away from the structure to prevent water from ponding and to reduce percolation of water into backfill. A desirable slope for surface drainage is 2 percent in landscape areas and 1 percent in paved areas. Planters and landscaped areas adjacent to building perimeter shall be designed to minimize water filtration into subsoils. Considerations shall be given to the use of closed planter bottoms, concrete slabs and perimeter subdrains where applicable.
- Buried utility conduits shall be bedded and backfilled around the conduit in accordance with the project specifications. Where conduit underlies concrete slab-on-grade and pavement, the remaining trench backfill above the pipes shall be placed and compacted in accordance with the following grading specifications.
- The following recommended general specifications for surface preparation to receive fill and compaction for structural and utility trench backfill and others shall be implemented:
 - Areas to be graded, backfilled or paved, shall be grubbed, stripped and cleaned of all buried and undetected debris, structures, concrete, vegetation and other deleterious materials prior to grading.
 - Where compacted fill is to provide vertical support for foundations, all loose, soft and other incompetent soils shall be removed to full depth as approved by soils engineer, or at least up to the depth as previously described in the Project's Geotechnical Report. The areas of such removal shall extend at least 5 feet beyond the perimeter of exterior foundation limit or to the extent as approved by soils engineer during grading.
 - The fills to support foundations and slab-on-grade shall be compacted to minimum 95% of the soil's Maximum Dry Density at 3 to 5% over Optimum. To minimize potential differential settlements to foundations and slabs straddling over cut and fill transition, cut portions following cut, shall be further over excavated and such be replaced as engineered fill compacted to at least 90% of the soil's Maximum Dry Density as described in this report.
 - Utility trenches within building pad areas and beyond shall be backfilled with granular material and such shall be mechanically compacted to at least 90% of the maximum density for the material used.
 - Compaction for structural fills shall be determined relative to the maximum dry density as determined by ASTM D1557 compaction

methods. All in-situ field density of compacted fill shall be determined by the ASTM D1556 standard methods or by other approved procedures.

- New imported soils, if required, shall be clean, granular, non-expansive material or as approved by the soils engineer.
- During grading, fill soils shall be placed as thin layers, thickness of which following compaction shall not exceed six to eight inches.
- No rocks over six to eight inches in diameter shall be permitted to use as a grading material without prior approval of the soils engineer.
- No jetting and/or water tampering be considered for backfill compaction for utility trenches without prior approval of the soils engineer. For such backfill, hand tampering with fill layers of 8 to 12 inches in thickness, or as approved by the soils engineer is recommended.
- Utility trenches at depth and cesspool and abandoned septic tank existing within building pad areas and beyond, shall be excavated and removed, or such shall be backfilled with gravel, slurry or by other material as approved by soils engineer.
- Imported fill soils if required, shall be equivalent to site soils or better. Such shall be approved by the soils engineer prior to their use.
- Grading required for pavement, side-walk or other facilities to be used by general public, shall be constructed under direct observation of soils engineer or as required by the local public agencies.
- A site meeting shall be held between grading contractor and soils engineer prior to actual construction. Two days of prior notice will be required for such meeting.

d) Would the project 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?

Less Than Significant Impact. The soils encountered, in general, consist of upper compressible clayey silty, fine to medium coarse sand with pebbles and scattered minor rocks, overlying deposits of moderately dense, silty fine to medium coarse to coarse gravelly sand of decomposed granitic origin to the maximum 31 feet depth explored. The Geotechnical Report concludes that the upper 4 to 5 feet soils encountered during field explorations are considered low in expansion characteristics, with an Expansion Index of 38. Based on the test explorations completed, the soils underlying below 6 to 7 feet consist of non-expansive gravelly sandy soils of granitic origin. Thus, the risk of expansive soils on the Project site is low and impacts would be less than significant.

e) Would the project 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?

No Impact. The City provides wastewater collection services to the Project area. The Project would connect to the existing sewer line within the public ROW on Potrero Boulevard, west of the Project site. As such, the use of septic tanks or other alternative wastewater disposal systems would not be required for the Project and no impacts would occur.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Less Than Significant Impact With Mitigation Incorporated. According to the Cultural Resources Letter Report prepared for the Project, the Project area consists entirely of “old” and “very old” Alluvium deposits, derived as alluvial fan deposits from the San Jacinto Mountains. Shallow deposits from the Holocene epoch are not considered sensitive for paleontological specimens, but deeper deposits of older Quaternary Alluvium from the Late and Middle Pleistocene may yield paleontological specimens. Shallow excavations are therefore not likely to impact fossil bearing deposits, but deeper excavations may (Appendix D). The Letter Report recommends that deeper excavations should be subjected to paleontological monitoring – specifically in areas of undisturbed substrate. A monitoring program consistent with the policies and guidelines of the County Geologist is recommended, should project-related grading and site preparation impact the older Quaternary deposits. Thus, to prevent significant impacts to paleontological resources the City will implement mitigation measure MM-PAL-1 below. With implementation of MM-PAL-1, impacts would be less than significant.

MM-PAL-1 Due to the Project design’s proposed depth of grading and over excavation up to 19 feet, if older Pleistocene Alluvial deposits are encountered during site ground disturbing activities, a qualified paleontologist shall oversee the excavations to ensure any paleontological specimens are identified, recovered, analyzed, reported, and curated in accordance with CEQA and the County of Riverside policies and guidelines. This program should be conducted while these older deposits are impacted and while the paleontological consultant deems the program necessary.

4.8 GREENHOUSE GAS EMISSIONS

8.	GREENHOUSE GAS EMISSIONS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Climate change is the observed increase in the average temperature of the Earth’s atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of greenhouse gases (GHGs) that contribute to the “greenhouse effect,” a natural occurrence that takes place in Earth’s atmosphere to help regulate the temperature of the planet. The majority of radiation from the sun hits Earth’s surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions. However, anthropogenic activities since the beginning of the industrial revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap heat. Emissions resulting from human activities thereby contribute to an average increase in Earth’s temperature.

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

Significant legislative and regulatory activities directly and indirectly affect climate change and GHGs in California. The primary climate change legislation in California is Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing greenhouse gas emissions in California, and AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. In addition to AB 32, Executive Order B-30-15 was issued on April 29, 2015, that aims to reduce California's GHG emissions 40 percent below 1990 levels by 2030. In September 2016, AB 197 and Senate Bill (SB) 32 codified into statute the GHG emission reduction targets provided in Executive Order B-20-15.

CARB is the State agency charged with monitoring and regulating sources of emissions of GHGs in California that contribute to global warming in order to reduce emissions of GHGs. The CARB Governing Board approved the 1990 GHG emissions level of 427 million tons of CO₂ equivalent (MtCO₂e) on December 6, 2007. Therefore, in 2020, annual emissions in California are required to be at or below 427 MtCO₂e. The CARB Board approved the Climate Change Scoping Plan (Scoping Plan) in December 2008, the First Update to the Scoping Plan in May 2014, and California's 2017 Climate Change Scoping Plan in November 2017. The Scoping Plans define a range of programs and activities that will be implemented primarily by State agencies but also include actions by local government agencies. Primary strategies addressed in the Scoping Plans include new industrial and emission control technologies; alternative energy generation technologies; advanced energy conservation in lighting, heating, cooling, and ventilation; reduced-carbon fuels; hybrid and electric vehicles; and other methods of improving vehicle mileage. Local government will have a part in implementing some of these strategies. The Scoping Plans also call for reductions in vehicle-associated GHG emissions through smart growth that will result in reductions in vehicle miles traveled (CARB 2018, 2017a, 2016, 2010).

The *General Plan Update EIR GHG Analysis Findings* (GHG Analysis), prepared by Raimi & Associates, August 27, 2020, was prepared in order to address SB 32 and Executive Order S-03-05 that requires an 80 percent reduction in GHG emissions by 2050. The GHG Analysis found that by the year 2030 the City of Beaumont will need to reduce GHG emissions by 41 percent by year 2040 from the year 2018 baseline emissions that will be met through implementation of the following State adopted climate action policies:

- **Renewable Portfolio Standard (RPS):** This law requires that electrical utilities provide an increased amount of electricity from eligible renewable sources. SB 100 requires that 33% of electricity sold by utilities in 2020 be renewable, 60% be renewable in 2030, and 100% be carbon-free in 2045.
- **Title 24:** Title 24 is the set of regulations that specifies how new buildings must be constructed, including specifying minimum energy efficiency standards. These standards are updated triennially to be more stringent. California has set a goal for zero-net energy new construction by 2030.
- **Clean Car Standards:** These standards require that vehicles sold in California meet minimum fuel efficiency requirements, and that fuel sold in the state emits less GHGs during production and use.

- **SB 1383:** This law requires that food scraps and other organic material be diverted from landfill disposal. The State goal is that 75% of organic material is diverted from landfill by 2025.

Since the GHG Analysis does not provide any quantitative GHG emissions thresholds for new development projects that do not increase the number of residents (service population) in the City, the SCAQMD GHG emissions reduction thresholds have been utilized in this analysis.

In order to identify significance criteria under CEQA for development projects, SCAQMD initiated a Working Group, which provided detailed methodology for evaluating significance under CEQA. At the September 28, 2010 Working Group meeting, the SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that provides a quantitative annual threshold of 3,000 MTCO₂e for all land use projects.

4.8.1 Impact Analysis

a) *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Less Than Significant Impact. The Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. The proposed project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, a backup diesel generator, waste disposal, water usage, and construction equipment.

The CalEEMod model used above to calculate the criteria pollutant emissions was also utilized to calculate the GHG emissions associated with construction and operation of the proposed Project (Appendix G). The CalEEMod model calculated GHG emissions generated from both construction and operation of the proposed Project. Per the analysis methodology presented in the SCAQMD Working Group meetings, the construction emissions were amortized over 30 years. Table 7 shows the estimated GHG emissions that would be predicted from development of the Project.

Table 7: Annual Greenhouse Gas Emissions from the Project

Sector	Greenhouse Gas Emissions (Metric Tons per Year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
Area Sources	<0.00	<0.00	<0.00	<0.00
Energy Uses	21.14	<0.00	<0.00	21.25
Mobile Sources	143.27	0.01	0.01	145.75
Backup Generator ¹	0.85	<0.00	<0.00	0.85
Solid Waste	2.14	0.13	<0.00	5.31 ²
Water and Wastewater	7.19	0.06	<0.00	9.12
Construction ²	15.19	<0.00	<0.00	15.50
Total GHG Emissions	189.78	0.20	0.01	197.78
Threshold of Significance				3,000
Exceed Threshold?				No
Notes:				
¹ Backup generator based on a 50 kW (86 Horsepower diesel generator that has a cycling schedule of 30 minutes per week)				
² Construction emissions amortized over 30 years as recommended in the SCAQMD GHG Working Group on November 19, 2009.				
Source: CalEEMod Version 2020.4.0 (see Appendix G).				

As shown in Table 7, the Project would generate 197.780 MTCO₂e per year, which is within the 3,000 MTCO₂e per year threshold that is described above. It should also be noted, that the Project will be required to meet the 2019 Title 24 Part 6 building standards that require all new non-residential structures to install enhanced insulation as well as require the installation of energy-efficient lighting and appliances. The City also requires all new developments to institute the water conservation measures that are detailed in the California Green Building Code. For these reasons, a less than significant generation of greenhouse gas emissions would occur from construction and operation of the Project.

b) *Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

Less Than Significant Impact. The Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing GHG emissions. The applicable plan for the Project is the General Plan Update EIR GHG Analysis Findings (GHG Analysis), prepared by Raimi & Associates, August 27, 2020, that was prepared in order to address SB 32 and Executive Order S-03-05 that requires an 80 percent reduction in GHG emissions by 2050. The GHG Analysis found that by the year 2030 the City of Beaumont will need to reduce GHG emissions by 41 percent by year 2040 from the year 2018 baseline emissions. That will be met through implementation of the State adopted climate action policies that include the RPS, Title 24, Clean Car Standards, and SB 1383. The proposed Project will be required to implement all applicable State standards that have been adopted to reduce GHG emissions. As such, the Project would be consistent with the applicable plans and programs designed to reduce GHG emissions and impacts would be less than significant.

4.9 HAZARDS AND HAZARDOUS MATERIALS

9.	HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.9.1 Impact Analysis

- a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*
- b) *Would the project 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?*

Less Than Significant Impact. During construction of the Project, hazardous and potentially hazardous materials typically associated with construction activities would be routinely transported to and from and used on the Project site. These hazardous materials could include gasoline, diesel fuel, lubricants, and other products used to operate and maintain construction equipment. The transport, use, and handling of these materials would be a temporary activity coinciding with up to 15 months of Project construction activities.

The Project proposes installation of a 1,000-gallon diesel aboveground storage tank and pump for onsite fire engine fueling during operations. The Project would therefore be subject to routine inspection by federal, state, and local regulatory agencies with jurisdiction over fuel-dispensing facilities. Hazardous materials regulations, which are codified in Titles 8, 22, and 26 of the California Code of Regulations (CCR), and their enabling legislation set forth in Chapter 6.95 of the California Health and Safety Code, were established at the state level to ensure compliance with federal regulations and to reduce the risk to human health and the environment from the routine use of hazardous substances. Protection against accidental spills and releases provided by this legislation includes physical and mechanical controls of fueling operations, including automatic shutoff valves; requirements that fueling operations are contained on impervious surface areas; oil/water separators or physical barriers in catch basins or storm drains; vapor emissions controls; leak detection systems; and regular testing and inspection (California Health and Safety Code [CHSC] 2014). Furthermore, a Leak Detection, Spill Contingency and Emergency Response Plan is required to be prepared for the Project. This plan would address stormwater pollution prevention, hazardous waste management, and leak detection and fuel system spill prevention.

During operations, the Project would also require usage of hazardous materials typically found in fire stations and associated facilities including cleaning products, solvents, lubricants, adhesives, refrigerants, sealants, other chemical materials. Such chemicals would be handled, stored, and disposed of in accordance with applicable regulations and under Fire Department guidelines. Additionally, any handling, transport, use, or disposal would comply with all applicable federal, state, and local agencies and regulations, including the U.S. Environmental Protection Agency, the

Department of Toxic Substances Control (DTSC), the California Department of Transportation, the Occupational Safety and Health Administration (OSHA), the Resource Conservation and Recovery Act, and the Riverside County Department of Environmental Health (the Certified Unified Program Agency for Riverside County). As mandated by OSHA, all hazardous materials stored onsite would be accompanied by a Material Safety Data Sheet, which would inform onsite personnel about the necessary remediation procedures in the case of accidental release.

Compliance with all applicable federal, state, and local regulations regarding hazardous materials would ensure impacts associated with the construction and operation of the Project would be less than significant.

- c) *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

Less Than Significant Impact. The Project site is not located within a quarter mile of a school (Google 2021). The closest school to the Project site is Three Ring Elementary School approximately 1.5 miles east. The Project would involve the use of heavy equipment during construction that would emit emissions associated with internal combustion engines, i.e., diesel and gasoline. Once operational, the Project would store diesel onsite for engine refueling and would involve the use of chemicals associated with fire station operations. However, adherence to all City, County, State, and Federal policies and regulations would reduce impacts to a level less than significant. Therefore, implementation of the Project would result in less than significant impacts associated with hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

- d) *Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

Less Than Significant Impact. According to the State Water Resources Control Board's (SWRCB) GeoTracker database and the Department of Toxic Substances' (DTSC) EnviroStor database, the Project site is not located within a hazardous materials site compiled pursuant to Government Code Section 65962.5. The closest active contaminated site is approximately 1 mile southwest of the Project site in Laborde Canyon (DTSC 2021). The site (EnviroStor ID 33370038) was formerly owned by Lockheed Martin Corporation and was used for rocket motor testing operations and small rocket motor assembly from 1958 to 1974. According to the Final Environmental Impact Report prepared for the site's Remedial Action Plan (SCH #2014101060), all remediation activities were confined to Laborde Canyon and the site is currently inactive except for ongoing investigation and maintenance activities (DTSC 2016). Therefore, the Project would not create a significant hazard to the public or the environment and impacts would be less than significant.

- e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

No Impact. The Project site is not located within two miles of an airport. The closest airport to the site is Banning Municipal Airport approximately 9 miles east. The Project is not located within the boundaries of any airport land use plan; thus, the Project would not experience any safety hazards or excessive noise associated with the airport. No impact would occur.

f) *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Less Than Significant Impact. The City has an adopted Emergency Operations Plan (EOP) and Standardized Emergency Management System (SEMS)/National Incident Management System (NIMS). This plan establishes the emergency organization, assigns tasks, specifies policies and general procedures, and provides for coordination of planning efforts of the various emergency staff and service elements. Further, it is an extension of the State Emergency Plan. The Project, being a new fire station, would assist the City in implementing the EOP. Furthermore, the 2040 General Plan Safety Element provides for appropriate evacuation routes throughout the City to facilitate rapid response to emergency situations. Potrero Boulevard, the only existing roadway adjacent to the Project Site, is not considered an evacuation route. The closest evacuation routes to the Project site are Oak Valley Parkway approximately 0.5 mile to the north and SR-60 approximately 0.2 mile to the south (City 2020). Although there may be temporary lane blockages during construction, no blockages would occur along either of these designated evacuation routes.

New development plans are also subject to review and approval by the Riverside County Fire Department (RCFD), thereby ensuring that the Project does not interfere with evacuation. The City and RCFD established certain design standards to ensure that site planning and building design consider public safety and fire prevention; these standards include requirements governing emergency access. During construction, the contractor would be required to maintain adequate emergency access for emergency vehicles as required by the City and County. Site access for operations would be subject to approval of the Site Plan by the City. Therefore, less than significant impacts are anticipated.

g) *Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

Less Than Significant Impact. The Project site is not located within a CAL FIRE designated VHFSZ of State or local responsibility (CAL FIRE 2021). Although a 1,000-gallon diesel aboveground storage tank and pump are proposed for the Project site, the Project would be subject to routine inspection by federal, state, and local regulatory agencies with jurisdiction over fuel-dispensing facilities. Furthermore, a Leak Detection, Spill Contingency and Emergency Response Plan is required for the Project and all fueling activities would follow federal, state, and local health and safety requirements. Being a new fire station, implementation of the Project would assist with fire prevention and eradication in the City; thus, impacts would be less than significant.

4.10 HYDROLOGY AND WATER QUALITY

10.	HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

10.	HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flood on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.10.1 Impact Analysis

a) *Would the project violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality?*

Less Than Significant Impact. Construction of the Project would be subject to local and state requirements for erosion control and grading, as well as UWIG-1 and UWIG-2 in Section 1.4.4 above. Considering construction activities would disturb one or more acres, the City would be required to adhere to the provisions of the NPDES Construction General Permit. Construction activities subject to this permit include clearing, grading, and soil disturbance through stockpiling and grading. The NPDES Construction General Permit requires implementation of a Stormwater Pollution Prevention Plan (SWPPP), which would include BMPs designed to prevent erosion and sedimentation in stormwater runoff. Collectively, these construction BMPs would help retain stormwater and any constituents, pollutants, and sediment contained therein, on the Project site, which, in turn, would help prevent water quality impacts to downstream receiving waters during construction. Operational discharges would be captured by the three proposed vegetated bioretention basins and directed to an underground storage and infiltration system for water quality treatment. Therefore, the Project would not violate any water quality standards or waste discharge requirements and would not substantially degrade surface or ground water quality, resulting in less than significant impacts.

b) *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

Less Than Significant Impact. The Project site would be served by the Beaumont-Cherry Valley Water District (BCVWD). The Beaumont Groundwater Basin is used by BCVWD as their primary source of supply for meeting municipal water demands. However, the District also relies on local groundwater from Edgar Canyon and imported water supplies purchased from the San Gorgonio Pass Water Agency (SGPWA). The BCVWD's 2020 Urban Water Management Plan (UWMP) accounts for existing and forecasted development in its supply and demand forecasts. The Project would include construction and operation of land uses that are consistent with the UV land use designation established by the City's General Plan. Therefore, the UWMP supply and demand forecasts accounted for potential development within the Project site. The 2020 UWMP forecasts that the multiple dry-year urban water supply reliability is 100 percent through the year 2025 (BCVWD 2020).

The Project would introduce impervious surfaces across the majority of the Project site. An increase in impervious surfaces would decrease percolation potential within the Project site. Although implementation of the Project would reduce the pervious areas available for potential natural recharge, all stormwater flows would be captured by three vegetated bioretention basins and directed to an underground storage and infiltration system for water quality treatment. This system would allow for percolation into the groundwater basin below following treatment. Additionally, the Project site's only source of water currently is from direct precipitation, providing little opportunity to recharge under existing conditions. Due to the size of the Project and onsite stormwater management design, implementation of the Project would not significantly deplete groundwater supplies or interfere with groundwater recharge; impacts would be less than significant.

c) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

- i) *result in substantial erosion or siltation on- or off-site;*
- ii) *substantially increase the rate or amount of surface runoff in a manner which would 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 or polluted runoff; or*
- iv) *impede or redirect flood flows?*

Less Than Significant Impact. Construction of the Project would result in grading and ground disturbance, which could alter the current drainage pattern of the Project site. Erosion during construction would be related primarily to disturbed soils and sediments that may enter the stormwater during rainfall events or winds. Implementation of a SWPPP, including erosion control and sediment control BMPs, as well as the UWIGs and BMPs proposed in Section 1.4.4 would reduce erosion on and off site. Therefore, compliance with existing water quality regulations would ensure short-term construction impacts would be less than significant.

Development of the Project would alter existing ground contours of the Project site and increase the impervious surface area on the site, all of which would result in changes to the existing drainage patterns interior to the site. By increasing the area of impervious surfaces on the site, more surface runoff would be generated; and the rate and volume of runoff would increase. Additionally, the

Project would lead to impacts to a 0.07-acre portion of a ravine dominated by non-native grassland/ruderal and Riversidean sage scrub vegetation located in the northern region of the Project site. The ravine currently drains to an existing offsite road-side swale adjacent to Potrero Boulevard created to divert flows north to San Timoteo Creek (Appendix B).

Although installation of impervious surfaces would increase surface runoff, sedimentation within the runoff would be reduced due to site development, landscaped areas, and implementation of BMPs. Thus, onsite erosion would be reduced with development of the Project. To manage surface runoff, the Project would incorporate three bioretention basins to capture 100 percent of stormwater runoff from the site. The design for the bioretention basins will consider the soils of the area. As stated in Section 1.4.4, UWIGs and BMPs would also be voluntarily incorporated by the City. Thus, impacts associated with the alteration of drainage patterns and erosion would be less than significant.

d) *Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

Less Than Significant Impact. According to FEMA FIRM panel 06065C0785G, the Project site is located within FEMA Flood Zone X. Zone X designates the areas of minimal flood hazard, which are the areas outside the Special Flood Hazard Area and higher than the elevation of the 0.2-percent-annual-chance flood (FEMA 2021). Further, the Project is approximately 50 miles east of the Pacific Ocean and there are no bodies of water in the vicinity of the Project site which are capable of a seiche. The risk of flood, tsunami, or seiche within the Project site is low; thus, impacts would be less than significant.

e) *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

Less Than Significant Impact. The Project site is under the jurisdiction of the Santa Ana Regional Water Quality Control Board (RWQCB). The RWQCB sets water quality objectives and beneficial uses in the Santa Ana Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin, which includes the Project site. These water quality objectives are intended to protect the present and probable beneficial uses of California inland water bodies including bays, estuaries, and groundwater.

The Sustainable Groundwater Management Act (SGMA) is a law requiring that groundwater basins are managed to achieve sustainability. The Beaumont Groundwater Basin was adjudicated in February 2004, in Superior Court, Riverside County, Case RIC 389197, *San Timoteo Watershed Management Authority vs. City of Banning et. al.* The Judgment established the Beaumont Basin Watermaster (Watermaster) to administer the judgment and established the rights of the overlying and appropriator parties. The powers and duties of Watermaster are delineated in the Judgment and include, among others: wellhead protection and recharge, location identification, well abandonment procedures, well construction standards, overdraft mitigation, replenishment, monitoring of water levels and water quality, and development of conjunctive use programs. In summary, the Judgment is the functional equivalent of a groundwater management plan.

The 2020 UWMP supply and demand forecasts accounted for potential development within the Project site and determined that multiple dry-year urban water supply reliability is 100 percent through the year 2025 (BCVWD 2020). Moreover, to address the potential for urban pollutants to be discharged in stormwater during operation, the City would implement a site-specific WQMP to capture stormwater runoff within the Project site and operate a low-impact development (LID) BMP

bioretention system to ensure the Project site does not increase runoff volume when compared to the existing, undeveloped condition. Each of the proposed LID BMPs are designed to perform at a “high” level of pollutant removal efficiency in accordance with the most current edition of the Design Handbook for Low Impact Development Best Management Practices (RCFC 2016) and therefore are not anticipated to obstruct implementation of the Basin Plan or Watermaster requirements. Impacts would be less than significant.

4.11 LAND USE AND PLANNING

11.	LAND USE/PLANNING Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.11.1 Impact Analysis

a) *Would the project physically divide an established community?*

No Impact. The Project site is currently vacant and has an existing UV land use designation, which allows for mixed-uses. All parcels directly adjacent to the Project site are vacant, undeveloped land zoned and designated as UV. An existing roadway, Potrero Boulevard, is adjacent to the west of the Project site. Across Potrero Boulevard to the east is the Heartland General Plan subarea, governed by the Olivewood (former Heartland) Specific Plan. The Specific Plan Area is intended to be a single-family residential community with a total buildout of 1,224 homes (City 2020). The residential portion of the plan is currently under construction. However, the Project would not prevent access to this community at any point during development or implementation. Connectivity between the Project site and surrounding areas would be maintained, and no division of an established community would occur. Therefore, no impact would occur.

b) *Would the project 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?*

No Impact. All parcels within the Project site are zoned and designated in the City’s General Plan as UV (City 2020). The UV designation is a mixed-use designation intended for a variety of specialized land uses, including a regional serving commercial, higher density residential development, educational uses, and abundant open space and recreation amenities. The Project, which is considered a Public Safety Facility by the City’s Zoning Code, is permitted within the UV zoning and land use designation; thus, no Zone Changes or General Plan Amendments are proposed.

The Project site is also located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Pass Area Plan, Subunit 2 – Badlands/San Bernardino National Forest. A MSHCP consistency analysis was completed by Cadre Environmental in June 2021 which determined that the Project is consistent with the MSHCP. Therefore, the Project would not conflict with any land use plan, policy, or regulation and no impacts would occur.

4.12 MINERAL RESOURCES

12.	MINERAL RESOURCES Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.12.1 Impact Analysis

a) *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

No Impact. According to the City's General Plan EIR, the City has no known or identified mineral resources of regional or statewide importance. The upper portion of the City is located in Mineral Resources Zone 3 (MRZ-3), where the significance of mineral deposits is undetermined. Thus, the presence and extent of important mineral resources has not been established for the City and the Project would not restrict access to mineral resources outside of the City. The Project would not result in the loss of availability of a known mineral resource and no impacts would occur.

b) *Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

No Impact. According to the City's General Plan EIR, the City does not contain any locally important mineral resource recovery sites and the Project would not restrict access to mineral resources outside of the City. Although the current Zoning Ordinance has a Mineral Resources Overlay Zone (Section 17.03.160), neither the City's General Plan, existing Zoning Map, nor any specific plan within the City identifies a locally important mineral resource recovery site. The Project would not result in the loss of availability of a locally important mineral resource; thus, no impacts would occur.

4.13 NOISE

13.	NOISE Would the project result in:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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This section describes the existing noise setting and potential noise and vibration effects from Project implementation on the site and its surrounding area (study area).

Existing Noise Conditions

In order to determine the existing noise levels in the vicinity of the Project site, two long-term (24 hour) ambient noise measurements were taken between 15:17 p.m. on Thursday October 28, 2021 and 5:27 p.m. on Friday, October 29, 2021. The results of the noise level measurements are presented in Table 8 and the noise measurement printouts along with photos of the noise measurements sites are provided in Appendix H.

Table 8: Existing (Ambient) Noise Measurement Results

Site Description	Average (dBA Leq)	Maximum (dBA Lmax)	Weighted Average (dBA CNEL)
Located on a power pole on the Project site, approximately 90 feet east of Potrero Boulevard Road centerline and 120 feet north of Olivewood centerline	59.8	93.9	64.0
Located approximately 170 feet west of Project site at utility connection for home under construction located at east end of Arezzo Court.	53.3	82.5	59.2

Source: Two Extech Model 407780 Type 2 sound level meter programmed in "slow" mode to record noise levels in "A" weighted form.

City of Beaumont Noise Standards

For construction activities within the City, Section 9.02.110(F) of the City's Municipal Code allows construction noise to exceed the City noise standards provided that construction activities occur between 7:00 a.m. and 6:00 p.m. on the condition that construction noise does not exceed 55 dB(A) for intervals of more than 15 minutes per hour at the interior of the nearest occupied residence.

For operational activities within the City, Section 9.02.070 of the City's Municipal Code limits noise impacts to the nearby residential properties to 5 dBA above base ambient noise level (BANL) for 15 minutes in any hour, 10 dBA above BANL for 5 minutes in any hour, 15 dBA above BANL for 1 minute in any hour, and 20 dBA above BANL is not permitted. The BANL is defined in Section 9.02.050 of the Municipal Code, which details the minimum BANL for residential properties is 45 dBA between 10:00 p.m. and 7:00 a.m. and 55 dBA between 7:00 a.m. and 10:00 p.m. Section 9.02.050 also details that if the actual decibel measurements exceed these levels than the measured noise levels shall be employed as the BANL.

Nonetheless, the Project is classified as a Capital Improvement Project under the City's Code of Ordinances, thus the Project is exempt from the City's noise control regulations (Section 9.02.100).

4.13.1 Impact Analysis

a) *Would the project result in 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?*

Less Than Significant Impact. The Project may generate substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the General Plan or Noise Ordinance or applicable standards of other agencies. The following section calculates the potential noise emissions associated with the construction and operations of the Project and compares the noise levels to the County standards.

Construction-Related Noise

Construction activities for the Project are anticipated to include site preparation and grading of the project site, building construction, paving, and application of architectural coatings. Noise impacts from construction activities associated with the Project would be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities. The nearest occupied sensitive receptor to the proposed Project is a single-family located as near as 800 feet southwest of the Project site on Cascina Lane. (It should be noted that there are single-family homes lots that have been graded as near as 50 feet west of the proposed improvements to Potrero Boulevard, however since Section 9.02.110(F) of the City's Municipal Code only applies to occupied homes, this analysis is based on the nearest occupied home).

Construction noise levels at the exterior of the nearest homes have been calculated through use of the RCNM and the parameters and assumptions detailed in Section 6.1 of this report. Since the City's construction noise standard is based on the noise level at the interior of the nearest

Construction noise impacts to the nearby sensitive receptors have been calculated through the use of the Roadway Construction Noise Model (RCNM) and through use of the construction equipment assumptions generated by the CalEEMod model (Appendix A). Since the City's construction noise standard is based on the noise level at the interior of the nearest occupied home and the City does not provide any exterior to interior noise reduction rates to use, the County of Riverside General Plan Noise Guidelines was utilized that details that a single-family home with the windows closed provides 20 dB exterior to interior noise reduction. Both the exterior and interior noise levels for each phase of construction at the nearest homes are shown below in Table 9, and the RCNM printouts are provided in Appendix C.

Table 9: Construction Noise Levels at the Nearest Homes Prior to Mitigation

Construction Phase	Construction Noise Level (dBA Leq) at Nearest Home ¹ :	
	Exterior	Interior ²
Site Preparation	61	41
Grading	61	41
Building Construction	62	42
Paving	59	39
Architectural Coatings	50	30

Construction Phase	Construction Noise Level (dBA Leq) at Nearest Home ¹ :	
	Exterior	Interior ²
City Construction Noise Threshold³	--	55
Exceed Threshold?	--	No

Notes:

¹ The nearest home is located as near as 800 feet southwest of the project site

² The interior noise level is based on a 20 dB exterior to interior noise reduction.

Source: RCNM, Federal Highway Administration, 2006 (See Appendix H).

Table 9 shows that the greatest noise impact would occur during the building construction phase at the nearest occupied home located southwest of the project site with a noise level as high as 42 dBA at the interior of the home, which is below the City's construction noise threshold of 55 dBA. Therefore, the Project would not create a substantial temporary increase in ambient noise levels from construction of the Project. Impacts would be less than significant and no mitigation is required.

Operational-Related Noise

The Project consists of the development and operation of a fire station. Potential noise impacts associated with the operations of the Project would be from project-generated vehicular traffic on the nearby roadways and from onsite activities, which have been analyzed separately below.

Offsite Roadway Noise Impacts

Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires. The level of traffic noise depends on three primary factors (1) the volume of traffic, (2) the speed of traffic, and (3) the number of trucks in the flow of traffic. The Project does not propose any uses that would require a substantial number of truck trips, and the Project would not alter the speed limit on any existing roadway, so the Project's potential offsite noise impacts have been focused on the noise impacts associated with the change of volume of traffic that would occur with development of the Project.

According to the default trip generation rates utilized in the CalEEMod model (Appendix A), the Project would generate a total of 244 average daily trips (ADT). According to the City of Beaumont General Plan, Potrero Road is classified as an Urban Arterial Highway in the vicinity of the project site that has a roadway capacity of 43,450 ADT operating at a level of service (LOS) of 'C'. The Project would contribute 0.56 percent of the total capacity of Potrero Road in the vicinity of the Project site. In order for Project-generated vehicular traffic to increase the noise level on any of the nearby roadways by 3 dB, the roadway traffic would have to double, the roadway traffic would have to increase by 50 percent. As such, the Project's roadway noise impacts would be well below a 3 dB increase, which is the threshold of perception of an increase in noise levels. Therefore, operational roadway noise impacts would be less than significant.

Onsite Noise Impacts

The operation of the Project may create an increase in onsite noise levels from fire station activities, rooftop mechanical equipment, and the backup generator. The nearest sensitive receptor to Project site are single-family homes that are currently under construction as near as 120 feet west of the Project site.

As detailed above, Section 9.02.070 of the City's Municipal Code limits noise impacts to the nearby residential properties to 5 dBA above BANL (45 dBA between 10:00 p.m. and 7:00 a.m. and 55 dBA between 7:00 a.m. and 10:00 p.m.) for 15 minutes in any hour. As such, the threshold utilized in this analysis is 50 dBA between 10:00 p.m. and 7:00 a.m. and 60 dBA between 7:00 a.m. and 10:00 p.m. at the nearest homes.

In order to determine potential noise impacts from onsite from fire station activities that include siren use at a fire station, rooftop mechanical equipment, and the backup generator, reference noise measurements were taken or manufacturer specifications were obtained for each noise source and the reference noise measurement output files are provided in Appendix H. In order to account for the noise reduction provided by the existing 6-foot-high sound wall on the west side of Potrero Boulevard, the wall attenuation equations from the *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (TeNS), prepared by Caltrans, September 2013, were utilized and the noise calculation spreadsheet showing the calculations is also provided in Appendix H. A summary of the calculated noise level at the nearby homes is shown in Table 10.

Table 10: Operational Noise Levels at the Nearby Homes (Prior to Mitigation)

Noise Source	Reference Noise		Calculated Noise at Nearest Homes	
	Distance from Receptor to Source (feet)	Reference Noise Level (dBA L _{eq})	Distance from Receptor to Homes (feet)	Noise Level ¹ (dBA L _{eq})
Fire Station Yard Activities (including siren use)	30	55.7	195	33.2
Rooftop Equipment	6	65.1	210	29.3
Backup Generator	23	72.0	250	45.0
Combined Noise Level from all Sources				45.4
City Noise Standards (Day/Night) ²				60/50
Exceed City Standard?				No/No
Notes:				
¹ The calculated noise levels account for the noise reduction provided by the existing 6 foot high wall on the south side of Baseline Road.				
² From, Sections 9.02.070 and 9.02.050 of the Municipal Code				
Source: Noise calculation methodology from Caltrans, 2013 (see Appendix D).				

The data provided in

Table 10 shows that Project's worst-case operational noise from the simultaneous operation of all noise sources on the project site would create a noise level of 45.4 dBA L_{eq} at the nearest homes (currently under construction) west of the project site. The worst-case onsite operational noise level is within both the City's daytime noise standard of 60 dBA and nighttime noise standard of 50 dBA. It should also be noted that the 45.4 dBA L_{eq} noise level is also below the existing measured noise level of 53.3 that was taken at the location of the nearest homes (see Table 8 above). As such, operations-related onsite noise impacts would be less than significant for the Project. Therefore, implementation of the Project would result in a less than significant noise impact from onsite noise sources

Accordingly, the Project would not expose persons to noise levels in excess of standards established by the City, and impacts would be less than significant.

b) *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

Less Than Significant Impact. The Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels. The following section analyzes the potential vibration impacts associated with the construction and operations of the Project.

Construction-Related Vibration Impacts

Construction activities for the Project are anticipated to include site preparation and grading of the Project site, building construction, paving, and application of architectural coatings. Vibration impacts from construction activities associated with the Project would typically be created from the operation of heavy off-road equipment, such as bulldozers, excavators, scrapers, vibrator rollers, etc. The nearest occupied home to the proposed Project is located as near as 800 feet southwest of the Project site on Cascina Lane.

Since neither the City's Municipal Code nor the General Plan provides a quantifiable vibration threshold level, the vibration threshold provided in *Transportation- and Construction Vibration Guidance Manual*, prepared by Caltrans, April 2020, has been utilized, which defines the threshold of perception from transient sources at 0.25 inch per second PPV. Table 11 shows the typical PPV produced from some common construction equipment that would likely be utilized during construction of the Project.

Table 11: Typical Construction Equipment Vibration Emissions

Equipment	Peak Particle Velocity in inches per second at 25 feet	Vibration Level (L _v) at 25 feet
Vibrator roller	0.210	94
Hoe ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded truck (off road)	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: Federal Transit Administration 2018.

From the list of equipment shown in Table 11, a vibratory roller with a vibration level of 0.210 inch-per-second PPV at 25 feet would be the source of the highest vibration levels of all equipment utilized during construction activities for the Proposed Project. Based on typical propagation rates at 800 feet, this would result in a vibration level of 0.005 inch-per-second PPV at the nearest occupied offsite residential structure to the project site. The construction-related vibration levels would be well below the 0.25 inch-per-second PPV threshold detailed above. Therefore, a less than significant vibration impact is anticipated from construction of the Proposed Project.

Operational-Related Vibration Impacts

The Project would consist of the development and operation of a Fire Station. The Project would result in the operation of fire trucks on the Fire Station site, which are a known source of vibration. The nearest receptors to the Fire Station site are homes located on the west side of Potrero Boulevard, which are as near as 120 feet west of where fire trucks would operate on the Project site.

Caltrans has done extensive research on vibration level created along freeways and State Routes and their vibration measurements of roads have never exceeded 0.08 inches per second PPV at 15 feet from the center of the nearest lane, with the worst combinations of heavy trucks. Fire truck activities would occur onsite as near as 120 feet from the nearest offsite receptor. Based on typical propagation rates, the vibration level at the nearest offsite receptor would be 0.002 inch per second PPV. Therefore, vibration created from operation of the proposed project would be within the 0.25 inch per second PPV threshold of detailed above. Impacts would be less than significant.

Accordingly, the proposed Project would not expose persons to excessive groundborne vibration or groundborne noise levels, and impacts would be less than significant.

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 us airport, would the project expose people residing or working in the project area to excessive noise levels?*

No Impact. The closest airport to the Project site is Banning Municipal Airport, which is located approximately 9 miles east; therefore, the Project site is not located within 2 miles of a public airport or within an airport land use plan nor is the Project within the vicinity of a private airstrip. As such, the Project site would not be exposed to excessive noise levels from airport operations. As such, no impact would occur regarding airport and airstrip noise.

4.14 POPULATION AND HOUSING

14.	POPULATION AND HOUSING. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.14.1 Impact Analysis

a) *Would the project 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)?*

Less Than Significant Impact. The Project does not provide permanent housing or include operations that could result in unplanned growth such as extension of roadways or expansion of existing infrastructure. Although the fire station would include four dorm spaces, accommodating eight people total, these are temporary facilities to account for the long shifts associated with fire-fighting operations. The Project would provide up to 25 construction jobs and eight operational jobs. Nonetheless, construction jobs would be temporary, lasting up to 15 months, and are anticipated to be filled by the existing local population. The eight operational jobs would be long-term but are also expected to be filled by local fire fighters. If residents outside the local area are required to fill any operational positions, the increase in population would be nominal. Thus, the Project would not induce substantial unplanned population growth and impacts would be less than significant.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project includes construction and operation of a fire station on a vacant site zoned UV, which allows Public Safety Facilities designated by the City's Zoning Code. As such, implementation of the Project would not result in displacement of people or housing and no impacts would occur.

4.15 PUBLIC SERVICES

15.	PUBLIC SERVICES.	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	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:				
	i) Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	ii) Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.15.1 Impact Analysis

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?

No Impact. The Project proposes to construct a new fire station, storage building, parking area, new access roads, and landscaping. Current fire service response times in the City are approximately 8 to 12 minutes and the City's goal is a 5-minute response time (City 2020). This Project would assist the

City in maintaining acceptable service ratios, response times, and other performance objectives for fire protection; therefore, no impacts would occur.

b) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

Less Than Significant Impact. The Project does not provide permanent housing or include operations that could result in unplanned population growth. Although the Project would provide up to 25 construction jobs and eight operational job, construction jobs would be temporary, lasting up to 15 months, and are anticipated to be filled by the existing local population. The eight operational jobs would be long-term but are also expected to be filled by local fire fighters. If residents outside the local area are required to fill any operational positions, the increase in population would be nominal and would not affect response times for police protection. Further, the Project proposes to construct a new fire station, which would help the City meet emergency response goals related to fire response and emergency medical services. Thus, the Project would help maintain acceptable service ratios, response times, and other performance objectives for police protection and impacts would be less than significant.

c) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

Less Than Significant Impact. As mentioned above, the Project would not result in unplanned population growth and jobs associated with the Project are anticipated to be filled by the existing local population. If residents outside the local area are required to fill any operational positions, the increase in population would be nominal and would not affect performance objectives for schools. Further, the Project proposes to construct a new fire station, which would help the City meet emergency response goals related to fire response and emergency medical services. Thus, the Project would not affect service ratios and would help maintain safety objectives for schools; thus, impacts would be less than significant.

d) 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 parks?

Less Than Significant Impact. The Project would not result in unplanned population growth and jobs associated with the Project are anticipated to be filled by the existing local population. If residents outside the local area are required to fill any operational positions, the increase in population would be nominal and would not affect performance objectives for parks. Further, the Project proposes to construct a new fire station, which would help the City meet emergency response goals related to fire response and emergency medical services. Thus, the Project would not affect service ratios and would help maintain safety objectives for parks; thus, impacts would be less than significant.

e) *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 other public facilities?*

Less Than Significant Impact. As mentioned above, the Project would not result in unplanned population growth and jobs associated with the Project are anticipated to be filled by the existing local population. If residents outside the local area are required to fill any operational positions, the increase in population would be nominal and would not affect performance objectives for other public facilities. Further, the Project proposes to construct a new fire station, which would help the City meet emergency response goals related to fire response and emergency medical services. Thus, the Project would not affect service ratios and would help maintain safety objectives for public facilities in the City; thus, impacts would be less than significant.

4.16 RECREATION

16.	RECREATION. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.16.1 Impact Analysis

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?*

No Impact. As previously discussed, the Project does not provide permanent housing or include operations that could result in unplanned growth such as extension of roadways or expansion of existing infrastructure. Construction of the Project involves paving of two new access driveways to the site, which may be developed into future roadways; however, the construction of these future roadways is not proposed as part of the Project. Further, construction jobs associated with the Project would be temporary, lasting up to 15 months, and are anticipated to be filled by the existing local population. The eight operational jobs associated with the Project would be long-term, but are also expected to be filled by local fire fighters. If residents outside the local area are required to fill any operational positions, the increase in population would be nominal. Thus, the Project would not contribute to the increased use of existing neighborhood, regional parks or other recreational facilities and would not cause substantial deterioration of the facilities; no impacts would occur.

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?*

No Impact. The Project does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Additionally, the Project does not involve the addition of a substantial number of new jobs that may result in increased population and increased demands on recreational resources. No impacts would occur.

4.17 TRANSPORTATION

17.	TRANSPORTATION. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Substantially increase hazards due to a geometric design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d)	Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.17.1 Impact Analysis

- a) *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?*
- b) *Would the project Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

Less Than Significant Impact. The City's 2040 General Plan provides a comprehensive circulation system that accommodates increased demand for public transit, bicycle, and pedestrian facilities. All parcels within the Project site are zoned and designated in the City's General Plan as UV (City 2020). The UV designation is a mixed-use designation intended for a variety of specialized land uses, including a regional serving commercial, higher density residential development, educational uses, and abundant open space and recreation amenities. The Project, which is considered a Public Safety Facility by the City's Zoning Code, is permitted within the UV zoning and land use designation. Thus, no Zone Changes or General Plan Amendments are proposed, and the Project is consistent with the circulation system planned in the 2040 General Plan.

Moreover, section 15064.3, subdivision (b) of the CEQA Guidelines requires an evaluation of project impacts related to Vehicle Miles Traveled (VMT). According to the County's Transportation Analysis Guidelines, as a fire facility, the Project is designated a "Local Essential Service". The introduction of new Local Essential Services shortens non-discretionary trips by putting those goods and services closer to residents, resulting in an overall reduction in VMT (County 2020). Therefore, impacts would be less than significant.

- c) *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?*

Less Than Significant Impact. The Project would include onsite circulation improvements (driveways and internal drive aisles) and frontage improvements along the Project site boundary. These onsite improvements would be designed in accordance with all applicable design standards set forth by the City. The design will undergo City review before approval to ensure that the local development standards for roadways are met without resulting in traffic safety impacts, including hazardous design features. Based on the above analysis, the Project would not substantially increase hazards due to a geometric design feature or incompatible uses; and impacts would be less than significant.

d) *Would the project result in inadequate emergency access?*

Less Than Significant Impact. The Project, being a new fire station, would assist the City in implementing the EOP. Additionally, the City and RCFD established certain design standards to ensure that site planning and building design consider public safety and fire prevention; these standards include requirements governing emergency access. During construction, the contractor would be required to maintain adequate emergency access for emergency vehicles as required by the City and County. Site access for operations would be subject to approval of the Site Plan by the City. Therefore, less than significant impacts are anticipated.

4.18 TRIBAL CULTURAL RESOURCES

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:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.18.1 Impact Analysis

a) *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 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)?*

b) *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 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?

Less Than Significant Impact. The City completed the initial AB 52 outreach for the Project. Currently, one tribe has responded to the AB 52 consultation request. The tribal Historic Preservation Division of the Aqua Caliente Band of Cahuilla Indians (ACBCI), responded via email on August 27, 2020, and requested to be included in further consultation and to be provided with the grading plans, geotechnical report, and cultural resource letter report for the Project. All requested reports were provided.

On October 13, 2021, Chambers Group requested that the Native American Heritage Commission (NAHC) conduct a search of its Sacred Lands File (SLF) to determine if Tribal Cultural Resources (TCR) important to Native Americans have been recorded in the Project footprint and buffer area. Additional consultation with the tribes indicated in the NAHC SLF letter (Appendix D) would be required to determine the nature of any existing resources located during ground-disturbing activities. PRC Section 21074 defines a resource as a TCR if it meets either of the following criteria:

1. sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe that are listed, or determined to be eligible for listing, in the national or state register of historical resources, or listed in a local register of historic resources; or
2. a resource that the lead agency determines, in its discretion, is a tribal cultural resource

On November 17, 2021, Chambers Group received a response from the NAHC stating that the search of its Sacred Lands File was negative for the presence of Native American cultural resources within Project site and the record search study area.

The NAHC provided a list of 24 Native American tribal contacts that may have knowledge of cultural resources near the Project area (Appendix D). A letter describing the Project and asking these individuals and organizations for their input was sent via U.S. mail and electronic mail on November 9, 2021. A copy of the letters sent, the list of contacts, and responses received are included in Appendix D. As of the date of this report, responses were received from ACBCI, the Augustine Band of Cahuilla Mission Indians, the Quechan Tribe of the Fort Yuma Reservation, and the San Manuel Band of Mission Indians. None of these tribes requested further consultation except ACBCI. ACBCI requested further documentation, including copies of any cultural resource documentation (report and site records) generated in connection with this Project; a cultural resources inventory of the Project area by a qualified archaeologist prior to any development activities in this area; and a copy of the records search with associated survey reports and site records from the information center. All requested documents were provided, except for the records search from EIC as it has not yet been obtained by the City due to delays. Once the record search has been obtained, it will be sent to ACBCI.

During both AB 52 Consultation efforts as well as the cultural resources analysis conducted to date, no evidence of TCRs were identified within the Project site. Nonetheless, without the record search results from the EIC it remains unknown if any previously recorded resources are located within the Project site. Therefore, to prevent significant impacts to potential TCRs onsite the City will implement

mitigation measures MM-CUL-1 through MM-CUL-5 described above. With implementation of MM-CUL-1 through MM-CUL-5, impacts would be less than significant.

4.19 UTILITIES AND SERVICE SYSTEMS

19.	UTILITIES/SERVICE SYSTEMS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.19.1 Impact Analysis

a) *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or expansion of which could cause significant environmental effects?*

Less Than Significant Impact. The Project would include construction of an onsite network of water, wastewater, electrical power, natural gas, telecommunications, and stormwater facilities that would connect to existing facilities adjacent to or within the Project site. Minimal offsite ground disturbance within the public right-of-way would be required to connect the proposed onsite utility infrastructure to existing points of connection along Potrero Boulevard. Utilities would not be expanded beyond those needed to serve Project operations. Water service would be provided to the Project site by BCVWD and wastewater service would be provided by the City. The City conservatively estimates an operational water demand of approximately 1,000 gallons per day. Southern California Edison (SCE) would provide electrical service to the Project site and Southern California Gas Company (SoCal Gas) would provide natural gas service. Electricity usage is anticipated to be minimal, required for fluorescent station lighting, signage, and parking lot lighting. Natural gas would be utilized for minimal heating requirements during winter months. Telecommunications would be provided to the site using commercially available services in the area. The Project would also include installation of three onsite

bioretention basins to capture onsite stormwater flows. Flows would percolate into the ground or evaporate, consistent with current storm flows from the Project site. In addition, curb-and-gutter would be installed along the Project frontage, thus improving containment of storm flows within the existing roadway.

The impacts associated with proposed utility connections are considered to be part of the Project's construction phase and are evaluated throughout this Initial Study accordingly. As identified throughout this Initial Study, no significant impacts have been identified for the Project's construction phase. The construction of onsite water, wastewater, and stormwater infrastructure necessary to serve the Project would not result in any significant physical effects on the environment that are not already identified and disclosed as part of this Initial Study. Impacts would be less than significant.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal dry and multiple dry years?

Less Than Significant Impact. The BCVWD provides water service to the Project site. The BCVWD 2020 UWMP accounts for existing and forecasted development in its supply and demand forecasts. The Project would include construction and operation of land uses that are consistent with the UV land use designation established by the City's General Plan. Therefore, the UWMP supply and demand forecasts accounted for anticipated development within the Project site. The 2020 UWMP forecasts that in all dry-year scenarios, water must be extracted from BCVWD's Beaumont Basin Storage Account. However, due to the variability of available supplies, BCVWD typically recharges imported water to its storage account in the Beaumont Basin during periods when supply exceeds the demands in the service area. BCVWD's storage account allows storage of up to 80,000 acre-feet (AF). Therefore, an analysis of the reliability of water sources during normal (average) and extended dry periods demonstrated that BCVWD can sufficiently meet the projected demands in the case of the drought or other emergency.

The City conservatively estimates that the Project would have a water demand of approximately 1,000 gallons per day. As such, annual water demand associated with the Project would be approximately 1.12 acre-feet per year (AFY), or approximately 0.010 percent of the anticipated service area demand by 2025. As such, BCVWD would have sufficient water supplies to serve the Project. Furthermore, in the future BCVWD plans to utilize recycled water from the City to meet most of the landscape irrigation demands, which are currently served with potable water. BCVWD also intends to supplement its supply with captured and recharged stormwater through various projects. Therefore, the Project would have sufficient water supplies available in the reasonably foreseeable future and impacts would be less than significant.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less Than Significant Impact. City of Beaumont Treatment Plant No. 1 provides wastewater collection and treatment services for the BCVWD service area, including the Project site. The City's Treatment Plant No. 1 has a current permitted capacity of 4 million gallons per day (mgd). According to the BCVWD UWMP, Phase 1 of the City's wastewater treatment plant construction has also been completed, increasing the rated capacity from 4 mgd to 6 mgd (BCVWD 2020).

The anticipated total annual water demand associated with the Project would be approximately 1,000 gallons per day (gpd) or 1.12 acre-feet per year (AFY). Assuming wastewater generation is 75 percent of total water demand, the Project would generate approximately 0.84 AFY, or 750 gpd. This is approximately 0.01 percent of the total current wastewater capacity of Treatment Plant No. 1. As such, existing wastewater treatment facilities have sufficient capacity to serve the Project; and impacts would be less than significant.

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?

Less Than Significant Impact. Implementation of the Project would generate an incremental increase in solid waste volumes requiring offsite disposal during short-term construction and long-term operational activities. Solid waste requiring disposal would be generated by the construction process, primarily consisting of discarded materials and packaging. Based on the size of the Project (10,760 square feet of building area) and the EPA's construction waste generation factor of 4.38 pounds per square-foot for non-residential uses, approximately 23.6 tons of waste is expected to be generated during the Project's construction phase (EPA 1998). In compliance with the CalGreen Code, a minimum of 65 percent of all solid waste must be diverted from landfills (by recycling, reusing, and other waste reduction strategies). Therefore, the Project is estimated to generate approximately 8.3 tons of solid waste during its construction phase that would be disposed of in a landfill. Based on the anticipated construction schedule, the Project's construction phase is estimated to last for up to 15 months or approximately 456 days; therefore, the Project is estimated to generate approximately 0.018 tons of solid waste per day requiring landfill disposal during construction.

According to the California Department of Resources Recycling and Recovery's (CalRecycle's) estimated solid waste generation rates, public/institutional developments such as the Project generate approximately 0.007 pounds of waste per square-foot of development, per day (CalRecycle 2021a). The Project proposes construction of 10,760 square feet of institutional building area, resulting in approximately 75.32 pounds per square-foot of solid waste requiring landfill disposal per day of operations.

Solid waste generated by the Project would likely be disposed of at the closest landfill, Lamb Canyon Landfill. The Lamb Canyon Landfill has a remaining capacity of 19,242,950 tons and is anticipated to operate until 2029 (CalRecycle 2021b); thus, the relatively minimal construction waste and operational waste generated by the Project is not anticipated to cause the landfill to exceed its maximum permitted disposal volume. As such, the Lamb Canyon Landfill has sufficient capacity to accept solid waste generated by the Project's construction phase. Impacts would be less than significant.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. The Project would not negatively impact the provision of solid waste services. All solid waste generated during construction would be disposed of by the construction contractor according to the City's standard construction practices, including compliance with the California Integrated Waste Management Act (also known as AB 939). Project operations would comply with AB 939/SB 1066 requirements for the diversion of solid waste from landfills. Waste

receptacles would be provided onsite for operational wastes, including green waste, which would be sorted for recycling and reuse. Impacts would be less than significant.

4.20 WILDFIRE

20.	WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.20.1 Impact Analysis

a) Would the project impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The Project site is not located within a CAL FIRE designated VHFSZ of State or local responsibility (CAL FIRE 2021). As previously mentioned, the City has an adopted EOP and SEMS/NIMS. This plan establishes the emergency organization, assigns tasks, specifies policies and general procedures, and provides for coordination of planning efforts of the various emergency staff and service elements. Further, it is an extension of the State Emergency Plan. The Project, being a new fire station, would assist the City in implementing the EOP. Furthermore, the 2040 General Plan Safety Element provides for appropriate evacuation routes throughout the City to facilitate rapid response to emergency situations. Potrero Boulevard, the only existing roadway adjacent to the Project Site, is not considered an evacuation route. The closest evacuation routes to the Project site are Oak Valley Parkway to the north and SR-60 to the south (City 2020). Although there may be temporary lane blockages during construction, no blockages would occur along either of these designated evacuation routes.

New development plans are also subject to review and approval by the RCFD, thereby ensuring that the Project does not interfere with evacuation. The City and Riverside County Fire Department established certain design standards to ensure that site planning and building design consider public safety and fire prevention; these standards include requirements governing emergency access. During construction, the contractor would be required to maintain adequate emergency access for emergency vehicles as required by the City and County. Site access for operations would be subject to approval of the Site Plan by the City. Therefore, less than significant impacts are anticipated.

b) Would the project, 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?

Less Than Significant Impact. The Project site is relatively flat, with elevations onsite ranging from approximately 2470 to 2480 feet in elevation and is not located within a CAL FIRE designated VHFSZ (CAL FIRE 2021). Further, proposed development under the General Plan is subject to environmental and building permit review procedures to ensure adequate and appropriate site design and construction methods are implemented to reduce the risk of wildfires. For new development, these methods include the creation of defensible areas around building structures and use of fire-resistant building materials will provide protection from wildfires. The implementation of the Project would reduce the risk of wildfires by eliminating the vacant parcels' existing ruderal vegetation and providing a paved foundation. Although the land surrounding the Project site is not developed, the Project proposes construction of a new fire station to serve the local area and would not exacerbate wildfire risks. Therefore, impacts would be less than significant.

c) Would the project 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?

Less Than Significant Impact. The Project would connect to existing utilities adjacent to the site and does not propose infrastructure that would exacerbate fire risk. Additionally, the Project is not located within a designated VHFSZ and proposes construction of a new fire station to serve the local area. Thus, the Project would not exacerbate wildfire risk and impacts would be less than significant.

d) Would the project 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?

Less Than Significant Impact. The Project site and its immediate vicinity are relatively flat and are not subject to post-fire slope instability. The implementation of associated storm water BMPs will ensure that the Project appropriately conveys storm water runoff without affecting upstream or downstream drainage characteristics. The Project would retain the incremental increase in site-generated runoff. As a result, the Project will not expose people or structure to significant risks, such as downslope flooding or landslides. Therefore, impacts would be less than significant.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

21.	MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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 endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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?)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.21.1 Impact Analysis

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 endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

Less Than Significant Impact with Mitigation Incorporated. As concluded in the Biological and Cultural Resources sections of this document, all potential impacts discussed can be mitigated to a less than significant level for these resources.

As described in Section 4.4, the Project is located within a designated MSHCP Conservation Area, but would not conflict with the provisions of the MSHCP. In addition, the Project has low potential for impacts to special- status plants and wildlife. With implementation of voluntary UWIGs and BMPs listed in Section 1.4.4, and mitigation measures MM-BIO-1 and MM-BIO-2, impacts to special-status species and sensitive communities would be less than significant.

As described in Section 4.5, it is possible that historical, archaeological, or paleontological resources would be encountered at subsurface levels during ground-disturbing construction activities. To reduce potential adverse effects to discoveries during Project implementation, procedures for inadvertent discovery of cultural resources must be implemented through MM-CUL-1 through MM-CUL-5 and MM-PAL-1. Further, as described in Section 4.18, the Project would not result in impacts to any known Tribal Cultural Resources.

Implementation of the Project would not substantially degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife populations to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. Therefore, impacts would be less than significant with the proposed mitigation measures, UWIGs, and BMPs incorporated.

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?)

Less Than Significant Impact with Mitigation Incorporated. The potential for cumulative impacts occurs when the independent impacts of the Project are combined with the impact of related projects in proximity to the Project such that impacts occur that are greater than the impacts of the Project alone. As discussed above, it has been determined that the Project would have no impact, impacts would be less than significant, or impacts would be less than significant with implementation of mitigation measures. Where the Project would have no impact or a less than significant impact, it would not contribute to cumulative impacts. The Project proposes construction of a new fire station to serve the existing community; thus, it would not contribute to the cumulative effects of population growth. Since these impacts associated with the Project would not be significant when compared to applicable thresholds, none of the impacts associated with the Project would make cumulatively considerable, incremental contributions to significant cumulative impacts.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact with Mitigation Incorporated. Environmental effects that could cause indirect or direct impacts to human beings would relate to air quality, noise, geology, and traffic. Based on the analyses provided, the proposed construction and operational activities would not result in potentially significant impacts with regards to significant air quality and greenhouse gas emissions, substantial noise exposure, or transportation impacts such as introduction of extreme design features. Geologically, the Project site is considered grossly stable and suitable for the Project provided the assumptions, recommendations, and opinions included in the Geotechnical Report are considered in design and construction. These construction considerations are included as MM-GEO-1 and MM-GEO-2. Therefore, with implementation of these mitigation measures the Project would not result in environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly, and impacts would be less than significant.

SECTION 5.0 – REFERENCES

Beaumont-Cherry Valley Water District (BCVWD)

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2021b California Earthquake Hazards Zone Application. Accessed November 2021. Available online at: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>.

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2007 Banning Municipal Airport – Airport Master Plan Update. Available online at: http://banning.ca.us/DocumentCenter/View/470/Airport_MP?bidId=

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State Water Resources Control Board (SWRCB)

2021 GeoTracker Database. Accessed November 2021. Available online at:
<https://geotracker.waterboards.ca.gov/>

APPENDIX A – CALEEMOD MODEL PRINTOUTS

Appendix A – Air Quality Calculations

CalEEMod Model Input Parameters

The criteria air pollution and GHG emissions impacts created by the proposed project have been analyzed through use of CalEEMod Version 2020.4.0. CalEEMod is a computer model published by the SCAQMD for estimating air pollutant emissions. The CalEEMod program uses the EMFAC2017 computer program to calculate the emission rates specific for the South Coast Air Basin portion of Riverside County for employee, vendor and haul truck vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy equipment operations. EMFAC2017 and OFFROAD2011 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour.

The project characteristics in the CalEEMod model were set to a project location of South Coast Air Basin portion of Riverside County, a Climate Zone of 10, utility company of Southern California Edison and an opening year of 2023 was utilized in this analysis.

Land Use Parameters

The proposed fire station would be composed of two buildings, totaling approximately 10,760 square feet. Building A would be located on the southwest corner of the Project site and Building B would be located on the southeast corner of the site. The Project also proposes a 23-foot by 25-foot storage building, totaling approximately 570 square-feet, in the northeastern corner of the site. Approximately 21,569 square feet of paving is proposed onsite. Within the paved portions of the Project site the City would paint 16 parking stalls, divided into staff and visitor parking areas. Staff parking would be located in the northwest area of the site, offering 12 standard 9-foot by 18-foot stalls. Visitor parking would be located on the southern side of the station, offering three standard stalls and one ADA-compliant 17-foot by 19-foot stall. It should be noted that a 1,000-gallon diesel tank and pump will be installed just north of Building B for fire engine fueling onsite, however diesel fuel dispensing and storage is not a known source of air emissions, as such no further analysis is provided for the diesel tank.

As part of the Project, the City would construct two new access roads along the northern and southern edges of the Project site, and would also include road widening improvements to Potrero Boulevard, adjacent to the Project site. The offsite road improvements are anticipated to disturb 0.5 acres.

The proposed project's land use parameters that were entered into the CalEEMod model are shown in Table A.

Table A – CalEEMod Land Use Parameters

Proposed Land Use	Land Use Subtype in CalEEMod	Land Use Size¹	Lot Acreage²	Building/Paving³ (square feet)
Fire Station	Government Office Building	10.76 TSF	0.89	10,760
Storage Building	Unrefrigerated Warehouse-No Rail	0.57 TSF	0.20	570
Parking Lot	Parking Lot	16 PS	0.50	21,569
Offsite Road Improvements	Other Asphalt Surfaces	1.0 AC	1.00	43,560

Notes:

¹ TSF = Thousand Square Feet; PS = Parking Space; AC = Acre

² Lot acreage calculated based on the project area of 1.59-acres plus 1.00 acre for offsite road improvements.

³ Building/Paving square feet represent area where architectural coatings will be applied.

Construction Parameters

Construction activities have been modeled as starting in March 2022 and taking 12 months to complete. The construction-related GHG emissions were based on a 30-year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009. The phases of construction activities that have been analyzed are detailed below and include: 1) Site Preparation; 2) Grading, 3) Building construction, 4) Application of architectural coatings, and 5) Paving.

The CalEEMod model provides the selection of “mitigation” to account for project conditions that would result in less emissions than a project without these conditions, however it should be noted that this “mitigation” may represent regulatory requirements. This includes the required to adherence to SCAQMD Rule 403, which requires that the Best Available Control Measures be utilized to reduce fugitive dust emissions. The mitigation of “water all exposed areas two times per day” was chosen in order to account for the fugitive dust reduction that would occur through adhering to SCAQMD Rule 403, which requires that the Best Available Control Measures be utilized to reduce fugitive dust emissions.

For all phases the default construction equipment was utilized. The grading phase was extended to 20 working days to account for the additional time required to export 40,041 cubic yards of dirt from the project site. All other phases were based on the default construction timing.

Operational Emissions Modeling

The operations-related criteria air pollutant emissions and GHG emissions created by the proposed project have been analyzed through use of the CalEEMod model. The proposed project was analyzed in the CalEEMod model based on the land use parameters provided above and the parameters entered for each operational emission source is described below.

Mobile Sources

Mobile sources include emissions generated from the additional vehicle trips that would occur through implementation of the proposed project. The CalEEMod default vehicle trip rates were utilized in the analysis. No changes were made to the default mobile source parameters in the CalEEMod model.

Area Sources

Area sources include emissions from consumer products, landscape equipment, and architectural coatings. The area source emissions were based on the on-going use of the proposed project in the CalEEMod model. No changes were made to the default area source parameters in the CalEEMod model.

Energy Usage

Energy usage includes emissions from electricity and natural gas used onsite. The energy usage was based on the ongoing use of the proposed project in the CalEEMod Model. No changes were made to the default energy usage parameters in the CalEEMod model.

Solid Waste

Waste includes the GHG emissions associated with the processing of waste from the proposed project as well as the GHG emissions from the waste once it is interred into a landfill. The analysis was based on the default CalEEMod waste generation rates of 11 tons of solid waste per year from the proposed project. No changes were made to the default solid waste parameters or mitigation measures in the CalEEMod model.

Water and Wastewater

Water includes the water used for the interior of the buildings as well as for landscaping and is based on the GHG emissions associated with the energy used to transport and filter the water. The analysis was based on the default CalEEMod water usage rate of 2,269,391 gallons per year of indoor water use and 1,310,129 gallons per year of outdoor water use. No changes were made to the default water and wastewater parameters in the CalEEMod model.

The CalEEMod “mitigation” of the use of low flow faucets, showers, and toilets and use of smart irrigation system controllers were selected to account for the implementation of the 2016 CCR Title 24 Part 11 (CalGreen) requirements.

Backup Diesel Generator

The proposed project would include the installation of a 50 kW 86 horsepower backup diesel-powered generator. Backup generators typically cycle on for 30 minutes on a weekly basis in order to keep the engine lubricated and ready to use in case of a power outage. The typical cycling of a backup generator would operate for approximately 26 hours per year. The backup diesel generator was modeled in CalEEMod based on a 86 horsepower engine, a 0.73 load factor, 0.5 hour per day, and 26 hours per year.

West Side Fire Station

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	10.76	1000sqft	0.89	10,760.00	0
Unrefrigerated Warehouse-No Rail	0.57	1000sqft	0.20	570.00	0
Parking Lot	16.00	Space	0.50	21,569.00	0
Other Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MMWhr)	390.98	CH4 Intensity (lb/MMWhr)	0.033	N2O Intensity (lb/MMWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Site = 1.59 acre + 1.0 acre of offsite Road Improvements = 2.59 acres disturbed
 Construction Phase - Grading Phase extended to 20 working days to account for export of dirt
 Grading - 40,041 cubic yards exported

Trips and VMT - 6 vendor trucks per day added to Site Preparation and Grading Phases to account for water truck emissions

Construction Off-road Equipment Mitigation - Water Exposed Area 2x per day selected to account for SCAQMD Rule 403 minimum requirements

Water Mitigation - Install low flow fixtures and use water-efficient Irrigation systems selected to account for Title 24 part 11 requirements

Stationary Sources - Emergency Generators and Fire Pumps - 50 kW (86 HP0 Diesel Generator 0.5 hr/day & 26 hr/year

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	PhaseEndDate	2/10/2023	3/2/2023
tblConstructionPhase	PhaseEndDate	1/13/2023	2/2/2023
tblConstructionPhase	PhaseEndDate	3/11/2022	3/31/2022
tblConstructionPhase	PhaseEndDate	1/27/2023	2/16/2023
tblConstructionPhase	PhaseStartDate	1/28/2023	2/17/2023
tblConstructionPhase	PhaseStartDate	3/12/2022	4/1/2022
tblConstructionPhase	PhaseStartDate	1/14/2023	2/3/2023
tblGrading	MaterialExported	0.00	40,041.00
tblLandUse	LandUseSquareFeet	6,400.00	21,569.00
tblLandUse	LotAcreage	0.25	0.89
tblLandUse	LotAcreage	0.01	0.20
tblLandUse	LotAcreage	0.14	0.50
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	86.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	26.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00

2.0 Emissions Summary

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2022	2.3809	49.2234	16.8143	0.1666	11.3664	1.1180	12.9843	4.7047	1.0423	5.7470	0.0000	17,563.73	17,563.73	0.8568	2,4376	18,311.56
2023	12.5279	14.1186	15.5266	0.0304	0.4298	0.6190	1.0487	0.1159	0.5931	0.7089	0.0000	2,842.298	2,842.298	0.5454	0.0429	2,866.135
Maximum	12.5279	49.2234	16.8143	0.1666	11.3664	1.1180	12.9843	4.7047	1.0423	5.7470	0.0000	17,563.73	17,563.73	0.8568	2,4376	18,311.56

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2022	2.3809	49.2234	16.8143	0.1666	7.8315	1.1180	8.9495	2.8000	1.0423	3.8423	0.0000	17,563.73	17,563.73	0.8568	2,4376	18,311.56
2023	12.5279	14.1186	15.5266	0.0304	0.4298	0.6190	1.0487	0.1159	0.5931	0.7089	0.0000	2,842.298	2,842.298	0.5454	0.0429	2,866.135
Maximum	12.5279	49.2234	16.8143	0.1666	7.8315	1.1180	8.9495	2.8000	1.0423	3.8423	0.0000	17,563.73	17,563.73	0.8568	2,4376	18,311.56

2.2 Overall Operational Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Area	0.2814	3.0000e-005	2.8900e-003	0.0000			1.0000e-005		1.0000e-005		6.2000e-003		2.0000e-005		6.6100e-003	
Energy	1.1200e-003	0.0102	8.5900e-003	6.0000e-005			7.8000e-004	7.8000e-004		7.8000e-004	12.2651	12.2651	2.4000e-004	2.2000e-004	12.3380	
Mobile	0.6927	0.7976	5.7865	0.0125			1.2185	9.7800e-003	0.3251	9.1600e-003	1.283.360	1.283.360	0.0690	0.0628	1.303.796	
Stationary	0.0706	0.2301	0.2561		3.4000e-004		0.0104	0.0104		0.0104	36.0991	36.0991	5.0600e-003	5.0600e-003	36.2256	
Total	1.0458	1.0380	6.0541	0.0129	1.2185	0.0210	1.2394	0.3251	0.2023	0.3454	1,331.730	1,331.730	4	0.0743	0.0630	1,352.366

2.2 Overall Operational Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															lb/day
Area	0.2814	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	6.2000e-003	2.0000e-003	6.2000e-003	0.05	6.6100e-003	
Energy	1.1200e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	12.2651	12.2651	12.2651	0.04	2.0000e-004	
Mobile	0.6927	0.7976	5.7865	0.0125	1.2185	9.7800e-003	1.2283	0.3251	9.1600e-003	0.3343	1,283.360	1,283.360	1,283.360	0	0.0690	
Stationary	0.0706	0.2301	0.2561	3.4000e-004		0.0104	0.0104		0.0104	0.0104	36.0991	36.0991	36.0991	5.0600e-003	36.2256	
Total	1.0458	1.0380	6.0541	0.0129	1.2185	0.0210	1.2394	0.3251	0.0203	0.3454	1,331.730	1,331.730	1,331.730	4	0.0743	
															0.0630	1,352.366
																9

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Weeks	Phase Description
1	Site Preparation	Site Preparation	3/1/2022	3/3/2022	5	3	
2	Grading	Grading	3/4/2022	3/31/2022	5	20	
3	Building Construction	Building Construction	4/1/2022	2/2/2023	5	220	
4	Paving	Paving	2/3/2023	2/16/2023	5	10	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase	Activity	Start Date	End Date	Amount	Usage Hours	Horse Power	Load Factor
5	Architectural Coating	1/21/2023	3/2/2023	1	6.00	78	0.48

Acres of Grading (Site Preparation Phase): 4.5**Acres of Grading (Grading Phase): 20****Acres of Paving: 1.5****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 16,995; Non-Residential Outdoor: 5,665; Striped Parking Area: 3,908
(Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	8.00	9	0.56
Paving	Cement and Mortar Mixers	1	8.00	231	0.29
Building Construction	Cranes	1	8.00	89	0.20
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	6.00	5,005.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	31.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2022**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day												lb/day			
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.3784	15.6673	10.0558	0.0245	0.5952	0.5952	0.5476	0.5476	0.5476	0.5476	2,375.156	2,375.156	0.7682	0.7682	0.7682	2,394.361
Total	1.3784	15.6673	10.0558	0.0245	1.5908	0.5952	2.1859	0.1718	0.5476	0.7193	2,375.156	2,375.156	0.7682	0.7682	0.7682	2,394.361

West Side Fire Station - Riverside-South Coast County, Summer

3.2 Site Preparation - 2022
Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7600e-003	0.2537	0.0882	1.0900e-003	0.0384	3.6600e-003	0.0421	0.0111	3.5000e-003	0.0146	115.7672	115.7672	1.2300e-003	0.0172	120.9138	
Worker	0.0315	0.0204	0.3189	8.1000e-004	0.0894	4.5000e-004	0.0899	0.0237	4.1000e-004	0.0241	82.6831	82.6831	2.0500e-003	0.03	83.3404	
Total	0.0413	0.2742	0.4072	1.9000e-003	0.1279	4.1100e-003	0.1320	0.0348	3.9100e-003	0.0387	198.4503	198.4503	3.2800e-003	0.0192	204.2542	

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3784	15.6673	10.0558	0.0245	0.5952	0.5952	0.5952	0.5476	0.5476	0.5476	2,375.156	2,375.156	0.7682	0.7682	2,394.361	3
Total	1.3784	15.6673	10.0558	0.0245	0.7158	0.0000	0.7158	0.0773	0.0773	0.0773	2,375.156	2,375.156	0.7682	0.7682	2,394.361	3

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SSAFE Vehicle Rule Applied**3.2 Site Preparation - 2022****Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7600e-003	0.2537	0.0882	1.0900e-003	0.0384	3.6600e-003	0.0421	0.0111	3.5000e-003	0.0146	115.7672	115.7672	1.2300e-003	0.0172	120.9138	
Worker	0.0315	0.0204	0.3189	8.1000e-004	0.0894	4.5000e-004	0.0899	0.0237	4.1000e-004	0.0241	82.6831	82.6831	2.0500e-003	0.03	83.3404	
Total	0.0413	0.2742	0.4072	1.9000e-003	0.1279	4.1100e-003	0.1320	0.0348	3.9100e-003	0.0387	198.4503	198.4503	3.2800e-003	0.0192	204.2542	

3.3 Grading - 2022**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					7.3361	0.0000	7.3361	3.4631	0.0000	3.4631			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206	0.7423	0.7423		0.6829	0.6829		1,995.482	1,995.482	0.6454		2,011.616	
Total	1.5403	16.9836	9.2202	0.0206	7.3361	0.7423	8.0784	3.4631	0.6829	4.1460	1,995.482	1,995.482	0.6454	2,011.616	9	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2022 Unmitigated Construction Off-Site

Mitigated Construction On-Site

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SSAFE Vehicle Rule Applied**3.3 Grading - 2022****Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.7914	31.9605	7.1073	0.1439	4.3800	0.3715	4.7515	1.2008	0.3554	1.5562	15.349.13	15.349.13	0.2076	2.4179	16,074.86	05
Vendor	9.7600e-003	0.2537	0.0882	1.0900e-003	0.0384	3.6600e-003	0.0421	0.0111	3.5000e-003	0.0146	115.7672	115.7672	1.2300e-003	0.0172	120.9138	
Worker	0.0394	0.0255	0.3987	1.0200e-003	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302	103.3839	103.3839	2.5600e-003	0.03	25,400e-003	104.1754
Total	0.8405	32.2398	7.5942	0.1460	4.5302	0.3757	4.9059	1.2415	0.3594	1.6010	15,568.25	15,568.25	0.2114	2.4376	16,299.94	97

3.4 Building Construction - 2022**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731	2,289.281	2,289.281	0.4417	0.4417	2,300.323	0
Total	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731	2,289.281	2,289.281	0.4417	0.4417	2,300.323	0

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SSAFE Vehicle Rule Applied

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
																lb/day
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0212	0.5497	0.1911	2.3700e-003	0.0833	7.9300e-003	0.0912	0.0240	7.5800e-003	0.0316	250.8289	250.8289	2.6500e-003	0.0372	261.9800	
Worker	0.1222	0.0792	1.2358	3.1500e-003	0.3465	1.7300e-003	0.3462	0.0919	1.5900e-003	0.0935	320.3971	320.3971	7.9400e-003	0.03	322.9439	
Total	0.1433	0.6289	1.4270	5.5200e-003	0.4298	9.6600e-003	0.4394	0.1159	9.1700e-003	0.1251	571.2261	571.2261	0.0106	0.0451	584.9238	

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
																lb/day
Off-Road	1.8555	14.6040	14.3533	0.0250	0.0250	0.7022	0.7022	0.6731	0.6731	0.0000	2,289.281	2,289.281	0.4417	0.4417	2,300.323	0
Total	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022	0.6731	0.6731	0.0000	2,289.281	2,289.281	0.4417	0.4417	2,300.323	0

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.4 Building Construction - 2022****Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0212	0.5497	0.1911	2.3700e-003	0.0833	7.9300e-003	0.0912	0.0240	7.5800e-003	0.0316	250.8289	250.8289	2.6500e-003	0.0372	261.9800	
Worker	0.1222	0.0792	1.2358	3.1500e-003	0.3465	1.7300e-003	0.3462	0.0919	1.5900e-003	0.0935	320.3971	320.3971	7.9400e-003	0.03	322.9439	
Total	0.1433	0.6289	1.4270	5.5200e-003	0.4298	9.6600e-003	0.4394	0.1159	9.1700e-003	0.1251	571.2261	571.2261	0.0106	0.0451	584.9238	

3.4 Building Construction - 2023**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880	2,289.523	2,289.523	0.4330		2,300.347	9
Total	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880	2,289.523	2,289.523	0.4330		2,300.347	9

West Side Fire Station - Riverside-South Coast County, Summer

3.4 Building Construction - 2023
Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0147	0.4247	0.1749	2.2700e-003	0.0833	3.7000e-003	0.0870	0.0240	3.5400e-003	0.0275	240.8523	240.8523	2.4600e-003	0.0356	251.5198	
Worker	0.1133	0.0700	1.1373	3.0500e-003	0.3465	1.6300e-003	0.3481	0.0919	1.5000e-003	0.0934	311.9229	311.9229	7.1200e-003	0.03	314.2682	
Total	0.1279	0.4947	1.3121	5.3200e-003	0.4298	5.3300e-003	0.4351	0.1159	5.0400e-003	0.1209	552.7752	552.7752	9.5800e-003	0.0429	565.7880	

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Off-Road	1.7136	13.6239	14.2145	0.0250	0.6136	0.6136	0.6136	0.5880	0.5880	0.0000	2,289.523	2,289.523	0.4330	3	2,300.347	9
Total	1.7136	13.6239	14.2145	0.0250	0.6136	0.6136	0.6136	0.5880	0.5880	0.0000	2,289.523	2,289.523	0.4330	3	2,300.347	9

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SSAFE Vehicle Rule Applied**3.4 Building Construction - 2023****Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0147	0.4247	0.1749	2.2700e-003	0.0833	3.7000e-003	0.0870	0.0240	3.5400e-003	0.0275	240.8523	240.8523	2.4600e-003	0.0356	251.5198	
Worker	0.1133	0.0700	1.1373	3.0500e-003	0.3465	1.6300e-003	0.3481	0.0919	1.5000e-003	0.0934	311.9229	311.9229	7.1200e-003	0.03	314.2682	
Total	0.1279	0.4947	1.3121	5.3200e-003	0.4298	5.3300e-003	0.4351	0.1159	5.0400e-003	0.1209	552.7752	552.7752	9.5800e-003	0.0429	565.7880	

3.5 Paving - 2023**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.8802	8.6098	11.6840	0.0179	0.4338	0.4338	0.4003	0.4003	0.4003	0.4003	1,709.992	1,709.992	0.5420	1,723.541	4	
Paving	0.3930				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total	1.2732	8.6098	11.6840	0.0179	0.4338	0.4338	0.4003	0.4003	0.4003	0.4003	1,709.992	1,709.992	0.5420	1,723.541	4	

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SSAFE Vehicle Rule Applied**3.5 Paving - 2023****Unmitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452	150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653	
Total	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452	150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653	

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Off-Road	0.8802	8.6098	11.6840	0.0179	0.4338	0.4338	0.4003	0.4003	0.4003	0.4003	1,709.992	1,709.992	0.5420	0.5420	1,723.541	
Paving	0.3930				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total	1.2732	8.6098	11.6840	0.0179	0.4338	0.4338	0.4003	0.4003	0.4003	0.4003	1,709.992	1,709.992	0.5420	0.5420	1,723.541	

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.5 Paving - 2023****Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452	150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653	
Total	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452	150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653	

3.6 Architectural Coating - 2023**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Archit. Coating	12.3143						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003	0.0708	0.0708		0.0708		0.0708	281.4481	281.4481	0.0168	0.0168	281.8690	
Total	12.5059	1.3030	1.8111	2.9700e-003	0.0708	0.0708		0.0708		0.0708	281.4481	281.4481	0.0168	0.0168	281.8690	

West Side Fire Station - Riverside-South Coast County, Summer

3.6 Architectural Coating - 2023
Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0219	0.0136	0.2201	5.9000e-004	0.0671	3.1000e-004	0.0674	0.0178	2.9000e-004	0.0181	60.3722	60.3722	1.3800e-003	1.4100e-003	60.8261	60.8261
Total	0.0219	0.0136	0.2201	5.9000e-004	0.0671	3.1000e-004	0.0674	0.0178	2.9000e-004	0.0181	60.3722	60.3722	1.3800e-003	1.4100e-003	60.8261	60.8261

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Archit. Coating	12.3143						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003	0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168	0.0168	281.4481	281.4481
Total	12.5059	1.3030	1.8111	2.9700e-003	0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168	0.0168	281.4481	281.4481

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
lb/day																	
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0219	0.0136	0.2201	5.9000e-004	0.0671	3.1000e-004	0.0674	0.0178	0.0181	60.3722	1.3800e-003	60.3722	1.3800e-003	60.3722	1.3800e-003	60.3722	1.3800e-003
Total	0.0219	0.0136	0.2201	5.9000e-004	0.0671	3.1000e-004	0.0674	0.0178	0.0181	60.3722	1.3800e-003	60.3722	1.3800e-003	60.3722	1.3800e-003	60.3722	1.3800e-003

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Mitigated	0.6927	0.7976	5.7865	0.0125	1.2185	9.7800e-003	1.2283	0.3251	9.1600e-003	0.3343	1.283.360	1.283.360	0.0690	0.0628	1,303.796	7
Unmitigated	0.6927	0.7976	5.7865	0.0125	1.2185	9.7800e-003	1.2283	0.3251	9.1600e-003	0.3343	1.283.360	1.283.360	0.0690	0.0628	1,303.796	7

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Annual VMT	Mitigated
	Weekday	Saturday	Sunday		
Government Office Building	243.07	0.00	0.00	408,835	408,835
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.99	0.99	0.99	4,251	4,251
Total	244.06	0.99	0.99	413,086	413,086

4.3 Trip Type Information

Land Use	Miles				Trip %	Trip Purpose		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W		Primary	Diverted	Pass-by
Government Office Building	16.60	8.40	6.90	33.00	62.00	5.00	50	34
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5

4.4 Fleet Mix

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAEFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Government Office Building	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Other Asphalt Surfaces	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Parking Lot	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Unrefrigerated Warehouse-No Rail	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
											lb/day				lb/day	
NaturalGas Mitigated	1.1200e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	12.2651	12.2651	2.4000e-004	2.4000e-004	12.3380	
NaturalGas Unmitigated	1.1200e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	12.2651	12.2651	2.4000e-004	2.4000e-004	12.3380	

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**5.2 Energy by Land Use - NaturalGas****Unmitigated**

Land Use	NaturalGas Use kBtu/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
		lb/day															
Government Office Building	101.115	1.0900e-003	9.9100e-003	8.3300e-003	6.0000e-005	0.0000	7.5000e-004	7.5000e-004	0.0000	7.5000e-004	7.5000e-004	11.8958	11.8958	2.3000e-004	2.2000e-004	11.9665	
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Unrefrigerated Warehouse-No Rail	3.1389	3.0000e-005	3.1000e-004	2.6000e-004	0.0000	0.0000	2.0000e-005	2.0000e-005	0.005	2.0000e-005	2.0000e-005	0.3693	0.3693	1.0000e-005	1.0000e-005	0.3715	
Total		1.1200e-003	0.0102	8.5300e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	12.2651	12.2651	2.4000e-004	2.4000e-004	12.3380	

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**5.2 Energy by Land Use - NaturalGas****Mitigated**

Land Use	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day															
Government Office Building	0.101115	1.0900e-003	9.9100e-003	8.3300e-003	6.0000e-005		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004	11.8958	11.8958	2.3000e-004	2.2000e-004	11.9665	
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Unrefrigerated Warehouse-No Rail	0.0031389	3.0000e-005	3.1000e-004	2.6000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.3693	0.3693	1.0000e-005	1.0000e-005	0.3715	
Total		1.1200e-003	0.0102	8.5300e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	12.2651	12.2651	2.4000e-004	2.4000e-004	12.3380	

6.0 Area Detail**6.1 Mitigation Measures Area**

West Side Fire Station - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Mitigated	0.2814	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	6.2000e-003	2.0000e-003	6.2000e-005	6.2000e-003	6.6100e-003	6.6100e-003
Unmitigated	0.2814	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	6.2000e-003	2.0000e-003	6.2000e-005	6.2000e-003	6.6100e-003	6.6100e-003

6.2 Area by SubCategory**Unmitigated**

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Architectural Coating	0.0337				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2474				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	6.2000e-003	2.0000e-003	6.2000e-005	6.2000e-003	6.6100e-003	6.6100e-003
Total	0.2814	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	6.2000e-003	2.0000e-003	6.2000e-005	6.2000e-003	6.6100e-003	6.6100e-003

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**6.2 Area by SubCategory****Mitigated**

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															lb/day
Architectural Coating	0.0337					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.2474					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.7000e-004	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.2000e-003	6.2000e-003	2.0000e-005		6.6100e-003
Total	0.2814	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.2000e-003	6.2000e-003	2.0000e-005		6.6100e-003

7.0 Water Detail**7.1 Mitigation Measures Water**

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

8.0 Waste Detail**8.1 Mitigation Measures Waste****9.0 Operational Offroad**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	26	86	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

Equipment Type	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
																lb/day
Emergency Generator - Diesel (75 - 100 HP)	0.0706	0.2301	0.2561	3.4000e-004		0.0104	0.0104		0.0104	0.0104	0.0104	36.0991	36.0991	5.0600e-003		36.2256
Total	0.0706	0.2301	0.2561	3.4000e-004		0.0104	0.0104		0.0104	0.0104	0.0104	36.0991	36.0991	5.0600e-003		36.2256

11.0 Vegetation

West Side Fire Station - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SSAFE Vehicle Rule Applied**West Side Fire Station**

Riverside-South Coast County, Winter

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	10.76	1000sqft	0.89	10,760.00	0
Unrefrigerated Warehouse-No Rail	0.57	1000sqft	0.20	570.00	0
Parking Lot	16.00	Space	0.50	21,569.00	0
Other Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MMWhr)	390.98	CH4 Intensity (lb/MMWhr)	0.033	N2O Intensity (lb/MMWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Site = 1.59 acre + 1.0 acre of offsite Road Improvements = 2.59 acres disturbed
 Construction Phase - Grading Phase extended to 20 working days to account for export of dirt
 Grading - 40,041 cubic yards exported

Trips and VMT - 6 vendor trucks per day added to Site Preparation and Grading Phases to account for water truck emissions

Construction Off-road Equipment Mitigation - Water Exposed Area 2x per day selected to account for SCAQMD Rule 403 minimum requirements

Water Mitigation - Install low flow fixtures and use water-efficient Irrigation systems selected to account for Title 24 part 11 requirements

Stationary Sources - Emergency Generators and Fire Pumps - 50 kW (86 HP0 Diesel Generator 0.5 hr/day & 26 hr/year
 Stationary Sources - Emergency Generators and Fire Pumps - 50 kW (86 HP0 Diesel Generator 0.5 hr/day & 26 hr/year

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	PhaseEndDate	2/10/2023	3/2/2023
tblConstructionPhase	PhaseEndDate	1/13/2023	2/2/2023
tblConstructionPhase	PhaseEndDate	3/11/2022	3/31/2022
tblConstructionPhase	PhaseEndDate	1/27/2023	2/16/2023
tblConstructionPhase	PhaseStartDate	1/28/2023	2/17/2023
tblConstructionPhase	PhaseStartDate	3/12/2022	4/1/2022
tblConstructionPhase	PhaseStartDate	1/14/2023	2/3/2023
tblGrading	MaterialExported	0.00	40,041.00
tblLandUse	LandUseSquareFeet	6,400.00	21,569.00
tblLandUse	LotAcreage	0.25	0.89
tblLandUse	LotAcreage	0.01	0.20
tblLandUse	LotAcreage	0.14	0.50
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	86.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	26.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00

2.0 Emissions Summary

West Side Fire Station - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2022	2.3402	50.9884	16.9372	0.1666	11.3664	1.1185	12.9848	4.7047	1.0428	5.7475	0.0000	17,565.84	17,565.84	0.8549	2,4396	18,314.21
2023	12.5265	14.1470	15.3187	0.0301	0.4298	0.6190	1.0487	0.1159	0.5931	0.7090	0.0000	2,813.603	2,813.603	0.5454	0.0432	2,837.525
Maximum	12.5265	50.9884	16.9372	0.1666	11.3664	1.1185	12.9848	4.7047	1.0428	5.7475	0.0000	17,565.84	17,565.84	0.8549	2,4396	18,314.21

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2022	2.3402	50.9884	16.9372	0.1666	7.8315	1.1185	8.9500	2.8000	1.0428	3.8428	0.0000	17,565.84	17,565.84	0.8549	2,4396	18,314.21
2023	12.5265	14.1470	15.3187	0.0301	0.4298	0.6190	1.0487	0.1159	0.5931	0.7090	0.0000	2,813.603	2,813.603	0.5454	0.0432	2,837.525
Maximum	12.5265	50.9884	16.9372	0.1666	7.8315	1.1185	8.9500	2.8000	1.0428	3.8428	0.0000	17,565.84	17,565.84	0.8549	2,4396	18,314.21

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the *SAFE* Vehicle Rule Applied

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Area	0.2814	3.0000e-005	2.8900e-003	0.0000	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	6.2000e-003	6.2000e-003	2.0000e-005	6.6100e-003			
Energy	1.1200e-003	0.0102	8.5900e-003	6.0000e-005	7.8000e-004	7.8000e-004	7.8000e-004	7.8000e-004	7.8000e-004	12.2651	12.2651	2.4000e-004	2.2000e-004	12.3380		
Mobile	0.5781	0.8451	5.1981	0.0116	1.2185	9.7900e-003	1.2283	0.3251	0.3343	1.192660	1.192660	0.0716	0.0642	1.213.569	1	
Stationary	0.0706	0.2301	0.2561	3.4000e-004	0.0104	0.0104	0.0104	0.0104	0.0104	36.0991	36.0991	5.0600e-003	5.0600e-003	36.2256		
Total	0.9312	1.0355	5.4656	0.0120	1.2185	0.0210	1.2394	0.3251	0.0203	0.3454	6	6	1,241.030	1,241.030	0.0769	0.0644
															4	1,262.139

2.2 Overall Operational Unmitigated Operational

2.2 Overall Operational Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
	lb/day															lb/day	
Area	0.2814	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	6.2000e-003	2.0000e-003	6.2000e-003	6.6100e-003			
Energy	1.1200e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	12.2651	12.2651	2.4000e-004	2.0000e-004	12.3380		
Mobile	0.5781	0.8451	5.1981	0.0116	1.2185	9.7900e-003	1.2283	0.3251	9.1700e-003	0.3343	1,192.660	1,192.660	0.0716	0.0642	1,213.569	1	
Stationary	0.0706	0.2301	0.2561	3.4000e-004		0.0104	0.0104		0.0104	0.0104	36.0991	36.0991	5.0600e-003	5.0600e-003	36.2256		
Total	0.9312	1.0855	5.4656	0.0120	1.2185	0.0210	1.2394	0.3251	0.0203	0.3454	6	1,241.030	6	0.0769	0.0644	1,262.139	4

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Weeks	Phase Description
1	Site Preparation	Site Preparation	3/1/2022	3/3/2022	5	3	
2	Grading	Grading	3/4/2022	3/31/2022	5	20	
3	Building Construction	Building Construction	4/1/2022	2/2/2023	5	220	
4	Paving	Paving	2/3/2023	2/16/2023	5	10	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase	Activity	Phase Start Date	Phase End Date	5'	10'
5	Architectural Coating	1/21/2023	3/2/2023	5'	10'

Acres of Grading (Site Preparation Phase): 4.5**Acres of Grading (Grading Phase): 20****Acres of Paving: 1.5****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 16,995; Non-Residential Outdoor: 5,665; Striped Parking Area: 3,908 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	6.00	5,005.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	31.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day												lb/day			
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.3784	15.6673	10.0558	0.0245	0.5952	0.5952	0.5476	0.5476	0.5476	0.5476	2,375.156	2,375.156	0.7682	0.7682	0.7682	2,394.361
Total	1.3784	15.6673	10.0558	0.0245	1.5908	0.5952	2.1859	0.1718	0.5476	0.7193	2,375.156	2,375.156	0.7682	0.7682	0.7682	2,394.361

3.2 Site Preparation - 2022

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.3500e-003	0.2673	0.0916	1.0900e-003	0.0384	3.6700e-003	0.0421	0.0111	3.5100e-003	0.0146	115.8935	115.8935	1.2100e-003	0.0172	121.0492	
Worker	0.0295	0.0212	0.2585	7.4000e-004	0.0894	4.5000e-004	0.0899	0.0237	4.1000e-004	0.0241	74.8939	74.8939	2.0300e-003	0.03	75.5652	
Total	0.0388	0.2885	0.3501	1.8300e-003	0.1279	4.1200e-003	0.1320	0.0348	3.9200e-003	0.0387	190.7874	190.7874	3.2400e-003	0.0193	196.6144	

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust																
Off-Road	1.3784	15.6673	10.0558	0.0245	0.5952	0.5952	0.5952	0.5476	0.5476	0.5476	0.0000	2.375.156	2.375.156	0.7682	0.0000	2.394.361
Total	1.3784	15.6673	10.0558	0.0245	0.7158	0.0000	0.7158	0.0773	0.0773	0.0773	0.0000	2.375.156	2.375.156	0.7682	0.0000	2.394.361

3.2 Site Preparation - 2022

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.3500e-003	0.2673	0.0916	1.0900e-003	0.0384	3.6700e-003	0.0421	0.0111	3.5100e-003	0.0146	115.8935	115.8935	1.2100e-003	0.0172	121.0492	
Worker	0.0295	0.0212	0.2585	7.4000e-004	0.0894	4.5000e-004	0.0899	0.0237	4.1000e-004	0.0241	74.8939	74.8939	2.0300e-003	0.03	20.0800e-003	75.5652
Total	0.0388	0.2885	0.3501	1.8300e-003	0.1279	4.1200e-003	0.1320	0.0348	3.9200e-003	0.0387	190.7874	190.7874	3.2400e-003	0.0193	196.6144	

3.3 Grading - 2022

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					7.3361	0.0000	7.3361	3.4631	0.0000	3.4631			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206	0.7423	0.7423	0.7423	0.6829	0.6829	0.6829	1.995.482	1.995.482	0.6454	5	5	2.011.616
Total	1.5403	16.9836	9.2202	0.0206	7.3361	0.7423	8.0784	3.4631	0.6829	4.1460	1.995.482	1.995.482	0.6454	5	5	2.011.616

West Side Fire Station - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2022

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
					lb/day						lb/day					
Hauling	0.7537	33.7710	7.3024	0.1440	4.3800	0.3720	4.7520	1.2008	0.3559	1.5567	15.360.85	0.2058	2.4198	16,087.08	83	
Vendor	9.3500e-003	0.2673	0.0916	1.0900e-003	0.0384	3.6700e-003	0.0421	0.0111	3.5100e-003	0.0146	115.8935	1.2100e-003	0.0172	121.0492		
Worker	0.0368	0.0265	0.3231	9.2000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302	93.6174	2.5400e-003	0.03	94.4564		
Total	0.7998	34.0048	7.7171	0.1460	4.5302	0.3762	4.9064	1.2415	0.3599	1.6015	15,570.36	0.2095	2.4396	16,302.59	39	

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
					lb/day						lb/day						
Fugitive Dust					3.3013	0.0000	3.3013	1.5584	0.0000	1.5584		0.0000			0.0000		
Off-Road	1.5403	16.9836	9.2202	0.0206	0.7423	0.7423	0.7423	0.6829	0.6829	0.6829	1,995.482	0.5	5	0.6454	2,011.616	9	
Total	1.5403	16.9836	9.2202	0.0206	3.3013	0.7423	4.0435	1.5584	0.6829	2.2413	0.0000	1,995.482	5	5	0.6454	2,011.616	9

West Side Fire Station - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.3 Grading - 2022****Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.7537	33.7710	7.3024	0.1440	4.3800	0.3720	4.7520	1.2008	0.3559	1.5567	15.360.85	0.01	15.360.85	0.2058	2.4198	16,087.08
Vendor	9.3500e-003	0.2673	0.0916	1.0900e-003	0.0384	3.6700e-003	0.0421	0.0111	3.5100e-003	0.0146	115.8935	115.8935	1.2100e-003	0.0172	121.0492	83
Worker	0.0368	0.0265	0.3231	9.2000e-004	0.1118	5.6000e-004	0.1123	0.0296	5.1000e-004	0.0302	93.6174	93.6174	2.5400e-003	0.03	26,000e-003	94.4564
Total	0.7998	34.0048	7.7171	0.1460	4.5302	0.3762	4.9064	1.2415	0.3599	1.6015	15,570.36	0.09	15,570.36	0.2095	2.4396	16,302.59

3.4 Building Construction - 2022**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.8555	14.6040	14.3533	0.0250	0.7022	0.7022	0.7022	0.6731	0.6731	0.6731	2,289.281	3	2,289.281	0.4417	0.4417	2,300.322
Total	1.8555	14.6040	14.3533	0.0250	0.7022	0.7022	0.7022	0.6731	0.6731	0.6731	2,289.281	3	2,289.281	0.4417	0.4417	2,300.322

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0203	0.5791	0.1985	2.3700e-003	0.0833	7.9500e-003	0.0912	0.0240	7.6000e-003	0.0316	251.1025	251.1025	2.6100e-003	0.0373	262.2733	
Worker	0.1141	0.0822	1.0016	2.8500e-003	0.3465	1.7300e-003	0.3462	0.0919	1.5900e-003	0.0935	290.2139	290.2139	7.8800e-003	8.0700e-003	292.8149	
Total	0.1344	0.6613	1.2000	5.2200e-003	0.4298	9.6800e-003	0.4394	0.1159	9.1900e-003	0.1251	541.3164	541.3164	0.0105	0.0453	555.0882	

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Off-Road	1.8555	14.6040	14.3533	0.0250	0.0250	0.7022	0.7022	0.6731	0.6731	0.0000	2,289.281	2,289.281	0.4417	0.4417	2,300.323	0
Total	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022	0.6731	0.6731	0.0000	2,289.281	2,289.281	0.4417	0.4417	2,300.323	0

West Side Fire Station - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SSAFE Vehicle Rule Applied**3.4 Building Construction - 2022****Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0203	0.5791	0.1985	2.3700e-003	0.0833	7.9500e-003	0.0912	0.0240	7.6000e-003	0.0316	251.1025	251.1025	2.6100e-003	0.0373	262.2733	
Worker	0.1141	0.0822	1.0016	2.8500e-003	0.3465	1.7300e-003	0.3462	0.0919	1.5900e-003	0.0935	290.2139	290.2139	7.8800e-003	0.03	292.8149	
Total	0.1344	0.6613	1.2000	5.2200e-003	0.4298	9.6800e-003	0.4394	0.1159	9.1900e-003	0.1251	541.3164	541.3164	0.0105	0.0453	555.0882	

3.4 Building Construction - 2023**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Off-Road	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880	2,289.523	2,289.523	0.4330	3	2,300.347	9
Total	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880	2,289.523	2,289.523	0.4330	3	2,300.347	9

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0136	0.4504	0.1808	2.2800e-003	0.0833	3.7100e-003	0.0870	0.0240	3.5560e-003	0.0275	241.4500	241.4500	2.4100e-003	0.0357	252.1516	
Worker	0.1062	0.0726	0.9235	2.7600e-003	0.3465	1.6300e-003	0.3481	0.0919	1.5000e-003	0.0934	282.6302	282.6302	7.1000e-003	0.03	285.0257	
Total	0.1197	0.5230	1.1043	5.0400e-003	0.4298	5.3400e-003	0.4351	0.1159	5.0500e-003	0.1209	524.0802	524.0802	9.5100e-003	0.0432	537.1773	

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Off-Road	1.7136	13.6239	14.2145	0.0250	0.6136	0.6136	0.6136	0.5880	0.5880	0.0000	2,289.523	2,289.523	0.4330	3	2,300.347	9
Total	1.7136	13.6239	14.2145	0.0250	0.6136	0.6136	0.6136	0.5880	0.5880	0.0000	2,289.523	2,289.523	0.4330	3	2,300.347	9

West Side Fire Station - Riverside-South Coast County, Winter

3.4 Building Construction - 2023
Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0136	0.4504	0.1808	2.2800e-003	0.0833	3.7100e-003	0.0870	0.0240	3.55600e-003	0.0275	241.4500	241.4500	2.4100e-003	0.0357	252.1516	
Worker	0.1062	0.0726	0.9235	2.7600e-003	0.3465	1.6300e-003	0.3481	0.0919	1.5000e-003	0.0934	282.6302	282.6302	7.1000e-003	0.03	285.0257	
Total	0.1197	0.5230	1.1043	5.0400e-003	0.4298	5.3400e-003	0.4351	0.1159	5.0500e-003	0.1209	524.0802	524.0802	9.5100e-003	0.0432	537.1773	

3.5 Paving - 2023**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.8802	8.6098	11.6840	0.0179	0.4338	0.4338	0.4003	0.4003	0.4003	1,709.992	1,709.992	0.5420	1,723.541	4		
Paving	0.3930				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total	1.2732	8.6098	11.6840	0.0179	0.4338	0.4338	0.4003	0.4003	0.4003	1,709.992	1,709.992	0.5420	1,723.541	4		

West Side Fire Station - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.5 Paving - 2023****Unmitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452	136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157	
Total	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452	136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157	

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Off-Road	0.8802	8.6098	11.6840	0.0179	0.4338	0.4338	0.4003	0.4003	0.4003	0.4003	1,709.992	1,709.992	0.5420	0.5420	1,723.541	
Paving	0.3930				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total	1.2732	8.6098	11.6840	0.0179	0.4338	0.4338	0.4003	0.4003	0.4003	0.4003	1,709.992	1,709.992	0.5420	0.5420	1,723.541	

West Side Fire Station - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SSAFE Vehicle Rule Applied**3.5 Paving - 2023****Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452	136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157	
Total	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452	136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157	

3.6 Architectural Coating - 2023**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category																
Archit. Coating	12.3143						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003	0.0708	0.0708	0.0708	0.0708	0.0708	0.0708	281.4481	281.4481	0.0168	0.0168	281.8690	
Total	12.5059	1.3030	1.8111	2.9700e-003	0.0708	0.0708	0.0708	0.0708	0.0708	0.0708	281.4481	281.4481	0.0168	0.0168	281.8690	

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
																	lb/day	
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	lb/day	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	lb/day	
Worker	0.0206	0.0141	0.1787	5.3000e-004	0.0671	3.1000e-004	0.0674	0.0178	2.9000e-004	0.0181	54.7026	54.7026	1.3700e-003	1.4400e-003	55.1663			
Total	0.0206	0.0141	0.1787	5.3000e-004	0.0671	3.1000e-004	0.0674	0.0178	2.9000e-004	0.0181	54.7026	54.7026	1.3700e-003	1.4400e-003	55.1663			

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
																	lb/day	
Archit. Coating	12.3143						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	lb/day	
Off-Road	0.1917	1.3030	1.8111	2.9700e-003	0.0708	0.0708	0.0708	0.0708	0.0708	0.0708	0.0000	281.4481	281.4481	0.0168	0.0168	281.8690		
Total	12.5059	1.3030	1.8111	2.9700e-003	0.0708	0.0708	0.0708	0.0708	0.0708	0.0708	0.0000	281.4481	281.4481	0.0168	0.0168	281.8690		

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0206	0.0141	0.1787	5.3000e-004	0.0671	3.1000e-004	0.0674	0.0178	0.0181	2.9000e-004	0.0181	54.7026	54.7026	1.3700e-003	1.4400e-003	55.1663
Total	0.0206	0.0141	0.1787	5.3000e-004	0.0671	3.1000e-004	0.0674	0.0178	0.0181	2.9000e-004	0.0181	54.7026	54.7026	1.3700e-003	1.4400e-003	55.1663

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

West Side Fire Station - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Mitigated	0.5781	0.8451	5.1931	0.0116	1.2185	9.7900e-003	1.2283	0.3251	9.1700e-003	0.3343	1.192,660	1.192,660	0.0716	0.0642	1,213,569	1
Unmitigated	0.5781	0.8451	5.1981	0.0116	1.2185	9.7900e-003	1.2283	0.3251	9.1700e-003	0.3343	1.192,660	1.192,660	0.0716	0.0642	1,213,569	1

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Annual VMT	Mitigated
	Weekday	Saturday	Sunday		
Government Office Building	243.07	0.00	0.00	408,835	408,835
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.99	0.99	0.99	4,251	4,251
Total	244.06	0.99	0.99	413,086	413,086

4.3 Trip Type Information

Land Use	Miles				Trip %	Trip Purpose		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W		Primary	Diverted	Pass-by
Government Office Building	16.60	8.40	6.90	33.00	62.00	5.00	50	34
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAEFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Government Office Building	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Other Asphalt Surfaces	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Parking Lot	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Unrefrigerated Warehouse-No Rail	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
											lb/day				lb/day	
NaturalGas Mitigated	1.1200e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	12.2651	12.2651	2.4000e-004	2.4000e-004	12.3380	
NaturalGas Unmitigated	1.1200e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	12.2651	12.2651	2.4000e-004	2.4000e-004	12.3380	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**5.2 Energy by Land Use - NaturalGas****Unmitigated**

Land Use	NaturalGas Use kBtu/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
		lb/day															
Government Office Building	101.115	1.0900e-003	9.9100e-003	8.3300e-003	6.0000e-005	0.0000	7.5000e-004	7.5000e-004	0.0000	7.5000e-004	7.5000e-004	11.8958	11.8958	2.3000e-004	2.2000e-004	11.9665	
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Unrefrigerated Warehouse-No Rail	3.1389	3.0000e-005	3.1000e-004	2.6000e-004	0.0000	0.0000	2.0000e-005	2.0000e-005	0.005	2.0000e-005	2.0000e-005	0.3693	0.3693	1.0000e-005	1.0000e-005	0.3715	
Total		1.1200e-003	0.0102	8.5300e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	12.2651	12.2651	2.4000e-004	2.4000e-004	12.3380	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**5.2 Energy by Land Use - NaturalGas****Mitigated**

Land Use	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	kBTU/yr	lb/day															
Government Office Building	0.101115	1.0900e-003	9.9100e-003	8.3300e-003	6.0000e-005		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004	11.8958	11.8958	2.3000e-004	2.2000e-004	11.9665	
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Unrefrigerated Warehouse-No Rail	0.0031389	3.0000e-005	3.1000e-004	2.6000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.3693	0.3693	1.0000e-005	1.0000e-005	0.3715	
Total		1.1200e-003	0.0102	8.5300e-003	6.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	12.2651	12.2651	2.4000e-004	2.4000e-004	12.3380	

6.0 Area Detail**6.1 Mitigation Measures Area**

West Side Fire Station - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Mitigated	0.2814	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	6.2000e-003	6.2000e-003	2.0000e-005	6.2000e-005	6.6100e-003	
Unmitigated	0.2814	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	6.2000e-003	6.2000e-003	2.0000e-005	6.2000e-005	6.6100e-003	

6.2 Area by SubCategory**Unmitigated**

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Architectural Coating	0.0337					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2474					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004					1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	6.2000e-003	6.2000e-003	2.0000e-005	6.2000e-005	6.6100e-003	
Total	0.2814	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	6.2000e-003	6.2000e-003	2.0000e-005	6.2000e-005	6.6100e-003	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**6.2 Area by SubCategory****Mitigated**

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															lb/day
Architectural Coating	0.0337					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.2474					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.7000e-004	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.2000e-003	6.2000e-003	2.0000e-005		6.6100e-003
Total	0.2814	3.0000e-005	2.8900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.2000e-003	6.2000e-003	2.0000e-005		6.6100e-003

7.0 Water Detail**7.1 Mitigation Measures Water**

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

8.0 Waste Detail**8.1 Mitigation Measures Waste****9.0 Operational Offroad**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	26	86	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

Equipment Type	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
																lb/day
Emergency Generator - Diesel (75 - 100 HP)	0.0706	0.2301	0.2561	3.4000e-004		0.0104	0.0104		0.0104	0.0104	0.0104	36.0991	5.0600e-003	36.2256		
Total	0.0706	0.2301	0.2561	3.4000e-004		0.0104	0.0104		0.0104	0.0104	0.0104	36.0991	5.0600e-003	36.2256		

11.0 Vegetation

APPENDIX B – MSHCP CONSISTENCY ANALYSIS

**Western Riverside County MSHCP - Consistency Analysis
West Side Fire Station Project
City of Beaumont, California**

DRAFT REPORT



APNs - Portions of 414-120-039, -041, -042, and ROW's

Permittee Name:

City of Beaumont
550 E. 6th Street
Beaumont, California 92223

Applicant:

City of Beaumont
550 E. 6th Street
Beaumont, California 92223
Contact: Christina Taylor (951) 769-8515

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1. EXECUTIVE SUMMARY

The West Side Fire Station, 1.59-acre project including 1.64-acre offsite impact area (3.23 acres total) “Project Site” (APN’s Portions of 141-120-041, -042 and future Western Knoll Avenue right-of-way) is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Pass Area Plan, Subunit 2 – Badlands/San Bernardino National Forest. Specifically, the Project Site is located completely within MSHCP Criteria Area 1015. Conservation within Criteria Cell 1015 (155 acres total) will focus on the conservation of approximately 5% (7.8 acres) of chaparral habitat in the northern region of the Cell adjacent to Criteria Cell 935. A total of approximate 8.5 acres (5.5%) of chaparral habitat is located in the northern region of Criteria Cell 1015, is approximately 600 feet north of the Project Site, and would not be directly or indirectly impacted as a result of project initiation. The proposed project would not conflict with the reserve design goals for Criteria Cell 1015 and no onsite conservation is proposed or required.

The proposed action is a City of Beaumont project and therefore, a Habitat Evaluation and Acquisition Negotiation Strategy (HANS) determination is not required. The following report was prepared for use during the Joint Project Review (JPR) and analysis of consistency with the MSHCP reserve design and guidelines.

The Project Site is not located within a MSHCP Survey area for criteria area plants, amphibians, or mammals (RCA GIS Data Downloads 2021). No additional surveys required.

The Project Site occurs within a predetermined Survey Area for the burrowing owl (*Athene cunicularia*). No potential burrowing owl burrows or characteristic sign such as white-wash, feathers, tracks, or pellets were detected within or immediately adjacent to the Project Site. The Project Site is not currently occupied by burrowing owl. Regardless, the species could colonize the project in the future and an MSHCP 30-day preconstruction survey will be conducted immediately prior to the initiation of project activities to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP.

The Project Site occurs within a predetermined Survey Area for two (2) MSHCP narrow endemic plant species (RCA GIS Data Downloads 2021), which include Marvin's (Yucaipa) onion (*Allium marvinii*) [CRPR 1B.2], and many-stemmed dudleya (*Dudleya multicaulis*) [CRPR 1B.2]. No undisturbed vegetation communities or suitable clay substrates representing suitable habitat for these species was documented within the Project Site. No additional surveys required.

No MSHCP Section 6.1.2, riparian scrub, forest or woodland habitat is located within or adjacent to the Project Site. Therefore, no suitable habitat for the following three (3) MSHCP Section 6.1.2 species was documented within the Project Site including least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus*). No additional surveys required.

No Section 6.1.2 vernal pool, ephemeral depressions, stock ponds, or road ruts were documented within the Project Site. Following a review of soils and historic aerials, no vernal pool or fairy shrimp habitat is present within the Project Site. No additional surveys required.

An approximately 0.07-acre incised ravine dominated by non-native grassland/ruderal and Riversidean sage scrub vegetation extends into the northern region of the Project Site. This feature represents an MSHCP Section 6.1.2 riverine resource. Impacts to this feature would require the development of an MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP). To meet the criteria of a biologically equivalent or superior alternative,

the applicant will offset permanent impacts to 0.07-acre of MSHCP Section 6.1.2 riverine resources (ravine) located within the northern region of the Project Site by:

- 1) Purchasing 0.07 acre (1:1) of re-establishment credits from the Riverpark Mitigation Bank located within the San Jacinto watershed, and
- 2) Purchasing 0.07 acre (1:1) of re-habilitation credits from the Riverpark Mitigation Bank located within the San Jacinto watershed.

One (1) of the twenty-eight (28) MSHCP species not adequately covered has the potential to occur within the Project Site impact area. The grasshopper sparrow (*Ammodramus savannarum*) has potential to occur onsite based on the presence of suitable non-native grassland and large open space land adjacent to the Project Site. Impacts to 1.85 acres of non-native grassland/ruderal habitat would not conflict with conservation goals for the species because the MSHCP characterizes core conservation areas as consisting of large, >2,000 acres of grassland habitat or grassland-dominated habitat or smaller areas consisting of at least 500 acres of contiguous grassland habitat or grassland-dominated habitat (MSHCP 2004).

The Project Site would not be located adjacent to a proposed MSHCP Conservation Area. Regardless, as addressed in the following report all proposed Urban/Wildlands Interface Guidelines (UWIG) and Best Management Practices (BMP) will be implemented. Following implementation of the UWIG and BMP's the proposed action would be Consistent with MSHCP goals and objectives for Criteria Cell 1015.

2. INTRODUCTION

This document presents the results of a Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis (Analysis) and habitat assessment conducted on August 27th, 2020 by Cadre Environmental for the proposed West Side Fire Station project. Specifically, the following report presents existing conditions, impact assessment and proposed best management practices to ensure compliance and consistency with MSHCP goals and objectives of the Reserve System.

2.1. Project Site Description

The West Side Fire Station, 1.59-acre project including 1.64-acre offsite impact area "Project Site" (APN's Portions of 141-120-039, -041, -042 and future Western Knoll Avenue right-of-way) is located within the City of Beaumont, extending east of Potrero Boulevard and north of the future realignment of Western Knoll Avenue right of way as shown in Figure 1, *Regional Location Map* and Figure 2, *Project Site Map*. The Project Site is located within United States Geological Survey (USGS) 7.5' Series El Casco Quadrangle, Township 3 South, Range 1, Section 5.

The Project Site is located within the Western Riverside County Multiple Species Habitat Conservation Plan Pass Area Plan, Subunit 2 – Badlands/San Bernardino National Forest. Specifically, the Project Site is located completely within MSHCP Criteria Area 1015 as shown in Figure 3, *MSHCP Criteria Area and Relationship Map*. The proposed action is a City of Beaumont project and therefore, a Habitat Evaluation and Acquisition Negotiation Strategy determination is not required. The following report was prepared for use during the Joint Project Review and analysis of consistency with the MSHCP reserve design and guidelines.

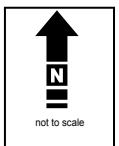


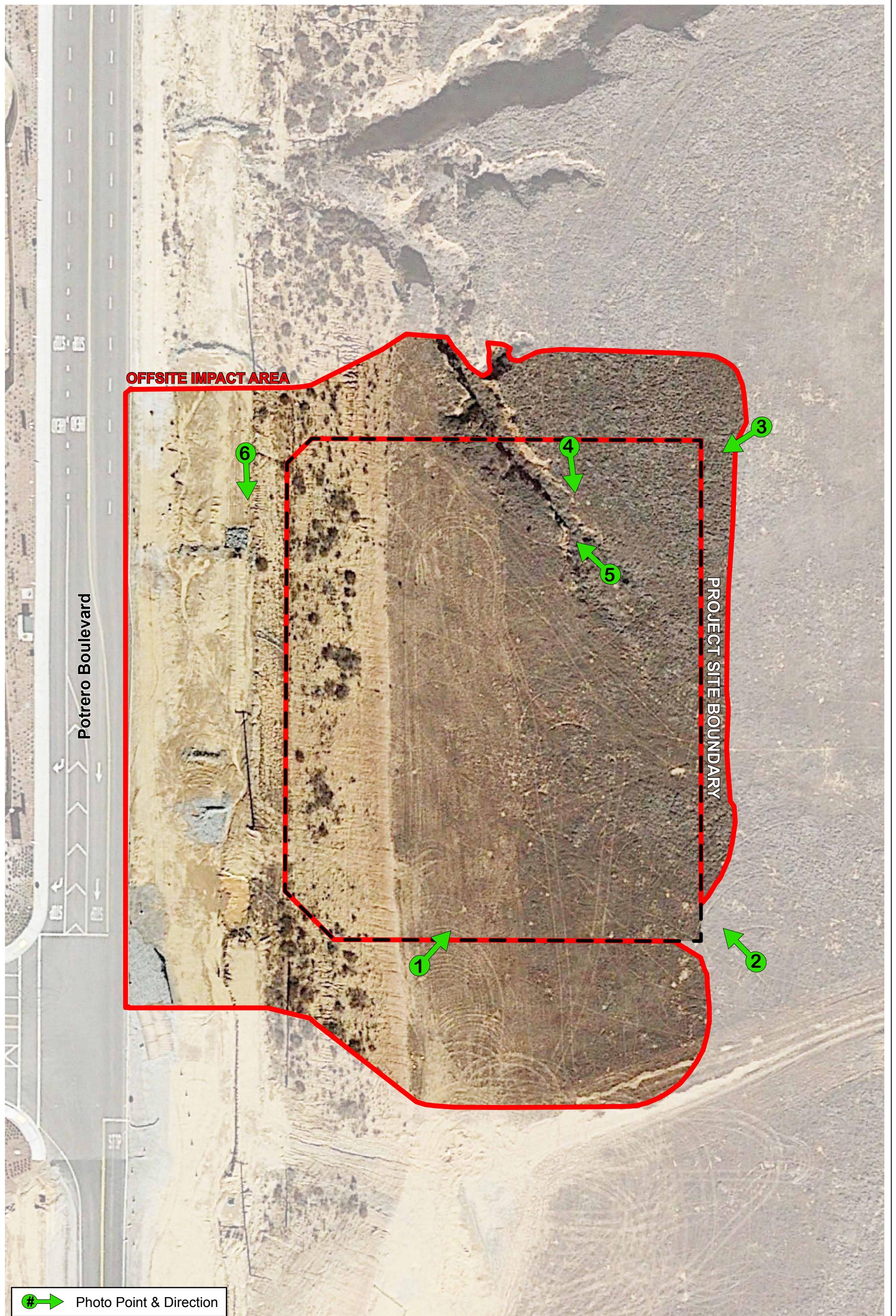
APNs Portions of 414-120-039, -041, -042, and ROW's

Figure 1 - Regional Location Map

*MSHCP Consistency Analysis
West Side Fire Station Project, City of Beaumont*

CADRE
Environmental





→ Photo Point & Direction

APNs Portions of 414-120-039, -041, -042, and ROW's

Figure 2 - Project Site Map
MSHCP Consistency Analysis
West Side Fire Station Project, City of Beaumont

CADRE
Environmental

↑
N
1 inch = 50 feet

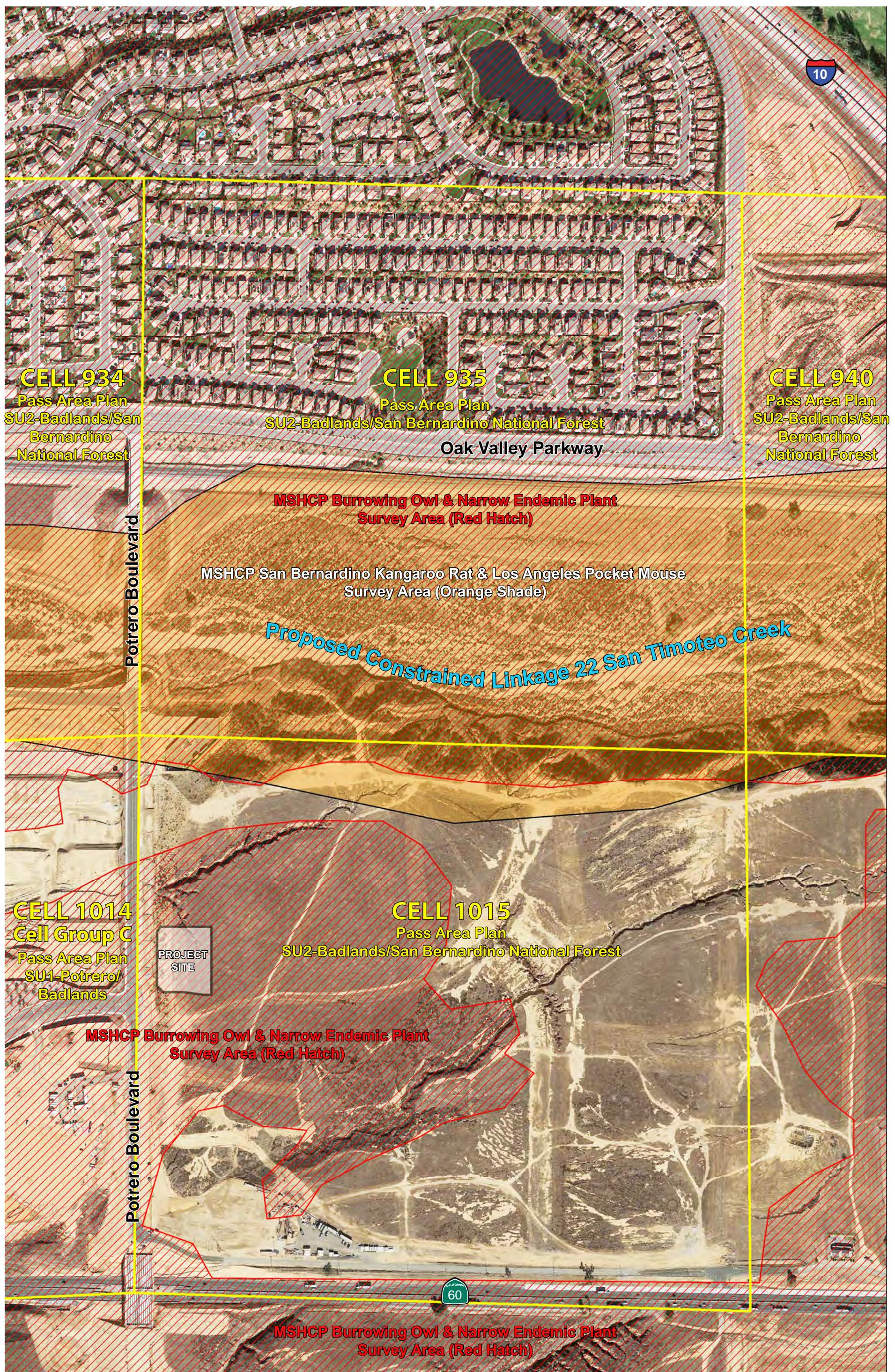


Figure 3 - MSHCP Criteria Area and Relationship Map

MSHCP Consistency Analysis
West Side Fire Station Project, City of Beaumont

CADRE
Environmental

N
1 inch = 400 feet

The proposed project includes the development and construction of a fire station for the Riverside County Fire Department including offsite impacts related to creating both a northern and southern access route to the facility via Potrero Boulevard to the west. Specifically, the facility will include a Type V-B fire station, dormitories, and staff/visitor parking. Drainage runoff from the Project Site will be captured and directed to an underground storage and infiltration system for water quality treatment. The proposed action would result in a total of 3.23 acres of permanent impacts within Criteria Cell 1015 as outlined in Table 1, *Project Site Impacts*.

Table 1
Project Site Impacts

Vegetation Community	Onsite Cell 1015 (acres)	Offsite Cell 1015 (acres)	Total Impacts (acres)
Non-Native Grassland/Ruderal	1.16	0.69	1.85
Riversidean Sage Scrub	0.22	0.20	0.42
Disturbed/Developed	0.21	0.75	0.96
TOTAL	1.59	1.64	3.23

2.2. Covered Roads

The proposed project does not propose improvements or construction of one or more covered roads.

2.3. Covered Public Access Activities

The proposed project does not include covered public access activities including but not limited to construction or improvements to trails or other public access facilities.

2.4. General Setting

The Project Site is dominated by non-native grassland/ruderal, Riversidean sage scrub and disturbed habitats. A ravine extends into the northern region of the Project Site and is dominated by non-native grassland/ruderal habitat and isolated patches of Riversidean Sage Scrub. The Project site also slopes west along a manufactured slope toward the Potrero Boulevard right-of-way. The slope is dominated by Riversidean sage scrub and disturbed habitats as illustrated in Figure 4, *Vegetation Communities Map*, and Figures 5 to 7, *Current Project Site Photographs*.

The Soil Survey of Western Riverside Area has the following soils mapped within the boundary of the Project Site as shown on Figure 8, *Soils Association Map*:

- RaB2 – Ramona sandy loam, 2 to 5 percent eroded
- RaC3 – Ramona sandy loam, 5 to 8 percent slopes, severely eroded

3. RESERVE ASSEMBLY ANALYSIS

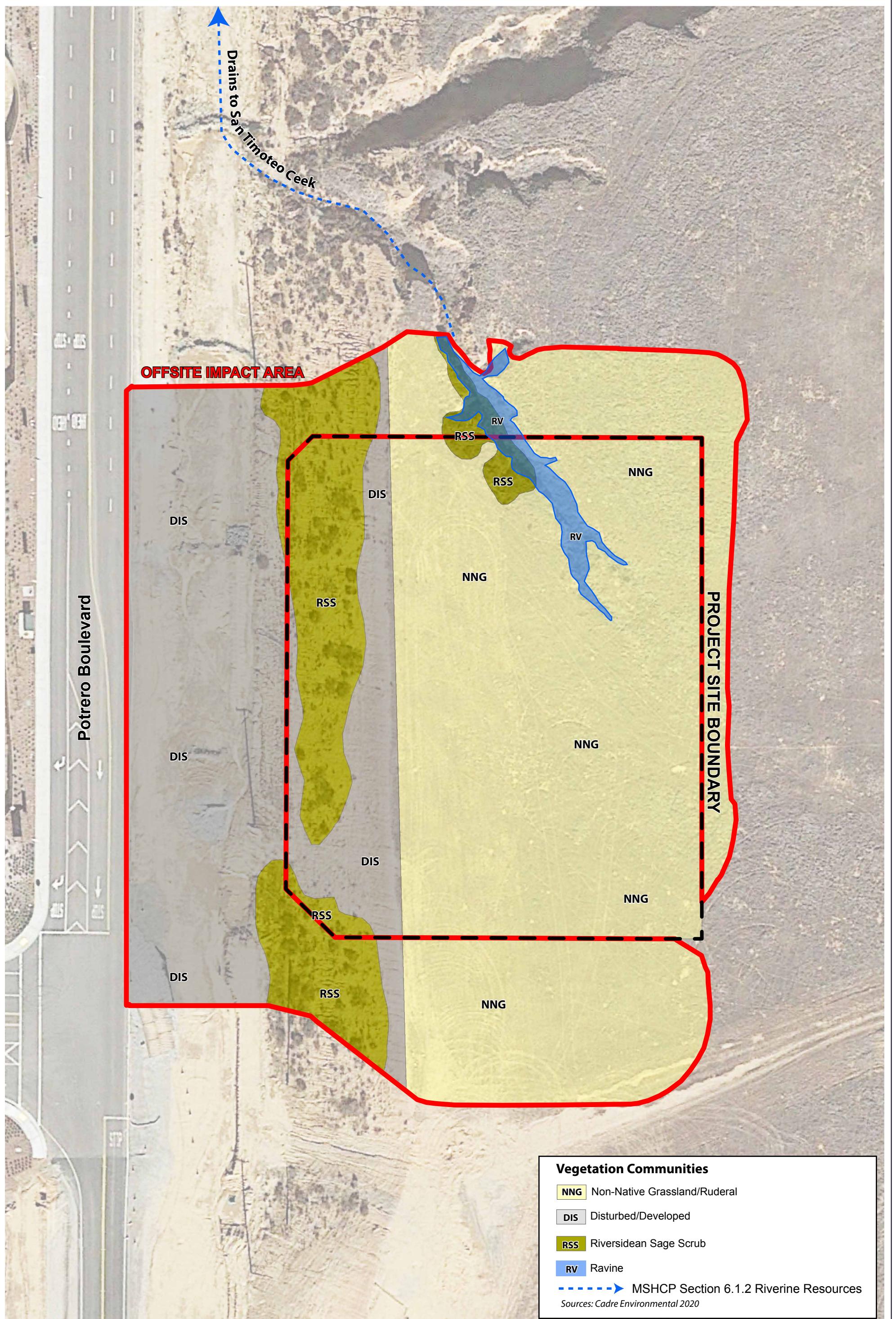
The proposed action would result in a total of 3.23-acres of permanent impacts within Portions of 141-120-039, -041, -042 and future Western Knoll Avenue right-of-way to non-native grassland/ruderal, Riversidean sage scrub and disturbed habitats within Criteria Cell 1015, as shown in Figure 9, *Vegetation Communities Project Site Impact Map*, and Figure 10, MSHCP Reserve Assembly Analysis Map. As stated in the MSHCP:

“Criteria Cell 1015 - Conservation within this Cell will contribute to assembly of Proposed Constrained Linkage 22. Conservation within this Cell will focus on chaparral. Areas conserved within this Cell will be connected to chaparral and Riversidean alluvial fan sage scrub habitat proposed for conservation to the north in Cell #935. Conservation within this Cell will be approximately 5% focusing on the northern portion of the Cell.” (MSHCP 2004)

Conservation within Criteria Cell 1015 (155 acres total) will focus on the conservation of approximately 5% (7.8 acres) of chaparral habitat in the northern region of the Cell adjacent to Criteria Cell 935. A total of approximate 8.5 acres (5.5%) of chaparral habitat is located in the northern region of Criteria Cell 1015, is approximately 600 feet north of the Project Site, and would not be directly or indirectly impacted as a result of project initiation. The proposed project would not conflict with the reserve design goals for Criteria Cell 1015 and no onsite conservation is proposed or required as shown in Figure 10, *MHSCP Reserve Assembly Analysis Map*.

The Timoteo Creek floodprone area (Proposed Constrained Linkage 22) located approximately 1,000 feet north of the Project Site represents a significant regional wildlife travel route and movement corridor. The Project Site would not be located adjacent to or result in direct and/or indirect impacts to Proposed Constrained Linkage 22. Regardless, as addressed in the following report all proposed Urban/Wildlands Interface Guidelines (UWIG) and Best Management Practices (BMP) will be implemented. Following implementation of the UWIG and BMP's the proposed action would be Consistent with MSHCP goals and objectives for Criteria Cell 1015. As stated in the MSHCP:

“Proposed Constrained Linkage 22 is comprised of the portion of San Timoteo Creek extending west from I-10 to De Anza Cycle Park. This Linkage provides Habitat for certain species and a connection to Core Area in the Badlands. This Linkage is constrained by I-10 to the east, San Timoteo Canyon Road and railroad tracks to the north, SR-60 to the south, and by existing agricultural land uses within the City of Beaumont. Planning Species for which Habitat is provided for within this Linkage include least Bell's vireo and Los Angeles pocket mouse. In addition to maintenance of habitat quality, maintenance of floodplain processes along the San Timoteo Creek is important for this species. This Linkage likely provides for movement of common mammals such as bobcat. As shown below, areas not affected by edge within this Linkage total approximately 260 acres of the total 400 acres. Upon Reserve Assembly of this proposed Constrained Linkage, management of edge conditions will be necessary to ensure maintenance of floodplain processes and movement of mammals through this Linkage. Guidelines Pertaining to Urban/Wildlands Interface for the management of edge factors such as lighting, urban runoff, toxics, and domestic predators are presented in Section 6.1 of this document. Flood control or alteration of hydrology associated with land use activities in the City of Beaumont and with widening of major existing roadways may affect Habitat supporting least Bell's vireo and Los Angeles pocket mouse. (MSHCP 2004)



APNs Portions of 414-120-039, -041, -042, and ROW's

Figure 4 - Vegetation Communities Map
MSHCP Consistency Analysis
West Side Fire Station Project, City of Beaumont



PHOTOGRAPH 1 - Northeast view of Project Site from near southern boundary.



PHOTOGRAPH 2 - Northwest view of Project Site from near southeast boundary.

Refer to Figure 2 - Project Site Map

Figure 5 - Current Project Site Photographs

*MSHCP Consistency Analysis
West Side Fire Station Project, City of Beaumont*



PHOTOGRAPH 3 - Southwest view of Project Site from near northeastern boundary.



PHOTOGRAPH 4 - Southward view of ravine which extends into northern Project Site boundary.

Refer to Figure 2 - Project Site Map

Figure 6 - Current Project Site Photographs

*MSHCP Consistency Analysis
West Side Fire Station Project, City of Beaumont*



PHOTOGRAPH 5 - Northwestern view of ravine which extends into the northern region of the Project Site.

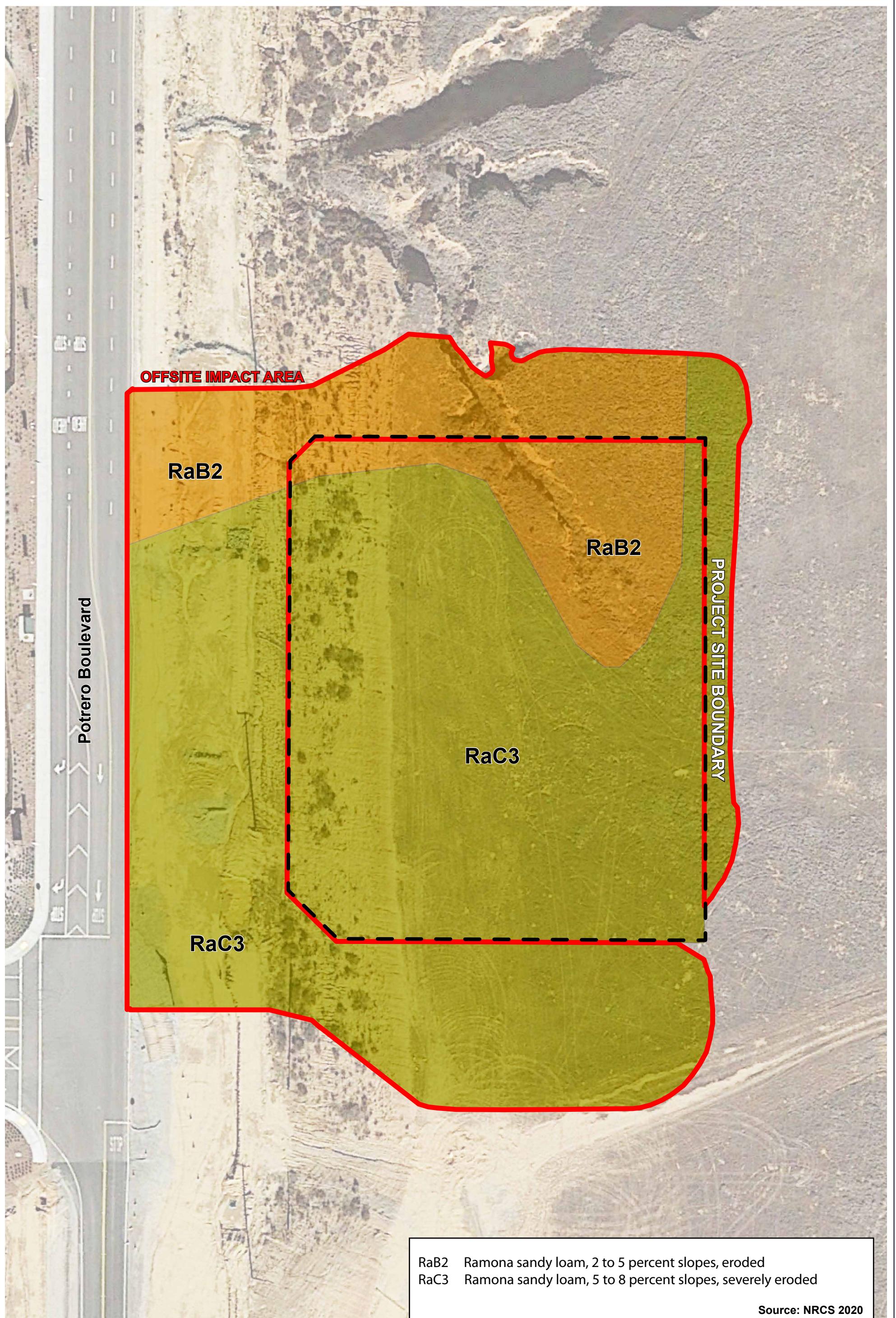


PHOTOGRAPH 6 - Southward view of offsite drainage ditch that the onsite ravine flows toward. Riversidean sage scrub occurs on the western Project Site manufactured slope (red boundary).

Refer to Figure 2 - Project Site Map

Figure 7 - Current Project Site Photographs

*MSHCP Consistency Analysis
West Side Fire Station Project, City of Beaumont*



APNs Portions of 414-120-039, -041, -042, and ROW's

Figure 8 - Soils Association Map
MSHCP Consistency Analysis
West Side Fire Station Project, City of Beaumont

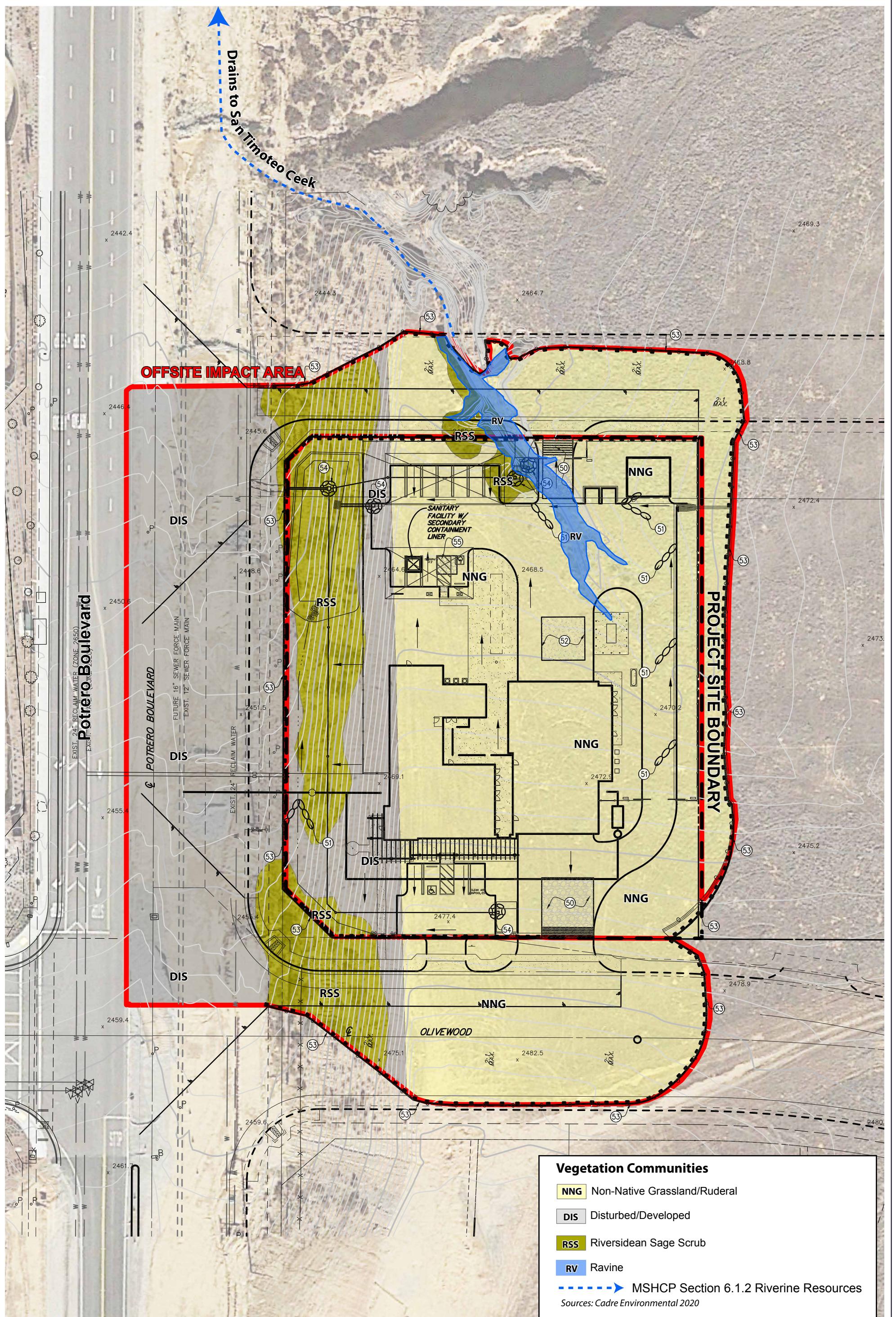


Figure 9 - Vegetation Communities Impact Map
MSHCP Consistency Analysis
West Side Fire Station Project, City of Beaumont

MSHCP Criteria Cell 1015

"Conservation within this Cell will contribute to assembly of Proposed Constrained Linkage 22. Conservation within this Cell will focus on chaparral. Areas conserved within this Cell will be connected to chaparral and Riversidean alluvial fan sage scrub habitat proposed for conservation to the north in Cell #935. Conservation within this Cell will be approximately 5% focusing on the northern portion of the Cell." MSHCP 2003

Criteria Cell 1015 = 155 acres, 5% Chaparral Conservation (northern focus) = 7.8 acres

Chaparral Habitats (8.5 acres)



Figure 10 - MSHCP Criteria Cell 1015 Reserve Assembly Map
MSHCP Consistency Analysis
West Side Fire Station Project, City of Beaumont

Potential habitat for two (2) MSHCP planning species, Bell's sage sparrow (*Amphispiza belli belli*) and bobcat (*Lynx rufus*) were documented onsite. Specifically, impacts to 0.42-acre of Riversidean sage scrub which represents suitable habitat for the Bell's sage sparrow would not represent in a significant impact to the species and the bobcat is expected to primarily utilize San Timoteo Creek floodprone area for movement and foraging (1,000 feet north of Project Site). Based on the fact that both species are only infrequently expected to occur onsite and the Project Site would only impact 3.23 acre of suitable habitat collectively, the proposed project would not conflict with the conservation goals for these species, as outlined in Table 2, *Potential Planning Species Assessment*.

Table 2
Potential Planning Species Assessment

Species Name (<i>Scientific Name</i>) Status	Habitat Description	Comments
MSHCP Planning Species Criteria Cell 1015		
San Bernardino mountain kingsnake <i>(Lampropeltis zonata parvirostris)</i> SSC <i>MSHCP Covered Species</i>	The San Bernardino mountain kingsnake is only known to occur within the San Bernardino Mountains and San Jacinto Mountains bioregions above 1,500 meters (Fisher and Case, 1997). Both species are restricted to rock outcrops, talus, and steep shady canyons within coniferous and mixed coniferous, hardwood, or riparian woodlands and other edge habitats when associated with coniferous habitat. (MSHCP 2004)	<u>No Potential</u> – Not expected to occur onsite based on a lack of suitable habitat.
Bell's sage sparrow <i>(Amphispiza belli belli)</i> SSC <i>MSHCP Covered Species</i>	Bell's sage sparrow is an uncommon to fairly common but localized resident breeder in dry chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and in the lower foothills of local mountains. (MSHCP 2004)	<u>Potential</u> – The Bell's sage sparrow may occasionally forage onsite within the Riversidean sage scrub.
Bobcat <i>(Lynx rufus)</i> <i>MSHCP Covered Species</i>	The bobcat requires large expanses of relatively undisturbed brushy and rocky habitats near springs or other perennial water sources.	<u>Potential</u> – The bobcat may occasionally utilize the Project Site for foraging and movement. However, the species is primarily expected to occur within and immediately adjacent to San Timoteo Creek (1,000 feet north of the Project Site).

Species Name (<i>Scientific Name</i>) Status	Habitat Description	Comments
Los Angeles pocket mouse <i>(Perognathus longimembris brevinasus)</i> SSC <i>MSHCP Covered Species</i>	The Los Angeles pocket mouse appears to be limited to sparsely vegetated habitat areas in patches of fine sandy soils associated with washes or of aeolian (windblown) origin, such as dunes. (MSHCP 2004)	<u>No Potential</u> – The Los Angeles pocket mouse is expected to occur within and adjacent to the San Timoteo floodprone area located 1,000 feet north of the Project Site. The Project Site is not located within an MSHCP mammal survey area.
State (CDFW) Protection and Classification SSC – State Species of Special Concern		

Permanent impacts to 3.23-acres of non-native grassland/ruderal, Riversidean sage scrub and disturbed/developed habitats within Criteria Cell 1015 would not conflict with species specific conservation goals and objectives for Planning Species located within Proposed Constrained Linkage 22, the Pass Area Plan Subunit 2: Badlands/San Bernardino National Forest as discussed in Section 5, PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS AND VERNAL POOLS (SECTION 6.1.2), Section 6, PROTECTION OF NARROW ENDEMIC PLANT SPECIES (SECTION 6.1.3) and Section 7, ADDITIONAL SURVEY NEEDS AND PROCEDURES (SECTION 6.3.2) in the following report.

3.1. Public Quasi-Public Lands in Reserve Assembly Analysis

3.1.1. Public Quasi-Public Lands in Reserve Assembly Analysis

The Project Site is not located within or adjacent to Public Quasi-Public (PQP) lands. No direct or indirect impacts will occur to PQP lands as a result of project initiation.

3.1.2. Project Impacts to Public Quasi-Public Lands

The Project Site is not located within or adjacent to PQP lands. No direct or indirect impacts will occur to PQP lands as a result of project initiation.

4. VEGETATION MAPPING

The Project Site is dominated by non-native grassland/ruderal, Riversidean sage scrub and disturbed/developed habitats. A ravine extends into the northern region of the Project Site and is dominated by non-native grassland/ruderal habitat and isolated patches of Riversidean Sage Scrub. The Project Site also slopes west along a manufactured slope toward the Potrero Boulevard right-of-way. The slope is dominated by Riversidean sage scrub and disturbed habitats as illustrated in Figure 4, *Vegetation Communities Map*, and Figures 5 to 7, *Current Project Site Photographs*.

Non-Native Grassland/Ruderal

The majority of the Project Site is dominated by non-native grassland/ruderal vegetation. These areas appear to be annually cleared based on a review of historic aerials. This generally flat

area is dominated by black mustard (*Brassica nigra*), London rockets (*Sisymbrium irio*), wild oat (*Avena fatua*), ripgut grass (*Bromus diandrus*), red-stemmed filaree (*Erodium cicutarium*), white stem filaree (*Erodium moschatum*), and horehound (*Marrubium vulgare*). Native herbaceous vegetation documented within this habitat and often associated with disturbed areas include doveweed (*Croton setiger*), vinegarweed (*Trichostema lanceolatum*), and telegraph weed (*Heterotheca grandiflora*).

Riversidean Sage Scrub

Riversidean sage scrub was documented onsite along the western manufactured slope and scattered along the ravine which extends into the northern region of the Project Site. Dominant species documented within this vegetation community include pine bush (*Ericameria pinifolia*), California buckwheat (*Eriogonum fasciculatum*), felty everlasting (*Pseudognaphalium canescens*), California sagebrush (*Artemisia californica*), paniculate tarplant (*Deinandra paniculata*), common sand-aster (*Corethrogyne filaginifolia*), and slender buckwheat (*Eriogonum gracile*).

Disturbed/Disturbed

Disturbed regions of the Project Site include those areas generally devoid of vegetation or with scattered occurrences of Russian thistle (*Salsola tragus*), horseweed (*Erigeron canadensis*), tocalote (*Centaurea melitensis*) and horehound. The proposed offsite impact area also extends west into the existing paved (developed) portion of Potrero Boulevard.

5. PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS AND VERNAL POOLS (SECTION 6.1.2)

5.1. Riparian/Riverine

5.1.1. Methods

The Project Site was assessed on August 27th, 2020 to determine the presence/absence and extent of MSHCP riparian, riverine and vernal pool resources in accordance with the RCIP definition (Section 6.1.2, Volume I, Final MSHCP). The assessment included a review of historic aerials and soils maps within and immediately adjacent to the Project Site.

5.1.2. Existing Conditions and Results

As described in the previous section (Vegetation Mapping) and illustrated in Figure 4, *Vegetation Communities Map*, no vegetation communities representing MSHCP Section 6.1.2 riparian scrub, forest or woodland resources were documented within or adjacent to the Project Site.

5.1.3. Impacts

No MSHCP Section 6.1.2 riparian resources will be directly or indirectly impacted as a result of the proposed 3.23-acre Project Site impact area as shown in Figure 10, *Vegetation Communities Project Site Impact Map*.

A 0.07-acre portion of a ravine dominated by non-native grassland/ruderal and Riversidean sage scrub vegetation will be permanently impacted as a result of project initiation. The ravine currently drains to an existing offsite road-side swale adjacent to Potrero Boulevard created to divert flows

north to San Timoteo Creek. Future drainage runoff from the Project Site will be captured and directed to an underground storage and infiltration system for water quality treatment.

5.1.4. Mitigation

To meet the criteria of a biologically equivalent or superior alternative, the applicant will offset permanent impacts to 0.07-acre of MSHCP Section 6.1.2 riverine resources (ravine) located within the northern region of the Project Site by:

- 1) Purchasing 0.07 acre (1:1) of re-establishment credits from the Riverpark Mitigation Bank located within the San Jacinto watershed, and
- 2) Purchasing 0.07 acre (1:1) of re-habilitation credits from the Riverpark Mitigation Bank located within the San Jacinto watershed.

5.2. Vernal Pools

5.2.1. Methods

The Project Site was assessed on August 27th, 2020 to determine the presence/absence and extent of MSHCP vernal pool resources in accordance with the RCIP definition (Section 6.1.2, Volume I, Final MSHCP). The assessment included a review of historic aerials and soils maps within and immediately adjacent to the Project Site.

5.2.2. Existing Conditions and Results

No evidence of vernal pool, ephemeral depressions, stock ponds, 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 Ramona sandy loam 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 pool, ephemeral depressions, stock ponds, road ruts can easily be seen. No sign of 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.

5.2.3. Impacts

No Impact.

5.2.4. Mitigation

No Mitigation Proposed.

5.3. Fairy Shrimp

5.3.1. Methods

The Project Site was assessed on August 27th, 2020 to determine the presence/absence and extent of vernal pool (fairy shrimp habitat). The assessment included a review of historic aerials and soils maps within and immediately adjacent to the Project Site.

5.3.2. Existing Conditions and Results

No vernal pool, ephemeral depressions, stock ponds, road ruts were detected within or immediately adjacent to the Project Site following a review of historic aerials and based on a lack of suitable soils and characteristic vernal pool plant species.

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.

5.3.3. Impacts

No Impact.

5.3.4. Mitigation

No Mitigation Proposed.

5.4. Riparian Birds

5.4.1. Methods

The Project Site was assessed on August 27th, 2020 during which time all vegetation communities were mapped. Natural community names and hierarchical structure follows the CDFW “List of California Terrestrial Natural Communities” and/or Holland (1986) classification systems, which have been refined and augmented where appropriate to better characterize the habitat types observed onsite when not addressed by the MSHCP classification system.

5.4.2. Existing Conditions and Results

No riparian scrub, woodland or forest habitat representing suitable habitat for the least Bell’s vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*) and western yellow-billed cuckoo (*Coccyzus americanus*) was detected within or adjacent to the Project Site as shown in Figure 4, *Vegetation Communities Map*.

5.4.3. Impacts

No Impact. No riparian scrub, forest or woodland resources will be directly or indirectly impacted as a result of the proposed 3.23-acre Project Site impact area as shown in Figure 10, *Vegetation Communities Project Site Impact Map*.

5.4.4. Mitigation

No Mitigation Proposed.

5.5. Other Section 6.1.2 Species

6. PROTECTION OF NARROW ENDEMIC PLANT SPECIES (SECTION 6.1.3)

The Project Site occurs completely within an MSHCP predetermined Survey Area for two (2) Narrow Endemic Plant Species: many-stemmed dudleya, and Marvin's (Yucaipa) onion (RCA GIS Data Downloads 2021).

6.1. Methods

The Project Site was assessed on August 27th, 2020 to determine the presence/absence and extent of habitat for MSHCP narrow endemic plant species. Existing biological resources within and adjacent to the Project Site were initially investigated through a review of pertinent literature and online data. The California Natural Diversity Database (CNDDB 2021a), and CNPS (2021). In addition, soil, local floras, and consultation with local experts were utilized in the identification of species, soils, or habitats that could support the target MSHCP sensitive plants within or adjacent to the Project Site. These and other references are listed below and in References.

Prior to conducting fieldwork, a thorough archival review was conducted using the following baseline resources:

- California Native Plant Society 8th Inventory Online (2021);
- California Natural Diversity Data Base for the USGS 7.5' El Casco Quadrangle (CNDDB 2021a);
- Soil Survey of Western Riverside Area (Knecht 1971; USDA-NRCS 2021);
- Vegetation Alliances of Western Riverside County, California (Klein and Evens 2005);
- Vascular Flora of Western Riverside County (Roberts et al. 2004); and
- Reports prepared by the Regional Conservation Authority, Western Riverside County (<http://www.wrc-rca.org/about-rca/monitoring/monitoring-surveys/>).

6.2. Existing Conditions and Results

As outlined in Table 3, Potential MSHCP Narrow Endemic Plant Assessment, no suitable clay substrates were documented onsite following a review of historic aerials (inundation), soils maps, and lack of undisturbed native habitats. The Marvin's onion and many-stemmed dudleya are not expected to occur onsite and no additional surveys are warranted.

Table 3
Potential MSHCP Narrow Endemic Plant Assessment

Species Name (<i>Scientific Name</i>) Status	Habitat Description	Comments
MSHCP Narrow Endemic Plant Species		
Marvin's (Yucaipa) onion (<i>Allium marvini</i>) CRPR List 1B.2 MSHCP NEPSA	Restricted to clay soils. It blooms from April to May. This species is found in chaparral habitats.	<u>No Potential</u> – Marvin's onion is not expected to occur onsite based on a lack of suitable soil and vegetative conditions.
Multi-stemmed dudleya (<i>Dudleya multicaulis</i>) CRPR List 1B.2 MSHCP NEPSA	Many-stemmed dudleya is a succulent perennial in the stonecrop family. It blooms April to July. This species is known from several southern California counties, and typically occurs in dry, stony places on heavy soils in scrub and grassland habitats below 2,000 feet elevation. Many-stemmed dudleya is most often associated with clay soils in barren, rocky places, or thinly vegetated openings in chaparral, coastal sage scrub, and southern needlegrass grasslands.	<u>No Potential</u> – Many-stemmed dudleya is not expected to occur onsite based on a lack of suitable soil conditions.

6.3. Impacts

No Impact.

6.4. Mitigation

No Mitigation Proposed.

7. ADDITIONAL SURVEY NEEDS AND PROCEDURES (SECTION 6.3.2)

7.1. Criteria Area Plant Species

The Project Site is not located within the Criteria Area Plant Species Survey Area; therefore, no surveys are required. The project is consistent with MSHCP Section 6.3.2.

7.2. Amphibians

7.2.1. Methods

The Project Site is not located within an Amphibian Species Survey Area; therefore, no surveys are required (RCA GIS Data Downloads 2021). The project is consistent with MSHCP Section 6.3.2.

7.2.2. Existing Conditions and Results

The Project Site is not located within an Amphibian Species Survey Area; therefore, no surveys are required (RCA GIS Data Downloads 2021). The project is consistent with MSHCP Section 6.3.2.

7.2.3. Impacts

No Impact.

7.2.4. Mitigation

No Mitigation Proposed.

7.3. Burrowing Owl

7.3.1. Methods

The Project Site occurs within an MSHCP burrowing owl (*Athene cunicularia*) survey area and a habitat assessment was conducted for the species to ensure compliance with MSHCP guidelines for the species.

In accordance with the MSHCP Burrowing Owl Survey Instructions (2006), survey protocol consists of two steps, Step I – Habitat Assessment and Step II – Locating Burrows and Burrowing Owls. The following section describes the approach to conducting the habitat assessment.

Step I – Habitat Assessment

Step 1 of the MSHCP habitat assessment for burrowing owl consists of a walking survey to determine if suitable habitat is present onsite. Cadre Environmental conducted the habitat assessment on August 27th, 2020. Upon arrival at the Project Site, and prior to initiating the assessment survey, Cadre Environmental used binoculars to scan all suitable habitats on and adjacent to the Project Site, including perch locations, to ascertain owl presence.

All suitable areas of the Project Site were surveyed on foot by walking slowly and methodically while recording/mapping areas that may represent suitable owl habitat onsite. Primary indicators of suitable burrowing owl habitat in western Riverside County include, but are not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas. Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels (*Otospermophilus beecheyi*) or badgers (*Taxidea taxus*), but they often utilize man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, wood debris piles, openings beneath cement or asphalt pavement. Burrowing owls are often found within, under, or in close proximity to man-made structures.

According to the MSHCP guidelines, if suitable habitat is present, the biologist should also walk the perimeter of the Project Site, which consists of a 150-meter (approximately 500 feet) buffer zone around the Project Site boundary. If permission to access the buffer area cannot be obtained, the biologist shall not trespass, but visually inspect adjacent habitats with binoculars. In addition to surveying the entire Project Site all bordering natural habitats located immediately adjacent to the Project Site were assessed.

Step II – Locating Burrows and Burrowing Owls

Concurrent with the initial habitat assessment, a detailed focused burrow survey was conducted and included documentation of appropriately sized natural burrows or suitable man-made structures that may be utilized by burrowing owl as part of the MSHCP protocol.

7.3.2. Existing Conditions and Results

No suitable burrowing owl burrows and/or sign of owl occupation, such as feathers, tracks, or pellets was documented within or adjacent to the 3.23-acre Project Site. Although, the Project Site does represent suitable foraging habitat, the Project Site is not currently occupied by burrowing owl.

7.3.3. Impacts

No Impact.

7.3.4. Mitigation

Due to the fact that the species could colonize the Project Site in the future, a 30-day burrowing owl preconstruction surveys will be required to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. The surveys will be conducted in compliance with both MSHCP and CDFW guidelines (MSHCP 2006, CDFW 2012). A report of the findings prepared by a qualified biologist shall be submitted to the City of Beaumont for review and approval prior to any permit or ground disturbing activities.

If burrowing owls are detected onsite during the 30-day preconstruction survey, during the breeding season (February 1st to August 31st) then construction activities shall be limited to beyond 300 feet of the active burrows until a qualified biologist has confirmed that nesting efforts are completed or not initiated. In addition to monitoring breeding activity, if construction is proposed to be initiated during the breeding season or active relocation is proposed, a burrowing owl mitigation plan will be developed based on the City of Beaumont, CDFW and USFWS requirements for the relocation of individuals to predetermined preserve.

Following submittal, review and approval of the 30-day burrowing owl preconstruction survey report by the City of Beaumont and compliance with all species-specific conservation goals, if detected within or adjacent to the Project Site, the project will be consistent with MSHCP Section 6.3.2.

7.4. Mammals

7.4.1. Methods

The Project Site is not located within a Mammal Species Survey Area; therefore, no surveys are required (RCA GIS Data Downloads 2021). The project is consistent with MSHCP Section 6.3.2.

7.4.2. Existing Conditions and Results

The Project Site is not located within a Mammal Species Survey Area; therefore, no surveys are required (RCA GIS Data Downloads 2021). The project is consistent with MSHCP Section 6.3.2.

7.4.3. Impacts

No Impact.

7.4.4. Mitigation

No Mitigation Proposed.

8. INFORMATION ON OTHER SPECIES

8.1. Delhi Sands Flower Loving Fly

The Project Site is not located within or adjacent to areas mapped as Delhi soils.

8.2. Species Not Adequately Covered

One (1) of the twenty-eight (28) MSHCP species not adequately covered has the potential to occur within the 3.23-acre Project Site impact area as presented in Table 4, *Species not Adequately Covered with Potential to Occur on Project Site*. The Grasshopper sparrow (*Ammodramus savannarum*) has potential to occur onsite based on the presence of suitable non-native grassland and large open space lands adjacent to the Project Site. Impacts to 1.85 acres of non-native grassland/ruderal habitat would not conflict with conservation goals for the species. The MSHCP characterizes core conservation areas as consisting of large, >2,000 acres of grassland habitat or grassland-dominated habitat or smaller areas consisting of at least 500 acres of contiguous grassland habitat or grassland-dominated habitat (MSHCP 2004).

Table 4.
Species not Adequately Covered with Potential to Occur on Project Site

Species Name (Scientific Name)	Habitat Description	Comments
Status		
PLANTS		
Beautiful hulsea (<i>Hulsea vestita</i> ssp. <i>callicarpa</i>) CRPR 4.2	Perennial herb generally blooming from May to October within chaparral and lower montane coniferous forest in association with rocky or gravelly, granitic substrates (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.
California bedstraw (<i>Galium californicum</i> ssp. <i>primum</i>) CRPR 1B.2	Perennial herb generally blooming from May to July within chaparral and lower montane coniferous forest in association with granitic and sandy substrates (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.

Species Name <i>(Scientific Name)</i> Status	Habitat Description	Comments
California muhly <i>(Muhlenbergia californica)</i> CRPR 4.3	Perennial rhizomatous herb generally blooming from June to September within chaparral, coastal scrub, lower montane coniferous forest, meadows and seeps in association with mesic, seeps and streambanks (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.
Chickweed oxytheca <i>(Sidotheca caryophylloides)</i> CRPR 4.3	Annual herb generally blooming from July to October within lower montane coniferous forest in association with sandy substrates. CNPS 2021)	<u>No Potential</u> – based on a lack of suitable vegetation within the 3.23-acre Project Site impact area.
Cleveland's bush monkeyflower <i>(Diplacus clevelandii)</i> CRPR 4.2	Perennial rhizomatous herb generally blooming from April to July in chaparral, cismontane woodland and lower montane coniferous forest in association with gabbroic, often disturbed areas, openings, rocky. (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.
Cliff cinquefoil <i>(Potentilla rimicola)</i> CRPR 2B.3	Perennial herb generally blooming from July to September in subalpine coniferous forest, upper montane coniferous forest in association with granitic and rocky substrates. (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.
Coulter's matilija poppy <i>(Romneya coulteri)</i> CRPR 4.2	Perennial rhizomatous herb generally blooming from April to July in chaparral, coastal scrub, often in burned areas. (CNPS 2021)	<u>No Potential</u> – Not detected onsite.
Fish's milkwort <i>(Polygala cornuta</i> var. <i>fishiae</i>) CRPR 4.3	Perennial deciduous shrub generally blooming from May to August in chaparral, cismontane and riparian woodland. (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.
Graceful tarplant <i>(Holocarpha virgata</i> ssp. <i>elongata</i>) CRPR 4.2	Annual herb generally blooming from May to November in chaparral, cismontane woodland, coastal scrub and valley and foothill grassland. (CNPS 2021) “Graceful tarplant is known from heavy clay soils around vernal pools and wet meadows (MSHCP 2004)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.

Species Name (Scientific Name) Status	Habitat Description	Comments
Lemon lily (<i>Lilium parryi</i>) CRPR 1B.2	Perennial bulbiferous herb generally blooming from July to August in lower montane coniferous forest, meadows and seeps, riparian forest and upper montane coniferous forest in association with mesic substrates. (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.
Mojave tarplant (<i>Deinandra mohavensis</i>) CRPR 1B.3	Annual herb generally blooming from June to October in chaparral, coastal scrub and riparian habitat in association with mesic substrates. (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.
Ocellated Humboldt lily (<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>) CRPR 4.2	Perennial bulbiferous herb generally blooming from March to August in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest and riparian woodland in openings. (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable vegetation within the 3.23-acre Project Site impact area.
Parry's spine flower (<i>Chorizanthe parryi</i> var. <i>parryi</i>) CRPR 1B.1	Annual herb generally blooming from April to June in chaparral, cismontane woodland, coastal scrub, valley and foothill grassland in association with sandy or rocky openings. (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable vegetation within the 3.23-acre Project Site impact area.
Peninsular spine flower (<i>Chorizanthe leptotheca</i>) CRPR 4.2	Annual herb generally blooming from May to August in chaparral, coastal scrub and lower montane coniferous forest in association with alluvial fan and granitic substrates. (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.
Plummer's mariposa lily (<i>Calochortus plummerae</i>) CRPR 4.2	Perennial bulbiferous herb generally blooming from May to July in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland in association with granitic and rocky substrates. (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.

Species Name (Scientific Name) Status	Habitat Description	Comments
Rainbow manzanita (<i>Arctostaphylos rainbowensis</i>) CRPR 1B.1	Perennial evergreen shrub generally blooming from December to March in chaparral habitat. (CNPS 2021)	<u>No Potential</u> – Not detected onsite.
Shaggy-haired alumroot (<i>Heuchera hirsutissima</i>) CRPR 1B.3	Perennial rhizomatous herb generally blooming from May to July in subalpine coniferous forest, upper montane coniferous forest in association with rocky and granitic substrates. (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.
Small-flowered microseris (<i>Microseris douglasii</i> var. <i>platycarpha</i>) CRPR 4.2	Annual herb generally blooming from March to May in cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools in association with clay substrates. (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.
Sticky-leaved dudleya (<i>Dudleya viscida</i>) CRPR 1B.2	Perennial herb generally blooming from May to June in coastal bluff scrub, chaparral, cismontane woodland, coastal scrub in association with rocky substrates. (CNPS 2021)	<u>No Potential</u> – based on a lack of suitable soils and vegetation within the 3.23-acre Project Site impact area.
REPTILES		
San Bernardino mountain kingsnake (<i>Lampropeltis zonata parvirostris</i>)	A habitat generalist, found in diverse habitats including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal sage scrub. Wooded areas near a stream with rock outcrops, talus or rotting logs that are exposed to the sun are good places to find this snake. California Mountain Kingsnake is not found near the coast, instead preferring coniferous forests and woodlands above 3,000 feet. This species appears to prefer rocky areas, but also is found beneath logs and under bark. (Calheps 2021, SDNHM 2021)	<u>No Potential</u> – based on a lack of suitable vegetation within the 3.23-acre Project Site impact area.

Species Name <i>(Scientific Name)</i> Status	Habitat Description	Comments
San Diego mountain kingsnake <i>(Lampropeltis zonata pulchra)</i>	A habitat generalist, found in diverse habitats including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal sage scrub. Wooded areas near a stream with rock outcrops, talus or rotting logs that are exposed to the sun are good places to find this snake. California Mountain Kingsnake is not found near the coast, instead preferring coniferous forests and woodlands above 3,000 feet. This species appears to prefer rocky areas, but also is found beneath logs and under bark. (CalHerps 2021, SDNHM 2021)	<u>No Potential</u> – based on a lack of suitable vegetation within the 3.23-acre Project Site impact area.
Southern rubber boa <i>(Charina umbratica)</i> ST	Grassland, mountain meadows, chaparral, woodland, along streamsides, deciduous and coniferous forest in the San Bernardino and San Jacinto Mountains.	<u>No Potential</u> – based on a lack of suitable vegetation within the 3.23-acre Project Site impact area.
Southern sagebrush lizard <i>(Sceloporus graciosus vandenburgianus)</i>	Lives in shrublands such as chaparral, manzanita and ceanothus, as well as open pine and Douglas Fir forests, mainly in the mountains. (CalHerps 2021) The distribution of the Southern Sagebrush Lizard extends in a series of disjunct, montane sky islands from Los Angeles County, southward to the Sierra San Pedro Martir in Baja California. It is commonly found above 5,000 feet in elevation, depending on latitude. These lizards enjoy open ground, with clear sunlight and dappled low vegetation. (SDNH 2021)	<u>No Potential</u> – based on a lack of suitable vegetation within the 3.23-acre Project Site impact area.

Species Name (Scientific Name) Status	Habitat Description	Comments
BIRDS		
California spotted owl (<i>Strix occidentalis occidentalis</i>) SSC	Primarily occurs in woodlands of oaks and coniferous forests.	<u>No Potential</u> – based on a lack of suitable vegetation within the 3.23-acre Project Site impact area.
Grasshopper sparrow (<i>Ammodramus savannarum</i>) SSC	Occurs within native and non-native grasslands.	<u>Potential</u> – based on the presence of suitable vegetation.
Lincoln's sparrow (breeding) (<i>Melospiza lincolni</i>)	Occurs in riparian scrub, riparian edges and mesic weedy areas.	<u>No Potential</u> – based on a lack of suitable vegetation within the 3.23-acre Project Site impact area.
Williamson's sapsucker (<i>Sphyrapicus thyroideus</i>)	Resident in the San Jacinto Mountains in montane coniferous forest.	<u>No Potential</u> – based on a lack of suitable vegetation within the 3.23-acre Project Site impact area.
MAMMALS		
San Bernardino flying squirrel (<i>Glaucomys sabrinus californicus</i>) SSC	San Bernardino flying squirrel occurs in a range of coniferous and deciduous forest, including riparian forests in the San Gabriel, San Bernardino, and San Jacinto Mountains. The San Bernardino flying squirrel has been reported in mixed conifer forests of Jeffrey pine and white fir. Sumner (1927) reported the habitat as white fir and black oak (<i>Quercus kelloggii</i>) woodlands. (CDFG 1998)	<u>No Potential</u> – based on a lack of suitable vegetation within the 3.23-acre Project Site impact area.
California Native Plant Society (CNPS): California Rare Plant Rank (CRPR)		
<p>CRPR 1A – plants presumed extinct in California</p> <p>CRPR 1B – plants rare, threatened, or endangered in California, but more common elsewhere</p> <p>CRPR 2A – plants presumed extirpated in California but common elsewhere</p> <p>CRPR 2B – plants rare, threatened, or endangered in California but more common elsewhere</p> <p>CRPR 3 – plants about which we need more information, a review list</p> <p>CRPR 4 – plants of limited distribution, a watch list</p> <p>.1 – Seriously endangered in California</p> <p>.2 – Fairly endangered in California</p> <p>.3 – Not very endangered in California</p>		
State (CDFW) Protection and Classification		
ST – State Threatened		
SSC – State Species of Special Concern		

9. GUIDELINES PERTAINING TO THE URBAN/WILDLANDS INTERFACE (Section 6.1.4)

The MSHCP Urban/Wildlands Interface guidelines presented in Section 6.1.4 are intended to address indirect effects associated with locating commercial, mixed uses and residential developments in proximity to an MSHCP Conservation Area. The 3.23-acre Project Site impact area would not be located adjacent to a proposed MSHCP Conservation Area, as shown in Figure 11, *MSHCP Reserve Assembly Analysis Map*.

Regardless, all proposed Urban/Wildlands Interface guidelines will be implemented for the proposed Project Site impact area. Compliance with all the following MSHCP Urban/Wildlands Interface guidelines will ensure that the proposed project will not result in significant indirect impacts to potential future proposed conservation areas in the northern region of Criteria Cell 1015 (approximately 600 feet north of Project Site).

Water Quality/Hydrology

The project will comply with all applicable water quality regulations, including obtaining and complying with those conditions established in WDRs and a National Pollutant Discharge Elimination System (NPDES) permits, as warranted. Both of these permits include the treatment of all surface runoff from paved and developed areas, the implementation of applicable Best Management Practices (BMPs) during construction activities (discussed in the following section) and the installation and proper maintenance of structural BMPs to ensure adequate long-term treatment of water before entering into any stream course or offsite Conservation Areas (San Timoteo Creek).

As previously stated, the project currently proposes that all drainage runoff from the Project Site will be captured and directed to an underground storage and infiltration system for water quality treatment.

Toxics

Storm water treatment systems will be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant material, or other elements that could degrade or harm adjacent biological or aquatic resources. Toxic sources within the Project Site would be limited to those commonly associated with fire stations such as fire retardants and vehicle emissions. In order to mitigate for the potential effects of these toxics, the project will incorporate structural BMPs, as required in association with compliance with WDRs and the NPDES permit system, in order to reduce the level of toxins introduced into the drainage system and the surrounding areas, as warranted.

As previously stated, the project currently proposes that all drainage runoff from the Project Site will be captured and directed to an underground storage and infiltration system for water quality treatment.

Lighting

Night lighting associated with the proposed fire station would only be directed toward proposed facility grounds and access roads to reduce potential indirect impacts to wildlife species.

Noise

Because the proposed project development will not result in noise levels that exceed standards established for the City of Beaumont, wildlife within adjacent open space habitats will not be subject to noise that exceeds these established standards. Short-term construction-related noise impacts will be reduced by the implementation of the following:

- During all Project Site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the Project Site during all project construction, as applicable.
- The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours to be determined by City of Beaumont staff.
- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses.

Invasive Species

The landscape plans for the commercial project shall avoid the use of invasive species for the portions of the development areas adjacent to the proposed Conservation Areas. Invasive plants that should be avoided are included in Table 6-2 of the MSHCP, *Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area*.

Implementation of all Urban/Wildlands Interface guidelines will minimize adverse project indirect impacts and ensure consistency with MSHCP Section 6.1.4 guidelines.

10. BEST MANAGEMENT PRACTICES

The following Best Management Practices will be implemented for the proposed project to ensure compliance and consistency with MSHCP objectives and goals.

- The Project Site and adjacent vegetation is expected to potentially provide nesting habitat for migratory birds protected under the CDFG Codes. Avoidance measures for potential direct/indirect impacts to common and sensitive bird and raptor species will require compliance with the CDFG Code Section 3503. Construction outside the nesting season (between September 15th and February 15th) does not require preconstruction nesting bird surveys. If construction is proposed between February 16th and September 14th, a qualified biologist must conduct a preconstruction nesting bird survey. A report of the findings prepared by a qualified biologist shall be submitted to the City of Beaumont for review and approval prior to the initiation of project activities.
- Access to Project Site shall be via pre-existing and proposed access routes extending west from Potrero Boulevard.

- Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat (San Timoteo Creek). Necessary precautions shall be taken to prevent the release of substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictions (City of Beaumont), USFWS, CDFW, and RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
- The Project Site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site.
- Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.

11. REFERENCES

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Certification "*I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge.*"

Author: _____ Date: _____

Contact: Ruben S. Ramirez, Jr. 949-300-0212, r.ramirez@cadreenvironmental.com

**APPENDIX C – BIOLOGICALLY EQUIVALENT OR SUPERIOR PRESERVATION
ANALYSIS**

Western Riverside County MSHCP - DBESP
West Side Fire Station Project
City of Beaumont, California

DRAFT REPORT



APNs - Portions of 414-120-039, -041, -042, and ROW's

Permittee Name:

City of Beaumont
550 E. 6th Street
Beaumont, California 92223

Applicant:

City of Beaumont
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1. EXECUTIVE SUMMARY

The proposed West Side Fire Station project will result in a permanent impact to an incised ravine in the northern region of the Project Site. The incised ravine represents a Western Riverside County Multiple Species Habitat Conservation Plan “MSHCP” Section 6.1.2 Riverine resource. Specifically, permanent impacts to 0.07-acre of MSHCP Section 6.1.2 Riverine resources will occur as a result of project implementation (Helix Environmental 2021). To meet the criteria of a biologically equivalent or superior alternative, the applicant will offset permanent impacts to 0.07-acre of MSHCP Section 6.1.2 Riverine resources by:

- 1) Purchasing 0.07 acre (1:1) of re-establishment credits from the Riverpark Mitigation Bank located within the San Jacinto watershed, and
- 2) Purchasing 0.07 acre (1:1) of re-habilitation credits from the Riverpark Mitigation Bank located within the San Jacinto watershed.

2. INTRODUCTION

This document presents the results of a Determination of Biologically Equivalent or Superior Preservation (DBESP) analysis conducted by Cadre Environmental for the West Side Fire Station Project Site as required under Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools*, of the Western Riverside County MSHCP (MSHCP 2004).

2.1 Project Area

The West Side Fire Station, 1.59-acre project including 1.64-acre offsite impact area “Project Site” (APN’s Portions of 141-120-039, -041, -042 and future Western Knoll Avenue right-of-way) is located within the City of Beaumont, extending east of Potrero Boulevard and north of the future realignment of Western Knoll Avenue right of way as shown in Figure 1, *Regional Location Map* and Figure 2, *Project Site Map*. The Project Site is located within United States Geological Survey (USGS) 7.5’ Series El Casco Quadrangle, Township 3 South, Range 1, Section 5.

The Project Site is located within the Western Riverside County Multiple Species Habitat Conservation Plan Pass Area Plan, Subunit 2 – Badlands/San Bernardino National Forest. Specifically, the Project Site is located completely within MSHCP Criteria Area 1015 as shown in Figure 3, *MSHCP Criteria Area and Relationship Map*. The proposed action is a City of Beaumont project and therefore, a Habitat Evaluation and Acquisition Negotiation Strategy determination is not required. The following report was prepared for use during the Joint Project Review and analysis of consistency with the MSHCP reserve design and guidelines.

2.2 Project Description

The proposed project includes the development and construction of a fire station for the Riverside County Fire Department including offsite impacts related to creating both a northern and southern access route to the facility via Potrero Boulevard to the west. Specifically, the facility will include a Type V-B fire station, dormitories, and staff/visitor parking. Drainage runoff from the Project Site will be captured and directed to an underground storage and infiltration system for water quality treatment.

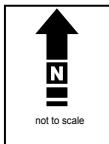


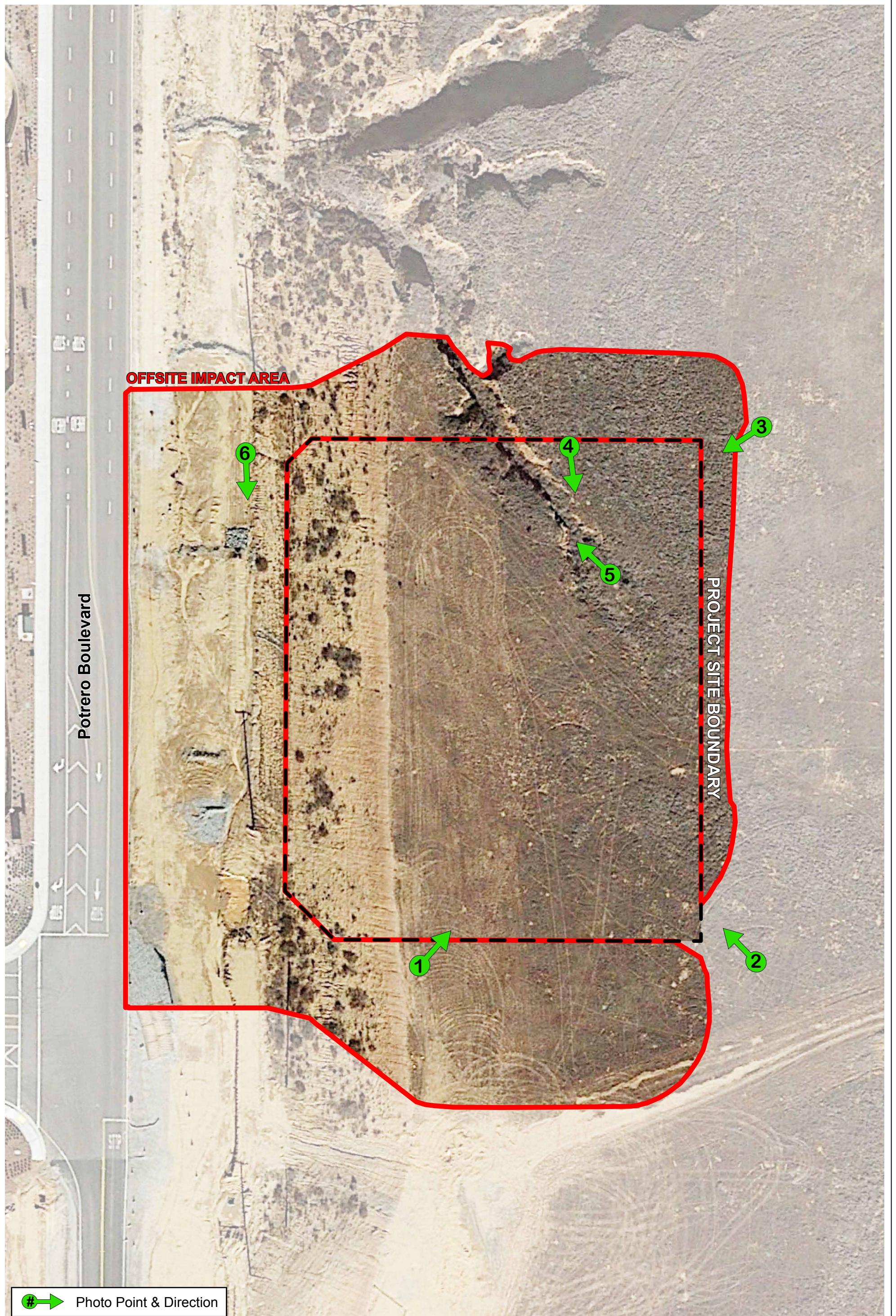
APNs Portions of 414-120-039, -041, -042, and ROW's

Figure 1 - Regional Location Map

*Determination of Biologically Equivalent or Superior Preservation
West Side Fire Station Project, City of Beaumont*

CADRE
Environmental





APNs Portions of 414-120-039, -041, -042, and ROW's

Figure 2 - Project Site Map

*Determination of Biologically Equivalent or Superior Preservation
West Side Fire Station Project, City of Beaumont*

CADRE
Environmental

↑
N
1 inch = 50 feet

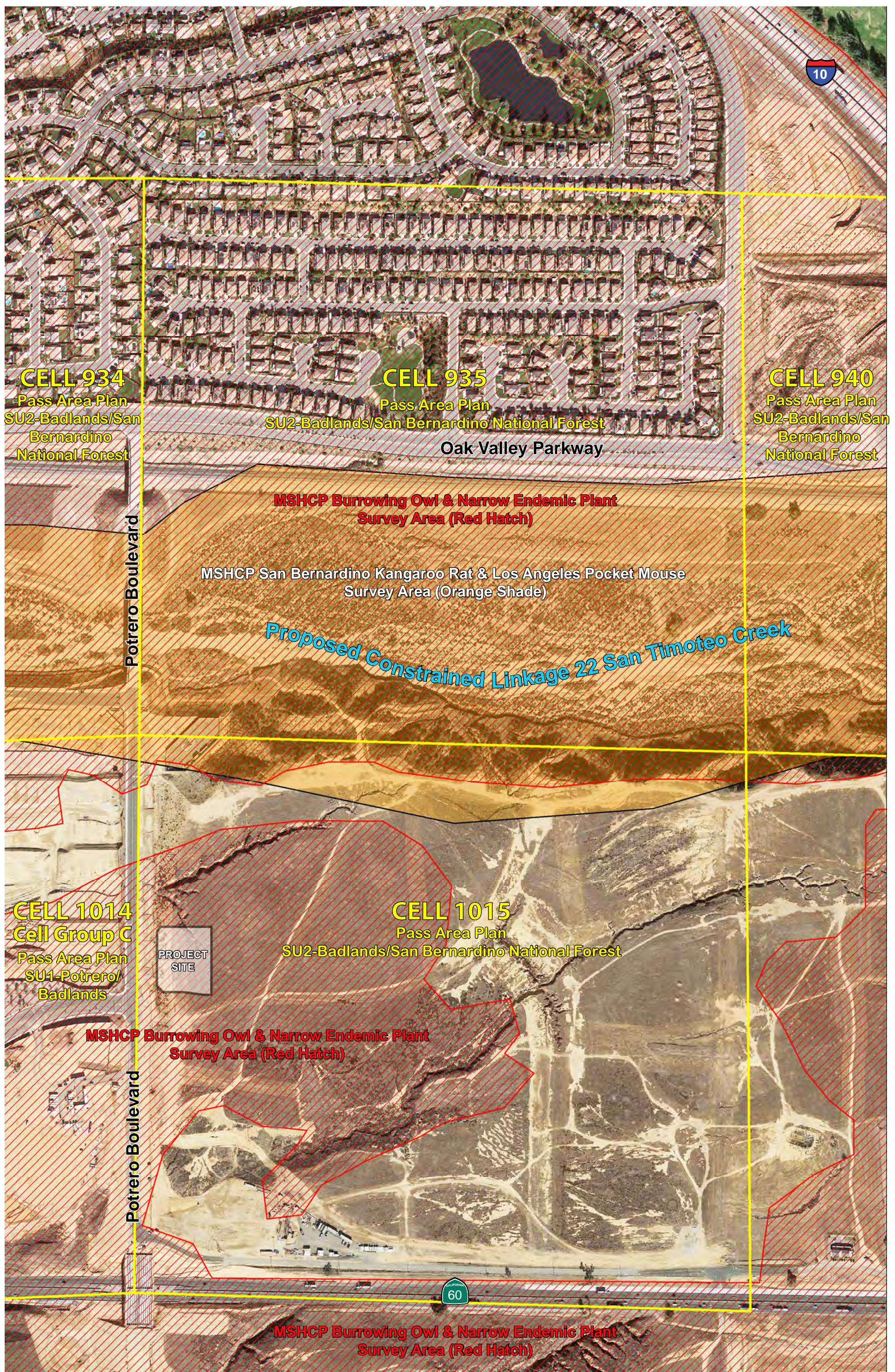


Figure 3 - MSHCP Criteria Area and Relationship Map

Determination of Biologically Equivalent or Superior Preservation
West Side Fire Station Project, City of Beaumont

CADRE
Environmental

N
1 inch = 400 feet

2.3 Existing Conditions

This document presents the results of a habitat assessment conducted on August 27th, 2020 by Cadre Environmental and formal jurisdictional delineation conducted by Helix Environmental Planning in June 2021.

The Project Site is dominated by non-native grassland/ruderal, Riversidean sage scrub and disturbed habitats as outlined in Table 1, *Vegetation Communities Acreages*. A ravine extends into the northern region of the Project Site and is dominated by non-native grassland/ruderal habitat and isolated patches of Riversidean Sage Scrub. The Project site also slopes west along a manufactured slope toward the Potrero Boulevard right-of-way. The slope is dominated by Riversidean sage scrub and disturbed habitats as illustrated in Figure 4, *Vegetation Communities Map*, and Figures 5 to 7, *Current Project Site Photographs*.

Table 1.
Vegetation Communities Acreages

Vegetation Community	Onsite Cell 1015 (acres)	Offsite Cell 1015 (acres)	Total (acres)
Non-Native Grassland/Ruderal	1.16	0.69	1.85
Riversidean Sage Scrub	0.22	0.20	0.42
Disturbed/Developed	0.21	0.75	0.96
TOTAL	1.59	1.64	3.23

*Source: Cadre Environmental 2020.

The Soil Survey of Western Riverside Area has the following soils mapped within the boundary of the Project Site as shown on Figure 8, *Soils Association Map*:

- RaB2 – Ramona sandy loam, 2 to 5 percent eroded
- RaC3 – Ramona sandy loam, 5 to 8 percent slopes, severely eroded
-

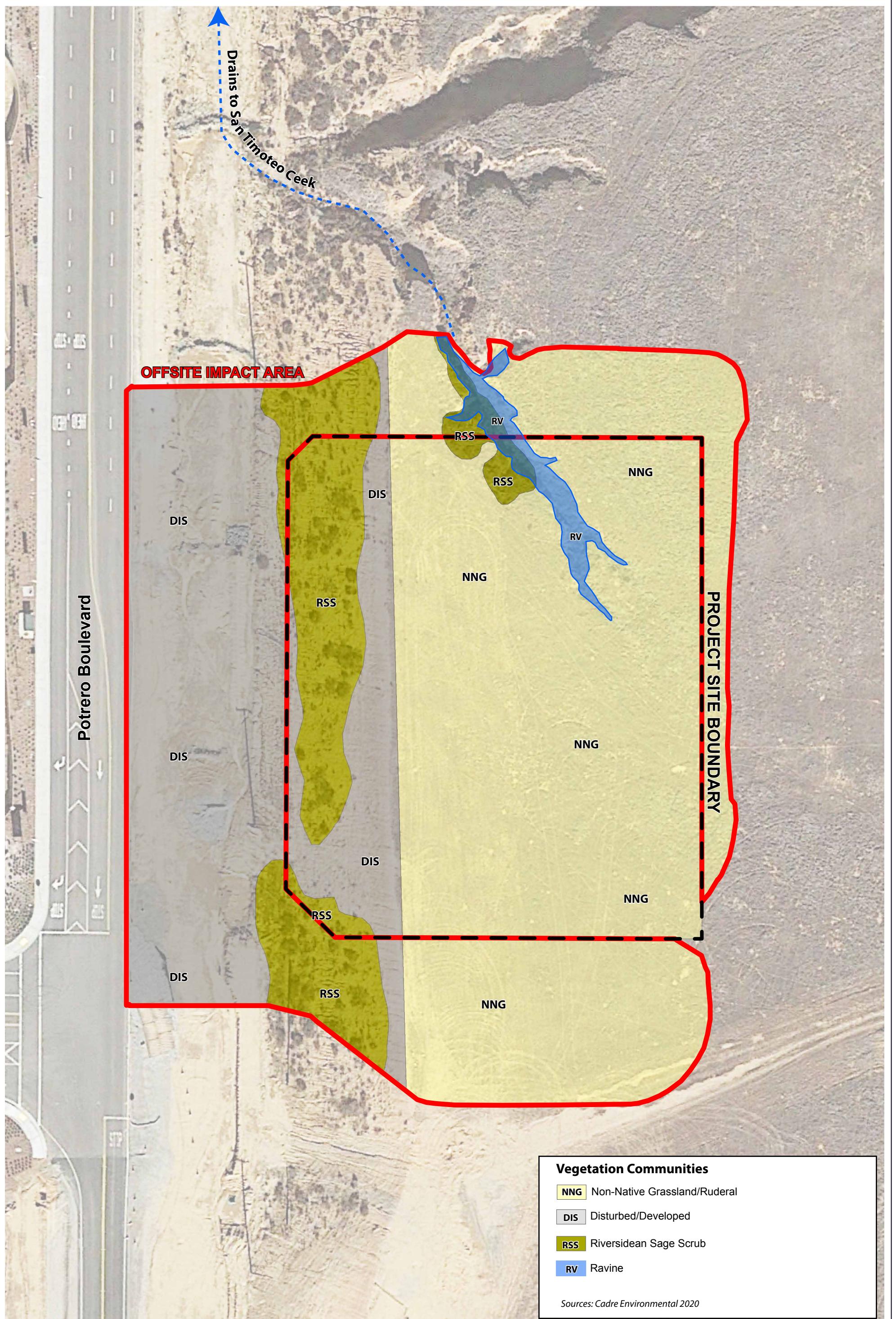
Vegetation Communities

Non-Native Grassland/Ruderal

The majority of the Project Site is dominated by non-native grassland/ruderal vegetation. These areas appear to be annually cleared based on a review of historic aerials. This generally flat area is dominated by black mustard (*Brassica nigra*), London rockets (*Sisymbrium irio*), wild oat (*Avena fatua*), ripgut grass (*Bromus diandrus*), red-stemmed filaree (*Erodium cicutarium*), white stem filaree (*Erodium moschatum*), and horehound (*Marrubium vulgare*). Native herbaceous vegetation documented within this habitat and often associated with disturbed areas include doveweed (*Croton setiger*), vinegarweed (*Trichostema lanceolatum*), and telegraph weed (*Heterotheca grandiflora*).

Riversidean Sage Scrub

Riversidean sage scrub was documented onsite along the western manufactured slope and scattered along the ravine which extends into the northern region of the Project Site. Dominant species documented within this vegetation community include pine bush (*Ericameria pinifolia*), California buckwheat (*Eriogonum fasciculatum*), felty everlasting (*Pseudognaphalium canescens*), California sagebrush (*Artemisia californica*), paniculate tarplant (*Deinandra paniculata*), common sand-aster (*Corethrogyne filaginifolia*), and slender buckwheat (*Eriogonum gracile*).



APNs Portions of 414-120-039, -041, -042, and ROW's

Figure 4 - Vegetation Communities Map

*Determination of Biologically Equivalent or Superior Preservation
West Side Fire Station Project, City of Beaumont*



PHOTOGRAPH 1 - Northeast view of Project Site from near southern boundary.



PHOTOGRAPH 2 - Northwest view of Project Site from near southeast boundary.

Refer to Figure 2 - Project Site Map

Figure 5 - Current Project Site Photographs

*Determination of Biologically Equivalent or Superior Preservation
West Side Fire Station Project, City of Beaumont*



PHOTOGRAPH 3 - Southwest view of Project Site from near northeastern boundary.



PHOTOGRAPH 4 - Southward view of ravine which extends into northern Project Site boundary.

Refer to Figure 2 - Project Site Map

Figure 6 - Current Project Site Photographs

*Determination of Biologically Equivalent or Superior Preservation
West Side Fire Station Project, City of Beaumont*



PHOTOGRAPH 5 - Northwestern view of ravine which extends into the northern region of the Project Site.

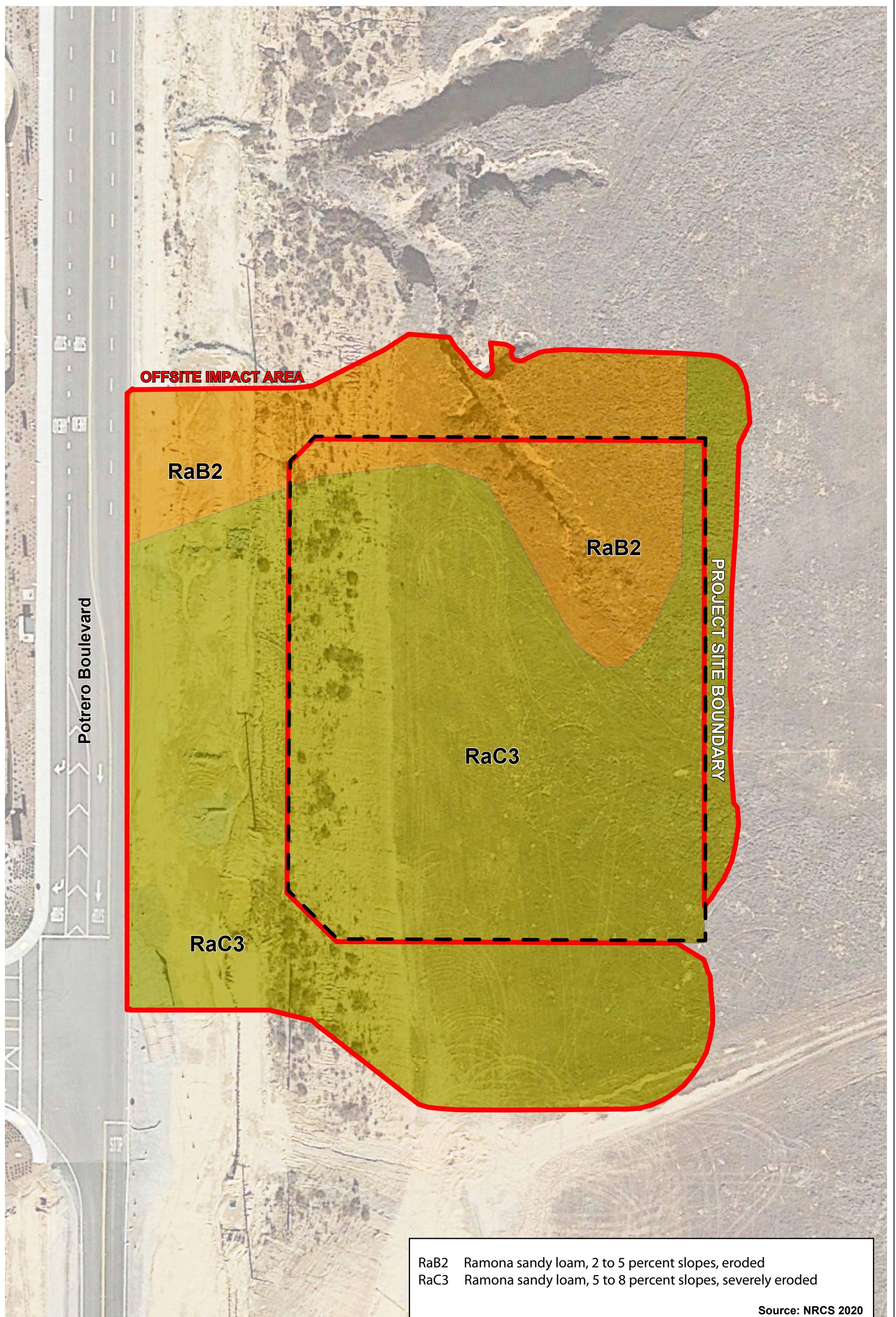


PHOTOGRAPH 6 - Southward view of offsite drainage ditch that the onsite ravine flows toward. Riversidean sage scrub occurs on the western Project Site manufactured slope (red boundary).

Refer to Figure 2 - Project Site Map

Figure 7 - Current Project Site Photographs

*Determination of Biologically Equivalent or Superior Preservation
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APNs Portions of 414-120-039, -041, -042, and ROW's

Figure 8 - Soils Association Map

*Determination of Biologically Equivalent or Superior Preservation
West Side Fire Station Project, City of Beaumont*



Disturbed/Disturbed

Disturbed regions of the Project Site include those areas generally devoid of vegetation or with scattered occurrences of Russian thistle (*Salsola tragus*), horseweed (*Erigeron canadensis*), tocalote (*Centaurea melitensis*) and horehound. The proposed offsite impact area also extends west into the existing paved (developed) portion of Potrero Boulevard.

3. RIPARIAN, RIVERINE, VERNAL POOL MITIGATION (SECTION 6.1.2)

3.1 Methods

A formal jurisdictional delineation and MSHCP Section 6.1.2 assessment was conducted by Helix Environmental Planning in June 2021. 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 U.S. Army Corps of Engineers (USACE) pursuant to Clean Water Act (CWA) Section 404; wetland and non-wetland waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board 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 California Fish and Game Code (CDFG Code); and Riparian/Riverine Areas and Vernal Pools defined in Section 6.1.2 of the Western Riverside County MSHCP.

3.2 Results/Impacts

Regulated activities within inland streams, wetlands and riparian areas in Western Riverside County California fall under the jurisdiction of the MSHCP 6.1.2. The MSHCP requires, among other things, assessments for riparian/riverine and vernal pool resources. As projects are proposed within the MSHCP Plan Area, an assessment of the potentially significant effects of those projects on riparian/riverine areas, and vernal pools are required, as currently mandated by CEQA, using available information augmented by project-specific mapping provided to and reviewed by the permittee's biologist(s). Riparian/riverine areas and vernal pools are defined for this section as follows in accordance with Section 6.1.2, Vol. I, of the Final MSHCP Plan:

"Riparian/Riverine Areas are lands which contain habitat dominated by trees, shrubs, persistent emergents, 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." (MSHCP 2004)

It is assumed the first part of the definition defines riparian habitat, and the second part defines riverine areas. Vernal pools are defined as:

"...seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season". (MSHCP 2004)

No evidence of vernal pool, ephemeral depressions, stock ponds, 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 Ramona sandy loam 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 pool, ephemeral depressions, stock ponds, road ruts can easily be seen. No sign of 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.

No vegetation communities representing MSHCP Section 6.1.2 riparian scrub, forest or woodland resources were documented within or adjacent to the Project Site.

A 0.07-acre portion of a ravine dominated by non-native grassland/ruderal and Riversidean sage scrub vegetation is located in the northern region of the Project Site. The ravine currently drains to an existing offsite road-side swale adjacent to Potrero Boulevard created to divert flows north to San Timoteo Creek. The 0.07-acre ravine represents an MSHCP Section 6.1.2 Riverine resource as outlined in Table 2, *MSHCP Section 6.1.2 Riverine Resources*, and as shown in Figure 9, *MSHCP Section 6.1.2 Riverine Resources Map*. All 0.07-acre of MSHCP Section 6.1.2 Riverine resources documented onsite will be permanently impacted as shown in Figure 10, *MSHCP Section 6.1.2 Riverine Impact Map*.

Table 2.
MSHCP Section 6.1.2 Riverine Resources

Drainage	Type	Location	Total (acres)
MSHCP Section 6.1.2 Riverine			
Ravine	Non-Riparian Ephemeral	Onsite	0.036
Ravine	Non-Riparian Ephemeral	Offsite	0.034
Total			0.070

Source: Helix Environmental Planning 2021.

Permanent impacts to 0.07-acre will be mitigated following review and approval of the following DBESP by the Regional Conservation Authority (RCA) and wildlife agencies.

3.3 Mitigation and Equivalency

To meet the criteria of a biologically equivalent or superior alternative, the applicant will offset permanent impacts to 0.07-acre of MSHCP Section 6.1.2 riverine resources (ravine) located within the northern region of the Project Site by:

- 1) Purchasing 0.07 acre (1:1) of re-establishment credits from the Riverpark Mitigation Bank located within the San Jacinto watershed, and
- 2) Purchasing 0.07 acre (1:1) of re-habilitation credits from the Riverpark Mitigation Bank located within the San Jacinto watershed.

The River Park Mitigation Bank proposes to re-establish (recreate former but no longer existing) alkali plain wetland system habitat and rehabilitate (repair existing but degraded) alkali plain wetland system habitat for a grand total of 583 acres of restoration of various types of alkali plain wetland system plant communities. As stated by the United States Army Corps of Engineers (USACE):

"The Riverpark Mitigation Bank is a proposed 619-acre mitigation bank located along the San Jacinto River (SJR) in western Riverside County (Figures 1 and 2). The Bank property is specifically located just downstream of the Ramona Expressway and immediately upstream of Nuevo Road. The site is depicted on the U.S. Geological Survey (USGS) Perris and Romoland Quadrangle Rancho San Jacinto Nuevo y Potrero Land Grant (Figure 3) in unincorporated Riverside County, California (33° 49' 8.4"N, -117° 9' 18"W)." (USACE 2015)

"The primary objective of the proposed mitigation bank would be to replace functions and services of aquatic resources and associated habitats that have been degraded or destroyed as a result of activities conducted in compliance or in violation of Section 404 of the CWA. The proposed mitigation bank would provide mitigation for both permanent and temporary impacts to waters of the U.S. In addition, the proposed mitigation bank may be used to offset environmental losses resulting from unavoidable impacts related to regulated activities by the California Department of Fish and Wildlife and the San Diego and Santa Ana Regional Water Quality Control Boards. Specific objectives include: • Restoration of fluvial processes on site within the San Jacinto River floodplain. • Restoration of alkali playa and vernal pool habitat. • Expansion of existing sensitive plant populations across the site. • Removal of ongoing agricultural activities on the site. • Removal of existing berms and the low flow channel. • Permanent protection of the site through transfer of fee title to the Western Riverside Regional Conservation Authority (RCA). • Permanent management of the site through funding of a non-wasting endowment." (USACE 2015)

"Due to its location along the San Jacinto River and its high potential for successful restoration upon elimination of the artificial low flow channel and berms created by historic agricultural activities, the proposed mitigation bank location has been identified by several state and Federal agencies as a high-priority restoration site." (USACE 2015)

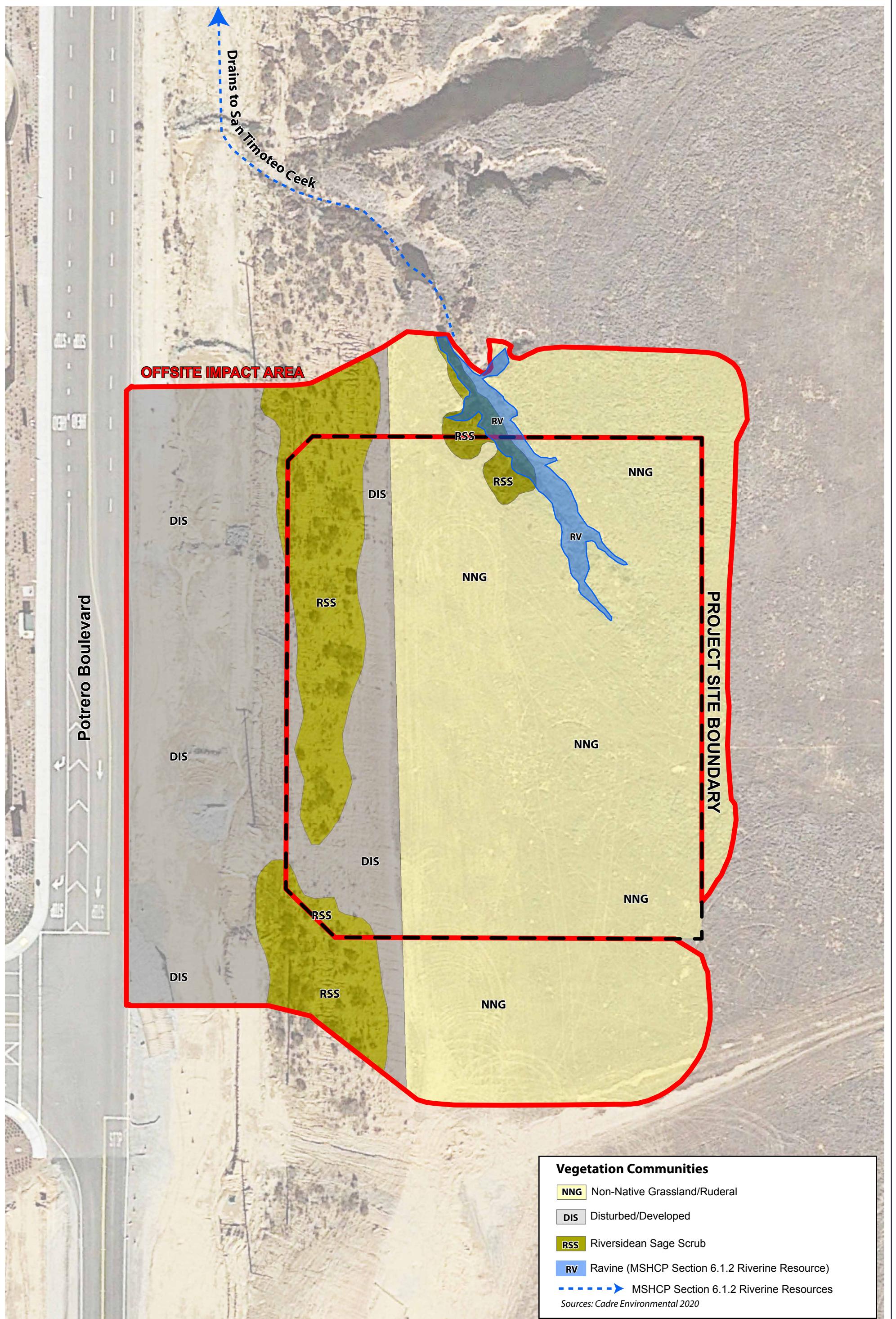
The following Best Management Practices will be implemented for the proposed project to ensure compliance and consistency with MSHCP objectives and goals.

- The Project Site and adjacent vegetation is expected to potentially provide nesting habitat for migratory birds protected under the CDFG Codes. Avoidance measures for potential direct/indirect impacts to common and sensitive bird and raptor species will require compliance with the CDFG Code Section 3503. Construction outside the nesting season (between September 15th and February 15th) does not require preconstruction nesting bird surveys. If construction is proposed between February 16th and September 14th, a qualified biologist must conduct a preconstruction nesting bird survey. A report of the findings prepared by a qualified biologist shall be submitted to the City of Beaumont for review and approval prior to the initiation of project activities.
- Access to Project Site shall be via pre-existing and proposed access routes extending west from Potrero Boulevard.
- Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat (San Timoteo Creek). Necessary precautions shall be taken to prevent the release of substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictions (City of Beaumont), USFWS, CDFW, and RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
- The Project Site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site.
- Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.

3.3.1 Direct Effects

Direct impacts are considered to be those that involve the loss, modification, or disturbance of natural resources or habitats (i.e., vegetative communities or substrate) that in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts include the destruction of individual plants or wildlife of low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals may also directly affect area-wide population numbers or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

The 0.07-acre ravine represents an MSHCP Section 6.1.2 Riverine resource as outlined in Table 2, *MSHCP Section 6.1.2 Riverine Resources*, and as shown in Figure 9, *MSHCP Section 6.1.2 Riverine Resources Map*. All 0.07-acre of MSHCP Section 6.1.2 Riverine resources documented onsite will be permanently impacted as shown in Figure 10, *MSHCP Section 6.1.2 Riverine Impact Map*.



APNs Portions of 414-120-039, -041, -042, and ROW's

Figure 9 - MSHCP Section 6.1.2 Riverine Resources Map
Determination of Biologically Equivalent or Superior Preservation
West Side Fire Station Project, City of Beaumont

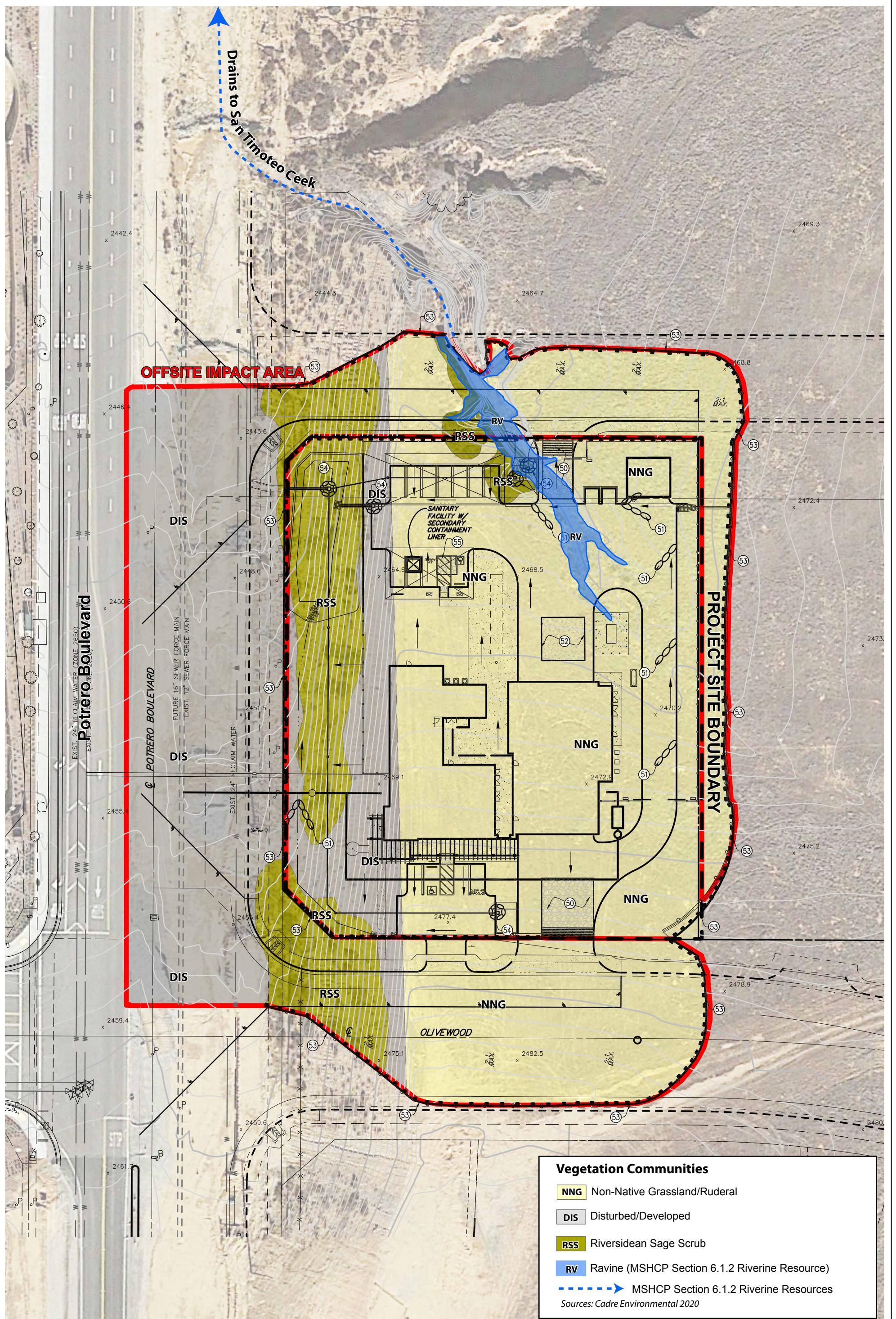


Figure 10 - MSHCP Section 6.1.2 Riverine Resources Impact Map
Determination of Biologically Equivalent or Superior Preservation
West Side Fire Station Project, City of Beaumont

3.3.2 Indirect Effects

Indirect impacts are considered to be those impacts associated with the project that involve the effects of alteration of the existing habitat and an increase in human population and or landuse within the Project Site. These impacts are commonly referred to as “edge effects” and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the Project Site.

Indirect impacts also include the effects of increases in ambient levels of sensory stimuli (e.g., noise and light), unnatural predators (e.g., domestic cats and other non-native animals), competitors (e.g., exotic plants and non-native animals), and trampling and unauthorized recreational use due to the increase in human population. Other permanent indirect effects may occur that are related to water quality and storm water management, including trash/debris, toxic materials, and dust.

The MSHCP Urban/Wildlands Interface guidelines presented in Section 6.1.4 are intended to address indirect effects associated with locating commercial, mixed uses and residential developments in proximity to an MSHCP Conservation Area. The 3.23-acre Project Site impact area would not be located adjacent to a proposed MSHCP Conservation Area.

Regardless, all proposed Urban/Wildlands Interface guidelines will be implemented for the proposed Project Site impact area. Compliance with all the following MSHCP Urban/Wildlands Interface guidelines will ensure that the proposed project will not result in significant indirect impacts to potential future proposed conservation areas in the northern region of Criteria Cell 1015 (approximately 600 feet north of Project Site).

Water Quality/Hydrology

The project will comply with all applicable water quality regulations, including obtaining and complying with those conditions established in WDRs and a National Pollutant Discharge Elimination System (NPDES) permits, as warranted. Both of these permits include the treatment of all surface runoff from paved and developed areas, the implementation of applicable Best Management Practices (BMPs) during construction activities (discussed in the following section) and the installation and proper maintenance of structural BMPs to ensure adequate long-term treatment of water before entering into any stream course or offsite Conservation Areas (San Timoteo Creek).

As previously stated, the project currently proposes that all drainage runoff from the Project Site will be captured and directed to an underground storage and infiltration system for water quality treatment.

Toxics

Storm water treatment systems will be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant material, or other elements that could degrade or harm adjacent biological or aquatic resources. Toxic sources within the Project Site would be limited to those commonly associated with fire stations such as fire retardants and vehicle emissions. In order to mitigate for the potential effects of these toxics, the project will incorporate structural BMPs, as required in association with compliance with WDRs and the NPDES permit system, in order to reduce the level of toxins introduced into the drainage system and the surrounding areas, as warranted.

As previously stated, the project currently proposes that all drainage runoff from the Project Site will be captured and directed to an underground storage and infiltration system for water quality treatment.

Lighting

Night lighting associated with the proposed fire station would only be directed toward proposed facility grounds and access roads to reduce potential indirect impacts to wildlife species.

Noise

Because the proposed project development will not result in noise levels that exceed standards established for the City of Beaumont, wildlife within adjacent open space habitats will not be subject to noise that exceeds these established standards. Short-term construction-related noise impacts will be reduced by the implementation of the following:

- During all Project Site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the Project Site during all project construction, as applicable.
- The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours to be determined by City of Beaumont staff.
- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses.

Invasive Species

The landscape plans for the commercial project shall avoid the use of invasive species for the portions of the development areas adjacent to the proposed Conservation Areas. Invasive plants that should be avoided are included in Table 6-2 of the MSHCP, *Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area*.

Implementation of all Urban/Wildlands Interface guidelines will minimize adverse project indirect impacts and ensure consistency with MSHCP Section 6.1.4 guidelines.

Barriers

Barriers are intended to reduce or minimize unauthorized public access and associated impacts to protected resources. The Project Site is a Fire Station which will be completely fenced preventing staff from entering potential conserved lands north of the property.

Implementation of all Urban/Wildlands Interface guidelines will minimize adverse project indirect impacts and ensure consistency with MSHCP Section 6.1.4 guidelines.

4. NARROW ENDEMIC PLANT SPECIES MITIGATION (SECTION 6.1.3)

The MSHCP has determined that all of the sensitive species potentially occurring onsite or within the offsite Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required for narrow endemic plants if suitable habitat is documented and the assessment area is located within a predetermined “Survey Area” (MSHCP 2004).

The Project Site occurs completely within an MSHCP predetermined Survey Area for two (2) Narrow Endemic Plant Species: many-stemmed dudleya, and Marvin’s (Yucaipa) onion (RCA GIS Data Downloads 2021).

4.1 Methods

The Project Site was assessed on August 27th, 2020 to determine the presence/absence and extent of habitat for MSHCP narrow endemic plant species. Existing biological resources within and adjacent to the Project Site were initially investigated through a review of pertinent literature and online data. The California Natural Diversity Database (CNDB 2021), and CNPS (2021). In addition, soil, local floras, and consultation with local experts were utilized in the identification of species, soils, or habitats that could support the target MSHCP sensitive plants within or adjacent to the Project Site. These and other references are listed below and in References.

Prior to conducting fieldwork, a thorough archival review was conducted using the following baseline resources:

- California Native Plant Society 8th Inventory Online (2021);
- California Natural Diversity Data Base for the USGS 7.5' El Casco Quadrangle (CNDB 2021a);
- Soil Survey of Western Riverside Area (Knecht 1971; USDA-NRCS 2021);
- Vegetation Alliances of Western Riverside County, California (Klein and Evens 2005);
- Vascular Flora of Western Riverside County (Roberts et al. 2004); and
- Reports prepared by the Regional Conservation Authority, Western Riverside County (<http://www.wrc-rca.org/about-rca/monitoring/monitoring-surveys/>).

4.2 Results/Impacts

As outlined in Table 3, Potential MSHCP Narrow Endemic Plant Assessment, no suitable clay substrates were documented onsite following a review of historic aerials (inundation), soils maps, and lack of undisturbed native habitats. The Marvin’s onion and many-stemmed dudleya are not expected to occur onsite and no additional surveys are warranted.

Table 3.
Potential MSHCP Narrow Endemic Plant Assessment

Species Name (Scientific Name) Status	Habitat Description	Comments
MSHCP Narrow Endemic Plant Species		
Marvin’s (Yucaipa) onion (<i>Allium marvinii</i>)	Restricted to clay soils. It blooms from April to May. This species is found in chaparral habitats.	<u>No Potential</u> – Marvin’s onion is not expected to occur onsite based on a lack of suitable soil and vegetative conditions.
CRPR List 1B.2 MSHCP NEPSA		

Species Name (Scientific Name) Status	Habitat Description	Comments
Multi-stemmed dudleya (<i>Dudleya multicaulis</i>) CRPR List 1B.2 MSHCP NEPSA	Many-stemmed dudleya is a succulent perennial in the stonecrop family. It blooms April to July. This species is known from several southern California counties, and typically occurs in dry, stony places on heavy soils in scrub and grassland habitats below 2,000 feet elevation. Many-stemmed dudleya is most often associated with clay soils in barren, rocky places, or thinly vegetated openings in chaparral, coastal sage scrub, and southern needlegrass grasslands.	<u>No Potential</u> – Many-stemmed dudleya is not expected to occur onsite based on a lack of suitable soil conditions.

4.3 Mitigation and Equivalency

The Marvin's onion and many-stemmed dudleya are not expected to occur onsite and no additional surveys are warranted. Therefore, no mitigation is proposed.

4.3.1 Direct Effects

The Marvin's onion and many-stemmed dudleya are not expected to occur onsite and no additional surveys are warranted. Therefore, no mitigation is proposed.

4.3.2 Indirect Effects

The Marvin's onion and many-stemmed dudleya are not expected to occur onsite and no additional surveys are warranted. Therefore, no mitigation is proposed.

5. CRITERIA AREA SPECIES MITIGATION (SECTION 6.3.2)

The MSHCP has determined that all of the sensitive species potentially occurring onsite or within the offsite Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required for criteria area species if suitable habitat is documented onsite and the assessment areas are located within a predetermined "Survey Area" (MSHCP 2004).

5.1 Criteria Area Species Survey Area – Plants

The Project Site does not occur within a predetermined Survey Area for MSHCP criteria area plant species. Compliance with Section 6.1.3 respective of MSHCP criteria area plants is not applicable to the proposed Project Site.

5.1.1 Methods

The Project Site does not occur within a predetermined Survey Area for MSHCP criteria area plant species. Compliance with Section 6.1.3 respective of MSHCP criteria area plants is not applicable to the proposed Project Site.

5.1.2 Results/Impacts

The Project Site does not occur within a predetermined Survey Area for MSHCP criteria area plant species. Compliance with Section 6.1.3 respective of MSHCP criteria area plants is not applicable to the proposed Project Site.

5.1.3 Mitigation and Equivalency

The Project Site does not occur within a predetermined Survey Area for MSHCP criteria area plant species. Compliance with Section 6.1.3 respective of MSHCP criteria area plants is not applicable to the proposed Project Site.

5.2 Criteria Area Species Survey Area – Burrowing Owl

The MSHCP has determined that all of the sensitive species potentially occurring onsite have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required wildlife species if suitable habitat is documented onsite and/or if the property is located within a predetermined “Survey Area” (MSHCP 2004).

The Project Site occurs within an MSHCP burrowing owl (*Athene cunicularia*) survey area and a habitat assessment was conducted for the species to ensure compliance with MSHCP guidelines for the species.

5.2.1 Methods

Burrowing Owl Habitat Assessment

In accordance with the MSHCP Burrowing Owl Survey Instructions (2006), survey protocol consists of two steps, Step I – Habitat Assessment and Step II – Locating Burrows and Burrowing Owls. The following section describes the approach to conducting the habitat assessment.

Step I – Habitat Assessment

Step 1 of the MSHCP habitat assessment for burrowing owl consists of a walking survey to determine if suitable habitat is present onsite. Cadre Environmental conducted the habitat assessment on August 27th, 2020. Upon arrival at the Project Site, and prior to initiating the assessment survey, Cadre Environmental used binoculars to scan all suitable habitats on and adjacent to the Project Site, including perch locations, to ascertain owl presence.

All suitable areas of the Project Site were surveyed on foot by walking slowly and methodically while recording/mapping areas that may represent suitable owl habitat onsite. Primary indicators of suitable burrowing owl habitat in western Riverside County include, but are not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas. Burrowing owls typically use

burrows made by fossorial mammals, such as ground squirrels (*Otospermophilus beecheyi*) or badgers (*Taxidea taxus*), but they often utilize man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, wood debris piles, openings beneath cement or asphalt pavement. Burrowing owls are often found within, under, or in close proximity to man-made structures.

According to the MSHCP guidelines, if suitable habitat is present, the biologist should also walk the perimeter of the Project Site, which consists of a 150-meter (approximately 500 feet) buffer zone around the Project Site boundary. If permission to access the buffer area cannot be obtained, the biologist shall not trespass, but visually inspect adjacent habitats with binoculars. In addition to surveying the entire Project Site all bordering natural habitats located immediately adjacent to the Project Site were assessed.

Step II – Locating Burrows and Burrowing Owls

Concurrent with the initial habitat assessment, a detailed focused burrow survey was conducted and included documentation of appropriately sized natural burrows or suitable man-made structures that may be utilized by burrowing owl as part of the MSHCP protocol.

5.2.2 Results/Impacts

No suitable burrowing owl burrows and/or sign of owl occupation, such as feathers, tracks, or pellets was documented within or adjacent to the 3.23-acre Project Site. Although, the Project Site does represent suitable foraging habitat, the Project Site is not currently occupied by burrowing owl.

5.2.3 Mitigation and Equivalency

Due to the fact that the species could colonize the Project Site in the future, a 30-day burrowing owl preconstruction surveys will be required to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. The surveys will be conducted in compliance with both MSHCP and CDFW guidelines (MSHCP 2006, CDFW 2012). A report of the findings prepared by a qualified biologist shall be submitted to the City of Beaumont for review and approval prior to any permit or ground disturbing activities.

If burrowing owls are detected onsite during the 30-day preconstruction survey, during the breeding season (February 1st to August 31st) then construction activities shall be limited to beyond 300 feet of the active burrows until a qualified biologist has confirmed that nesting efforts are completed or not initiated. In addition to monitoring breeding activity, if construction is proposed to be initiated during the breeding season or active relocation is proposed, a burrowing owl mitigation plan will be developed based on the City of Beaumont, CDFW and USFWS requirements for the relocation of individuals to predetermined preserve.

Following submittal, review and approval of the 30-day burrowing owl preconstruction survey report by the City of Beaumont and compliance with all species-specific conservation goals, if detected within or adjacent to the Project Site, the project will be consistent with MSHCP Section 6.3.2.

5.3 Criteria Area Species Survey Area – Mammals

The MSHCP has determined that all of the sensitive species potentially occurring onsite or within the offsite Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional

surveys may be required if suitable habitat for mammals is documented onsite and the property is located within a predetermined “Survey Area” (MSHCP 2004).

The Project Site does not occur within a predetermined Survey Area for mammal species. Compliance with Section 6.1.3 respective of MSHCP mammals is not applicable to the proposed Project Site or offsite Project Site.

5.3.1 Methods

Compliance with Section 6.1.3 respective of MSHCP mammals is not applicable to the proposed Project Site.

5.3.2 Results/Impacts

Compliance with Section 6.1.3 respective of MSHCP mammals is not applicable to the proposed Project Site.

5.3.3 Mitigation and Equivalency

Compliance with Section 6.1.3 respective of MSHCP mammals is not applicable to the proposed Project Site.

5.4 Criteria Area Species Survey Area – Amphibians

The MSHCP has determined that all of the sensitive species potentially occurring onsite or within the offsite Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required if suitable habitat for amphibian species is documented onsite and the property is located within a predetermined “Survey Area” (MSHCP 2004).

The Project Site does not occur within a predetermined Survey Area for amphibian species. Compliance with Section 6.1.3 respective of MSHCP amphibians is not applicable to the proposed Project Site.

5.4.1 Methods

Compliance with Section 6.1.3 respective of MSHCP amphibians is not applicable to the proposed Project Site.

5.4.2 Results/Impacts

Compliance with Section 6.1.3 respective of MSHCP amphibians is not applicable to the proposed Project Site.

6. REFERENCES

Cadre Environmental. 2021. Western Riverside County MSHCP – Consistency Analysis, West Side Fire Station Project, City of Beaumont, California.

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Helix Environmental Planning. 2021. West Side Fire Station Jurisdictional Delineation GIS Data.

Riverside County Integrated Project (RCIP) Multiple Species Habitat Conservation Plan (MSHCP), March 2004.

United States Department of Agriculture. 2021. Custom Soil Resources Report for Western Riverside Area, California. Natural Resources Conservation Service.
<https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>, accessed June 2021.

Certification "*I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge.*"

Author: _____ Date: _____

Contact: Ruben S. Ramirez, Jr. 949-300-0212, r.ramirez@cadreenvironmental.com

APPENDIX D – CULTURAL RESOURCES LETTER REPORT

CULTURAL RESOURCES STUDY RESULTS LETTER REPORT FOR THE WEST SIDE FIRE STATION PROJECT

City of Beaumont

**CHAMBERS
GROUP**

December 27, 2021
9620 Chesapeake Drive, Suite 202
San Diego, CA 92123
(21316)

Jeff Hart
Director of Public Works
City Engineer
City of Beaumont
550 E. 6th Street
Beaumont, CA 92223

**Subject: Letter Report for Cultural Resources Study for the City of Beaumont West Side Fire Station Project,
City of Beaumont, Riverside County, CA.**

Dear Mr. Hart,

Chambers Group, Inc. (Chambers Group) is providing this Letter Report to City of Beaumont documenting the results of a cultural resources records search, literature review, and survey in support of the West Side Fire Station Project (Project, Proposed Project) in the City of Beaumont (City), Riverside County, California. This assessment includes a cultural resources records search and literature review for the Project site and study area (Figure 1). The purpose of the review is to gather and analyze information needed to assess the potential for impacts to cultural resources within the Proposed Project area.

Project Description

The City of Beaumont proposes the construction of a new fire station, composed of two buildings, totaling approximately 10,760 square feet, a storage building totaling approximately 570 square-feet, and a parking area comprised of approximately 21,569 square feet of paving. Also proposed is an underground storage and stormwater infiltration system for water quality treatment to capture a drainage runoff from the Project site. Three vegetated bioretention basins will be installed, with maximum depths of 72 inches, or six feet below the ground surface. Approximately 18,996 square feet of the Project area would be landscaped with native, drought resistant plant species. A water efficient irrigation system would be also installed. All landscaping and irrigation would comply with the City's Landscaping Standards (Code of Ordinances Section 17.06). In addition, the Project would construct two new access roads. The road to the north would be a potential future shared common alignment with surrounding land zoned urban village (UV). and the road to the south would be named Western Knoll Boulevard (Blvd). The northern access road would be constructed in compliance with County of Riverside requirements, measuring 25 feet wide by 200 feet long. Western Knoll Blvd would be 39 feet wide by 200 feet long and would be designed to accommodate heavy duty equipment such as fire engines. The Project is intended to improve fire service response times for local residents, particularly on the western side of the City.

The City of Beaumont is the lead agency for the Proposed Project. An Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] §21000 et seq.) and the State CEQA Guidelines (Title 14, California Code of Regulations [CCR] §15000 et seq.) and has determined that preparation of a Mitigated Negative Declaration would be appropriate under CEQA.

Location and Setting

The Project would be located on approximately 1.59 acres spanning portions of three different parcels: APNs 414-120-040, -041, and -042. The Project area is generally bounded by San Timiteo Canyon Road to the north, Interstate 10 to the east, SR 60 to the south, and Potrero Boulevard to the west. The Project is located on the United States Geological Survey (USGS) 7.5' El Casco Quadrangle, Township 3 South, Range 1 West, Section 5.



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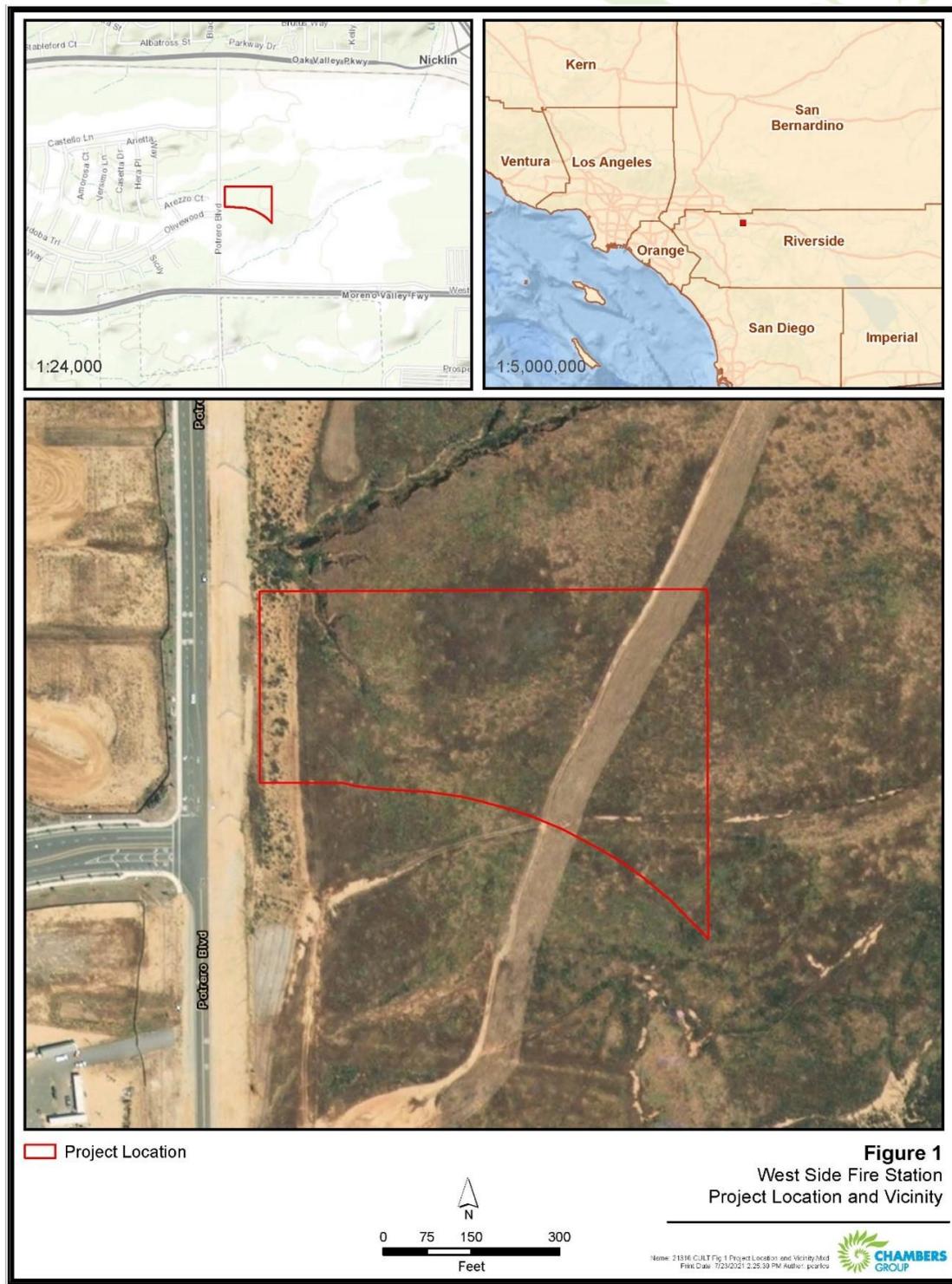


Figure 1: Project Location



CULTURAL RESOURCES STUDY RESULTS LETTER REPORT FOR THE WEST SIDE FIRE STATION PROJECT

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Regulatory Context

As the lead agency for the Proposed Project, the City of Beaumont must comply with the provisions of CEQA, which requires a lead agency to determine whether a project may have a significant effect on historical resources (PRC Section 21084.1). In addition to State regulations, projects built in the City of Beaumont are also subject to several policies relating to archaeological, historical, and paleontological resources. Chapter 8 of the Beaumont General Plan pertains specifically to historic preservation within the city. The regulatory framework as it pertains to cultural resources under CEQA has been detailed below.

Under the provisions of CEQA, including the CEQA Statutes (PRC §§ 21083.2 and 21084.1), the CEQA Guidelines (Title 14 CCR § 15064.5), and PRC § 5024.1 (Title 14 CCR § 4850 et seq.), properties expected to be directly or indirectly affected by a proposed project must be evaluated for eligibility for listing in the California Register of Historical Resources (CRHR, PRC § 5024.1).

The purpose of the CRHR is to maintain listings of the State's historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from material impairment and substantial adverse change. The term *historical resources* includes a resource listed in or determined to be eligible for listing in the CRHR; a resource included in a local register of historical resources; and any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (CCR § 15064.5[a]). The criteria for listing properties in the CRHR were expressly developed in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP). The California Office of Historic Preservation (OHP 1995:2) regards "any physical evidence of human activities over 45 years old" as meriting recordation and evaluation.

California Register of Historic Resources

A cultural resource is considered "historically significant" under CEQA if the resource meets one or more of the criteria for listing in the CRHR. The CRHR was designed to be used by State and local agencies, private groups, and citizens to identify existing cultural resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. The following criteria have been established for the CRHR. A resource is considered significant if it:

1. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. is associated with the lives of persons important in our past;
3. embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the above criteria, historical resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be able to convey the reasons for their significance. Such integrity is evaluated in regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

Under CEQA, if an archeological site is not a historical resource but meets the definition of a "unique archeological resource" as defined in PRC § 21083.2, then it should be treated in accordance with the provisions of that section. A *unique archaeological resource* is defined as follows:

- An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
 - Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
 - Has a special and particular quality, such as being the oldest of its type or the best available example of its type



CULTURAL RESOURCES STUDY RESULTS LETTER REPORT FOR THE WEST SIDE FIRE STATION PROJECT

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○ Is directly associated with a scientifically recognized important prehistoric or historic event or person Resources that neither meet any of these criteria for listing in the CRHR nor qualify as a “unique archaeological resource” under CEQA PRC § 21083.2 are viewed as not significant. Under CEQA, “A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects” (PRC § 21083.2[h]).

Impacts that adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. Impacts to historical resources from a proposed project are thus considered significant if the project:

- (1) physically destroys or damages all or part of a resource;
- (2) changes the character of the use of the resource or physical feature within the setting of the resource, which contributes to its significance; or
- (3) introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

Assembly Bill 52

Assembly Bill (AB) 52 was enacted in 2015 and expands CEQA by defining a new resource category: tribal cultural resources. AB 52 establishes that “a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. AB 52 requires that lead agencies “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those that have requested notice of projects proposed in the jurisdiction of the lead agency. It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and meets either of the following criteria:

- Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k)
- 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 PRC Section 5024.1 (in applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe)

Local

In addition to State regulations, projects built in the City of Beaumont are also subject to the following goals and policies outlined in the City of Beaumont General Plan, Chapter 8: Conservation + Open Space. Specifically, Chapter 8 of the General Plan outlines several policies relating to archaeological, historical, and paleontological resources driven by Goal 8.11

Goal 8.11: A City where archaeological, cultural resources, tribal cultural resources, and historical places are identified, recognized, and preserved.

Policies:

8.11.1 Avoid or when avoidance is not feasible, minimize impacts to sites with significant archaeological, paleontological, cultural and tribal cultural resources, to the extent feasible



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- 8.11.2 Comply with notification of California Native American tribes and organizations of proposed projects that have the potential to adversely impact cultural resources, per the requirements of AB52 and SB18.
- 8.11.3 Encourage the preservation of historic (i.e., non-archaeological) resources, when practical. When it is not practical to preserve a historic resource in its entirety, require the architectural details and design elements of historic structures to be preserved during renovations and remodels as much as feasible.
- 8.11.4 Require that any human remains discovered during implementation of public and private projects within the City be treated with respect and dignity and fully comply with the California Native American Graves Protection and Repatriation Act, California Public Resources Code Amended Statutes 1982 Chapter 1492, California Public Resources Code Statutes 2006, Chapter 863, Section 1, CA Health and Safety Code Section 7050.5 , Public Resources Code Section 5097.98, Public Resources Code Section 5097.94, SB 447 (Chapter 404, Statutes of 1987) and other appropriate laws.
- 8.11.6 Consider the establishment of an arts and culture district that encourages venues for the arts and entertainment, protects historical buildings and cultural resources, and enhances the City image.

Open Space and Conservation Implementation Programs

C20: Cultural Resource Sensitivity Map. Develop a Cultural Resource Sensitivity Map based upon field and literature surveys identifying the locations of known cultural resources and areas of archaeological sensitivity within the City and its Sphere of Influence.

Environmental Setting

The proposed project is within the City of Beaumont, south of Interstate 10, north of Hwy 60, and east of Potrero Blvd. This general area is associated with the San Gorgonio Pass, a relatively narrow valley located between the San Bernardino Mountains (north) and the San Jacinto Mountains (south). As a portion of the southern extent of the Mojave Desert and western extent of the Colorado Desert, this area is characterized by the presence of decomposing granite derived from the nearby hillsides and windborne or water-borne alluvial deposits. Native vegetation in the area is generally limited to desert sage scrub, but riparian zones can be found along washes and intermittent streams.

The general area of the San Gorgonio Pass is characterized as having exposures of some Mesozoic age granitic and metasedimentary rocks and Quaternary Alluvium (middle and late Pleistocene) that are unlikely to contain significant vertebrate fossils, at least in the uppermost layers. However, based on the review of the USGS geologic and geophysical maps of the El Casco 7.5' Quadrangle, and accompanying geologic-map database information, the Project site is situated atop sedimentary units that represent "old" and "very old" alluvial fan deposits, from middle Pleistocene (USGS 2015). Upon review of the associated geotechnical study for the current Project, the stratigraphic descriptions of the soils observed during geotechnical testing match the physical descriptions of these older deposits as sandy, gravelly and locally including muddy sediments (USGS 2015; Soils Southwest, Inc 2020).

In Southern California, the middle Pleistocene is generally associated with a pre-human presence, although recent research suggests early human exploration of North America earlier in the Late Pleistocene than previously documented. Fossil specimens are also associated with the Pleistocene, particularly in area where deposits are referred to as "older Alluvium" (USGS 2015; Lowe and Walker 1997). The Holocene is considered to be the most recent geologic period and one that is directly associated with human activity. The Holocene is also generally associated with "younger Alluvium" and not fossil bearing, except in instances where fossils have been redeposited.



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Cultural Setting

Prehistoric Overview

During the twentieth century, many archaeologists developed chronological sequences to explain prehistoric cultural changes within all or portions of Southern California (Moratto 1984; Jones and Klar 2007). A prehistoric chronology was devised for the Southern California coastal region based on early studies and focused on data synthesis that included four horizons: Early Man, Milling Stone, Intermediate, and Late Prehistoric (Wallace 1955, 1978). Though initially lacking the chronological precision of absolute dates (Moratto 1984:159), Wallace's 1955 synthesis has been modified and improved using thousands of radiocarbon dates obtained by Southern California researchers over recent decades (Byrd and Raab 2007:217; Koerper and Drover 1983; Koerper et al. 2003). The prehistoric chronological sequence for Southern California presented below is a composite based on Wallace (1955) and Warren (1968) as well as later studies, including Koerper and Drover (1983).

Ethnographic Overview

Various regional syntheses have been utilized in the archaeological literature for southern California. The following framework derives information from local studies to provide a useful overview for the Project site. The project area is geographically associated with both the Serrano and Cahuilla of Southern California (Kroeber 1925:615-619 and 692-708). Though near the territorial boundary separating these two populations, the area is more generally considered part of the "Pass Cahuilla" territory, a reference to the San Gorgonio Pass (Strong 1929:88- 143). Cahuilla culture has been described by several scholars, but most thoroughly by Bean (1972 and 1978). The "Pass Cahuilla" are one of the three main Cahuilla populations associated with western Riverside County as well as Desert Cahuilla and Mountain Cahuilla.

Cahuilla

The Cahuilla were hunter-gatherers of Shoshonean heritage who lived in small villages of 100 to 200 persons and who were organized into clans and lineages owning village areas and associate gathering tracts (James 1969; Kroeber 1976; Bean 1978; and Emanuels 1991). The Cahuilla produced skillfully manufactured pottery (believed to have been introduced by Colorado River tribes) and basketry. They constructed brush dwellings and ritual structures; conducted trade between the eastern desert and coastal populations, enjoyed games, music, and a rich ceremonial life. The Cahuilla had relatively extensive exchanges and interactions with neighboring populations and maintained a wide range of cultural traditions represented in the material remains recovered in archaeological sites throughout the area. Population estimates for the pre-contact Cahuilla range from 2600 to 10,000 individuals. These individuals maintained extensive networks for trade, including contacts along the Colorado River and the Pacific Coast. Trails, small camp sites, and other limited use areas have been recorded throughout the area and attest to the wide-spread use of the Valley and Pass. Additional evidence of long-term occupation has been identified along the various shorelines of prehistoric Lake Cahuilla. Trade routes (e.g. the Coco-Maricopa Trail) and encampments between known freshwater sites have been identified through archaeological evidence and some have been recorded in historic records or on historic period maps.

Wilke (1986:9) also emphasized that the Cahuilla did not rely heavily on stone tools but manufactured numerous tools and utility items of wood (even projectile points, at times) and ceramic goods. Nets and traps were also used in hunting and fishing. Ceramics, mainly Tizon Brown and Salton Buff wares, have been found throughout the area, represented by a wide variety of vessel types. Basketry was used, but few examples have survived. Likewise, few examples of wooden implements have survived. Recent archaeological investigations have suggested some Cahuilla practiced limited agriculture (Wilke 1986:9).

The Cahuilla are also associated with a relatively complex social organization based on lineages and clans. Individual clans occupied village sites and exploited specific clan-related territories. Interactions between clans provided exchange in the form of trade, marriages, and ceremonial contacts (e.g., funerary practices). The Cahuilla practiced cremation and often burned the residences of the deceased. Extensive grave goods have also been identified and associated with the cremation practices. New residences were built some distance from the burned residence and the families



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reestablished themselves at the new locale. Analysis of ethnographic and archaeological data has resulted in the development of various chronologies for the Cahuilla (Wallace 1962; Warren and Ore 1978; Weide et al. 1976; Hall and Barker 1976; and Gallegos et al. 1979). Jertberg (1982:5-7) synthesized this data and proposed the following chronology for comparative purposes:

- 10,000 - 6,000 B.C.: The Lake Mojave/San Dieguito Complex and/or Western Lithic Co-Tradition). Generally characterized by the presence of projectile points, large knives, scrapers, chopping tools, and scraper planes (Bettinger and Taylor 1974; Campbell and Campbell 1937; Rogers 1939; Davis et al. 1969). Items associated with vegetal food processing and hunting.
- 6,000 B.C. - A.D. 500: Archaic or Pinto Armagosa periods (Wallace 1962; Bettinger and Taylor 1974; Weide et al. 1976). This period is characterized by diagnostic projectile points, leaf shaped blades, choppers, and scraper planes. Some sites exhibit a small assemblage of milling stones. A shift in climate and vegetation leads to a shift in exploitation with an emphasis on vegetal resources.
- A.D. 500 to Contact: (unnamed). Characterized by the presence of the bow and arrow projectile points (as opposed to dart points), ceramics, and cremations. Milling tools increase, including mortars and pestles. There is evidence of limited agriculture and the appearance of Shoshonean-speakers displacing local Hokan-speaking populations (Wallace 1962:176). Sites are associated with the presence of Lake Cahuilla and the exploitation of resources directly associated with fresh water sources. This unnamed period is more directly associated with the presence of Native Americans in the Indio/La Quinta area and surrounding Cahuilla territories.

Initial contact with the Cahuilla occurred in the early 1800s (ca. 1823) with the Jose Romero Expedition through the Colorado Desert (Bean and Mason 1962). This expedition noted some agricultural activities conducted by the Cahuilla and including corn, beans, and squash. Wilke and Lawton (1975) suggest the presence of agriculture was a trait derived from contact with populations in Mexico (or the Greater Southwest).

Historic Overview

Post-European contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848– present). Briefly, and in very general terms, the Spanish Period encompassed the earliest historic-period explorations of the West, bringing colonization, missionization and proselytization across the western frontier, established few major centers such as Los Angeles and Monterey and a line of missions and presidios with attendant satellite communities, along with minor prospecting, and a foundational economic structure based on the rancho system. The Mexican Period initiated with a continuation of the same structures; however, commensurate with the political changes that led to the establishment of the Mexican state the missions and presidios were secularized, the lands parceled, and Indian laborers released. Increased global trade introduced both foreign and American actors into the Mexican economic and political sphere, both coincidentally, and purposefully, smoothing the transition to the American Period. The American Period was ushered in with a momentous influx of people seeking fortune in the Sierra foothills where gold was “discovered” in 1848. By the early 1850s people from all over the globe had made their way to California. Expansive industries were required to supply the early mining operations, such as forestry products, food networks to supply grains, poultry, cattle, and water systems, which intensified the early Mexican Period structures of ranches and supply chains, as well as the development and expansion of port cities to supply hard goods and clothes, animals, and people that moved across vastly improved trail and road networks. California cycled through boom and bust for several decades until World War I when the Department of the Navy began porting war ships along the west coast. Subsequently, California has grown, and contracted, predominantly around military policy along the west coast, and the Pacific Ocean. Following the industrial expansion related to World War II and the Cold War, technology and systems associated have come to fore as economic drivers.



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The origin of the City of Beaumont has been reported by Gunther (1984), who describes that it began modestly in 1866 as a mail stop called "Summit Station", the highest point on the passenger stage route through San Gorgonio Pass. The Summit Station mail stop became a railroad telegraph office for the Southern Pacific Company in 1876. The telegraph office name was changed to "San Gorgonio" in 1884 to coincide with the newly named town site that was established by George C. Egan in 1884. The Southern California Investment Company purchased Egan's town site in 1886 and, headed by H.C. Sigler from Beaumont, Texas, renamed the station "Beaumont" (beautiful mountain" in French). The Beaumont town site was officially surveyed in 1886 by John Goldworthy and filed in San Bernardino County on March 15, 1887. When the county of Riverside was established in 1893, Beaumont was included within the Riverside County boundaries and, therefore, records prior to 1893 would be in the San Bernardino County Archives and records following 1893 would be in the Riverside County Archives. The City of Beaumont was later incorporated on November 18, 1912.

Methods of Review

Chambers Group requested a records search from the California Historical Resources Information System (CHRIS) Eastern Information Center (EIC) at California State University, Riverside on October 13, 2021. **At this time no records search results have been provided by the EIC.** A one-half mile study area was requested to provide additional context to the Project site and surrounding area and more information on which to base this review. Resources consulted during the records search conducted by the SCCIC included the NRHP, California Historical Landmarks (CHL), California Points of Historical Interest (CPHI), Caltrans Historic Highway Bridge Inventory, the California State Historic Resources Inventory, local registries of historic properties, and a review of available Sanborn Fire Insurance maps as well as historic photographs, maps, and aerial imagery. The task also included a search for potential prehistoric and/or historic burials (human remains) evident in previous site records and/or historical maps. In addition, Chambers Group submitted a request to the Native American Heritage Commission (NAHC) for a review of the Sacred Land Files (SLF) for the Project site and surrounding vicinity. When received the results of the records search and additional research will be detailed below and included in Attachment B.

Project Personnel

Chambers Group Cultural Resources Department Lead Lucas Tutschulte managed the Project and co-authored the report. Chambers Group archaeologists and cross-trained paleontologists Eduviges Davis-Mullens, and Kellie Kandybowicz conducted the background research and supported with preparation of the report. Additionally, Eduviges Davis-Mullens completed the pedestrian survey. Niranjala Kottachchi, MA, served as the Principal Investigator for paleontological resources and provided oversight and concurrence with the paleontological review. Richard Shultz, MA, RPA, served as Principal Investigator for cultural resources, and performed quality control for the report.

Cultural Resources Reports within the Study Area

Due to unforeseen issues with the CHRIS and EIC no records search results have been provided at this time. Upon receipt of the records search results Chambers Group will update the report to include the results and incorporate them into the background research and pedestrian survey results.

Previously Recorded Cultural Resources within the Study Area

Due to unforeseen issues with the CHRIS and EIC no records search results have been provided at this time. Upon receipt of the records search results Chambers Group will update the report to include the results and incorporate them into the background research and pedestrian survey results.

Background Research Results

In addition to the pending records search review and the completed pedestrian survey, Chambers Group archaeologists completed extensive background research to determine if any additional historic properties, landmarks, bridges, or other potentially significant or listed properties are located within the Project footprint or one-half-mile study area. This background research included, but was not limited to, the NRHP, California State Historic Property Data Files,



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California State Historical Landmarks, California Points of Historical Interest, Office of Historic Preservation Archaeological Determinations of Eligibility, historic aerial imagery accessed via NETR Online, Historic U.S. Geological Survey topographic maps, Built Environment Resource Directory (BERD), and California Department of Transportation (Caltrans) State and Local Bridge Surveys. Additionally, Chambers Group archaeologists reviewed the Riverside County Historical Landmarks inventory, as well as the Riverside Historical Society and local historical newspaper clippings via Newspapers.com, ProQuest Historical Newspapers.com, and the California Digital Newspaper Collection

As a result of the archival research, no previously recorded resources or any other listed or potentially significant properties are located within the Project site. It must be noted that the archival research doesn't include the records search results from EIC at this time.

Additionally, based on the review of available historic photographs and aerial imagery, Chambers Group archaeologists observed that the Project site has been open space with no built environment features visible from 1966 to 2012. Historic topographic maps show the area as open space from 1954 through 2015. The historic aerial imagery and topographic maps indicate that the current alignment of Potrero Blvd was constructed as a paved roadway between 2010 and 2012 (United States Department of Agriculture (USDA); NETRonline 2021).

Field Survey Methods

Chambers Group archaeologist and cross trained paleontologist Eduvijes Davis-Mullens conducted a pedestrian survey of the Project footprint on October 29, 2021. The intensive-level survey consisted of systematic surface inspection of all areas with transects walked at 15-m intervals or less to ensure that any evidence of surface-exposed cultural materials and/or evidence of paleontological resources could be identified. Chambers Group examined the ground surface for the presence of prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), historical artifacts (e.g., metal, glass, ceramics), sediment discoloration that might indicate the presence of a cultural midden, roads and trails, and depressions and other features that might indicate the former presence of structures or buildings (e.g., post holes, foundations). The Project development area was photographed using a digital camera and data was recorded using a hand-held global positioning system (GPS) unit with sub-meter accuracy. All field notes, photographs, and records related to the current study are on file at the Chambers Group San Diego office.

Field Survey Results

No evidence of prehistoric or historic archaeological resources were identified within the Project site. During the field survey, ground visibility within the Project site ranged from poor to fair, approximately 0-20 percent visibility throughout the area, and up to 75-90 percent visibility within highly disturbed areas such as the dirt two tracks that dissect the area and established access roads.

Paleontological Resources

The paleontological overview for this undertaking identified the project area as consisting entirely of "old and very old" Alluvium, derived as alluvial fan deposits from the San Jacinto Mountains (USGS 2015). Shallow deposits (Holocene) are not considered sensitive for paleontological specimens, but deeper deposits of older Quaternary Alluvium (Late and Middle Pleistocene) may yield paleontological specimens. Based on the geologic-map database for the El Casco 7.5' Quadrangle map prepared by USGS database, shallow excavations are not likely to impact fossil bearing deposits, but deeper excavation may and, therefore, should be subjected to paleontological monitoring – specifically in areas of undisturbed substrate. Considering that the proposed depth of grading and associated over excavation reaching up to 19 feet, a monitoring program consistent with the policies and guidelines of the County Geologist should be considered, should project-related grading and site preparation impact the older Quaternary deposits.

Native American Heritage Commission Sacred Lands File Search

On October 13, 2021, Chambers Group requested that the Native American Heritage Commission (NAHC) conduct a search of its Sacred Lands File (SLF) to determine if Tribal Cultural Resources (TCR) important to Native Americans have been recorded in the Project footprint and buffer area. Additional consultation with the tribes indicated in the NAHC



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SLF letter (Attachment A) would be required to determine the nature of any existing resources located during ground-disturbing activities. PRC Section 21074 defines a resource as a TCR if it meets either of the following criteria:

1. sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe that are listed, or determined to be eligible for listing, in the national or state register of historical resources, or listed in a local register of historic resources; or
2. a resource that the lead agency determines, in its discretion, is a tribal cultural resource

On November 17, 2021, Chambers Group received a response from the NAHC stating that the search of its Sacred Lands File was **negative** for the presence of Native American cultural resources within Project site and the record search study area.

The NAHC provided a list of 24 Native American tribal contacts that may have knowledge of cultural resources near the Project area (Attachment A). A letter describing the Project and asking these individuals and organizations for their input was sent via U.S. mail and electronic mail on November 19, 2021. A copy of the letters sent, the list of contacts, and responses received are included in Attachment A.

As of the date of this report, four responses have been received from NAHC listed tribal groups in response the NAHC scoping letters. The Quechan Tribe of the Fort Yuma Reservation responded via email on November 22, 2021; and indicated that they have no concerns and that they defer to more local tribal groups. Additionally, the Augustine Band of Cahuilla Indians responded via email on November 22, 2021. They noted that they are not aware of any tribal cultural resources in the Project vicinity but requested to be notified if resources are encountered on-site. The San Manuel Band of Mission Indians responded via email on December 15, 2021. They indicated that they have no known resource concerns in the vicinity of the proposed Project. Finally, the Aqua Caliente Band of Cahuilla Indians responded via email on December 21, 2021; requesting to be provided with the grading plans, geotechnical report, and this cultural resource letter report for the Project.

AB 52 Consultation

The City of Beaumont completed the initial AB 52 outreach for the Project. As of the date of this report, one tribe has responded to the AB 52 consultation request. The Tribal Historic Preservation Division of the Aqua Caliente Band of Cahuilla Indians (ACBCI), responded via email on August 27, 2020, requesting to be included in further consultation and to be provided with the grading plans, geotechnical report, and this cultural resource letter report for the Project.

Discussion

Chambers Group conducted a cultural resources records search, literature review, and pedestrian survey within the West Side Fire Station Project site and surrounding study area in October 2021.

While a records request was made of the CHRIS database, at this time no results have been provided from the EIC to confirm the presence or absence of previously recorded cultural resources within the Project site or surrounding half-mile study area. Chambers Group also submitted a search request of the NAHC SLF to determine the presence or absence of data regarding any known tribal cultural resources previously reported within the Project area or surrounding vicinity. The NAHC SLF search resulted in negative findings.

The Project area was surveyed on October 29, 2021, by Chamber Group archaeologist Eduviges Davis-Mullens. **No cultural resources were identified during the field survey.**

In summary, Chambers Group found no physical evidence of archaeological or paleontological resources within the Project site. This finding is based primarily on the visual examination of the ground surface observable at the surface level during the pedestrian survey effort. Background research into the paleontological sensitivity of the area indicates that shallow deposits of fossil bearing deposits are likely to be impacted by the Project. Similarly, while no surficial evidence of prehistoric or historic archaeological resources were observed, the Native American community has



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identified the area of San Gorgonio Pass as sensitive for Native American resources. Additionally, the area is associated with the early Beaumont development and as such, has the potential to yield late historic archaeological materials, likely in a shallow context. The subsurface context within the Project site is considered sensitive for buried resources, both archaeological and paleontological.

Recommendations

Based on the results of the records search review, background research, and pedestrian survey Chambers Group archaeologists observed that the Proposed Project site is previously disturbed and is currently a vacant parcel of land. However, background research revealed a relative level of sensitivity for buried resources. Although the NAHC SLF search results were negative, further consultation with the tribes listed in Attachment A is recommended.

Chambers Group recommends the following mitigation measures to be incorporated into a Cultural Resource Mitigation Monitoring and Reporting Program for the associated Project construction activity. Moreover, because the records search results have not been received and reviewed Chambers Group recommends that those results be adequately reviewed and incorporated into this report upon receipt. If any cultural resources are identified, they would need to be evaluated for eligibility for the CRHR. Evaluation for archaeological sites consists of an archaeological testing program. For historical buildings or structures, evaluation by an architectural historian may be necessary. Similarly, evaluation for paleontological resources will require evaluation by a qualified paleontologist. If determined eligible by the CEQA lead agency or the State Historic Preservation Office, mitigation, consisting of data recovery for archaeological sites, paleontological resources and documentation for historical structures, would be required if avoidance is not feasible.

MM CUL-1 Prior to issuance of grading permits, City of Beaumont shall retain a Qualified Professional Archaeologist to develop and implement a Cultural Resource Mitigation Monitoring Program (CRMP). The CRMP shall address the details of all activities, provide procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant, and address potential impacts to undiscovered buried archaeological resources associated with the Proposed Project. The CRMP shall be provided to the City for review and approval prior to issuance of the grading permit. The CRMP shall contain at a minimum the following:

- a. Qualified Archaeological Monitor – An adequate number of Qualified Archaeological Monitors shall be on site to ensure all earth-moving activities are observed for areas being monitored. This includes all grubbing, grading, and trenching on site. Inspections shall vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections shall be determined and directed by the Registered Professional Archaeologist. The Registered Professional Archaeologist may submit a detailed letter to the City during grading requesting a modification to the monitoring program if circumstances are encountered that reduce the need for monitoring.
- b. Cultural Sensitivity Training – The Registered Professional Archaeologist, and a representative of the consulting tribe(s), shall attend the pre-grading meeting with the contractors to provide Cultural Sensitivity Training for all construction personnel. Training shall include a brief review of the cultural sensitivity of the Project site and the surrounding area; the areas to be avoided during grading activities; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event unanticipated cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. This shall be a mandatory training, and all construction personnel must attend prior to beginning work on the Project site. A sign-in sheet for attendees of this training shall be included in the Cultural Resources Monitoring Report.



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MM PAL-1 Due to the Project design's proposed depth of grading and over excavation up to 19 feet, if older Pleistocene Alluvial deposits are encountered during site ground disturbing activities, a qualified paleontologist shall oversee the excavations to ensure any paleontological specimens are identified, recovered, analyzed, reported, and curated in accordance with CEQA and the County of Riverside policies and guidelines. This program should be conducted while these older deposits are impacted and while the paleontological consultant deems the program necessary.

MM CUL-2 The Contractor shall provide the Registered Professional Archaeologist with a schedule of initial potential ground-disturbing activities. A minimum of 48 hours will be provided to the Consultant of commencement of any initial ground-disturbing activities such as vegetation grubbing or clearing, grading, trenching, or mass excavation.

As detailed in the schedule provided, an Archaeological Resources Monitor shall be present on site at the commencement of ground-disturbing activities related to the Project. The monitor shall observe initial ground-disturbing activities. All monitors will have stop-work authority to allow for recordation and evaluation of finds during construction. The monitor will maintain a daily record of observations to serve as an ongoing reference resource and to provide a resource for final reporting upon completion of the Project.

The Archaeological Monitor and the Lead Contractor and subcontractors shall maintain a line of communication regarding schedule and activity such that the monitor is aware of all ground-disturbing activities in advance in order to provide appropriate oversight.

MM-CUL-3 If archaeological resources are discovered, construction shall be halted within 50 feet of the find and shall not resume until a Qualified Archaeologist can determine the significance of the find and whether the find has been fully investigated, documented, and cleared. If the Qualified Archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the City shall implement an archaeological data recovery program.

MM-CUL-4 At the completion of all ground-disturbing activities, the Consultant shall prepare an Archaeological Resources Monitoring Report summarizing all monitoring efforts and observations, as performed, and any and all prehistoric or historic archaeological finds as well as providing follow-up reports of any finds to the Eastern Information Center (EIC), as required.

MM-CUL-5 Unanticipated discovery of Human Remains: In the unlikely event that human remains are discovered during ground-disturbing activities, then the Proposed Project would be subject to California Health and Safety Code 7050.5, CEQA Section 15064.5, and California Public Resources Code Section 5097.98. If human remains are found during ground-disturbing activities, State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Ventura County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner shall be notified immediately. If the human remains are determined to be prehistoric, the County Coroner shall notify the NAHC, which shall notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Chambers Group is available to assist with any further support or document preparation related to Cultural Resources, including tribal consultation. Please contact Corinne Lytle-Bonine, Senior Project Manager, at (858) 528-2800 extension 7100, or myself at the contact information below if you have any questions or comments regarding this report.



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Sincerely,

CHAMBERS GROUP, INC.



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Lucas Tutschulte

Cultural Department Lead
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Attachments

Attachment A: NAHC SLF Records Search Results Letter
Attachment B (Confidential): Record Search Results



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ATTACHMENT A – NAHC SLF RECORDS SEARCH RESULTS LETTER

Attachment A: NAHC SLF Records Search Results Letter



STATE OF CALIFORNIA

Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

November 17, 2021

Lucas Tutschulte
The Chambers Group, Inc.

Via Email to: LTutschulte@chambersgroupinc.com

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Wayne Nelson
Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

EXECUTIVE SECRETARY
Christina Snider
Pomo

Re: City of Beaumont West Side Fire Station Project, Riverside County

Dear Mr. Tutschulte:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

A handwritten signature in black ink that reads "Andrew Green".

Andrew Green
Cultural Resources Analyst

Attachment

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

Native American Heritage Commission
Native American Contact List
Riverside County
11/17/2021

Agua Caliente Band of Cahuilla Indians

Jeff Grubbe, Chairperson
5401 Dinah Shore Drive
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Cahuilla

Los Coyotes Band of Cahuilla and Cupeño Indians

Ray Chapparosa, Chairperson
P.O. Box 189
Warner Springs, CA, 92086-0189
Phone: (760) 782 - 0711
Fax: (760) 782-0712

Cahuilla

Agua Caliente Band of Cahuilla Indians

Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Cahuilla

Morongo Band of Mission Indians

Robert Martin, Chairperson
12700 Pumarra Road
Banning, CA, 92220
Phone: (951) 755 - 5110
Fax: (951) 755-5177
abrierty@morongo-nsn.gov

Cahuilla

Serrano

Augustine Band of Cahuilla Mission Indians

Amanda Vance, Chairperson
P.O. Box 846
Coachella, CA, 92236
Phone: (760) 398 - 4722
Fax: (760) 369-7161
hhaines@augustinetribe.com

Cahuilla

Morongo Band of Mission Indians

Ann Brierty, THPO
12700 Pumarra Road
Banning, CA, 92220
Phone: (951) 755 - 5259
Fax: (951) 572-6004
abrierty@morongo-nsn.gov

Cahuilla

Serrano

Cabazon Band of Mission Indians

Doug Welmas, Chairperson
84-245 Indio Springs Parkway
Indio, CA, 92203
Phone: (760) 342 - 2593
Fax: (760) 347-7880
jstapp@cabazonindians-nsn.gov

Cahuilla

Pala Band of Mission Indians

Shasta Gaughen, Tribal Historic
Preservation Officer
PMB 50, 35008 Pala Temecula Rd.
Pala, CA, 92059
Phone: (760) 891 - 3515
Fax: (760) 742-3189
sgaughen@palatribe.com

Cupeno

Luiseno

Cahuilla Band of Indians

Daniel Salgado, Chairperson
52701 U.S. Highway 371
Anza, CA, 92539
Phone: (951) 763 - 5549
Fax: (951) 763-2808
Chairman@cahuilla.net

Cahuilla

Pechanga Band of Luiseno Indians

Mark Macarro, Chairperson
P.O. Box 1477
Temecula, CA, 92593
Phone: (951) 770 - 6000
Fax: (951) 695-1778
epreston@pechanga-nsn.gov

Luiseno

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.96 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed City of Beaumont West Side Fire Station Project, Riverside County.

**Native American Heritage Commission
Native American Contact List
Riverside County
11/17/2021**

Pechanga Band of Luiseno

Indians

Paul Macarro, Cultural Resources
Coordinator
P.O. Box 1477 Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6306
Fax: (951) 506-9491
pmacarro@pechanga-nsn.gov

Quechan Tribe of the Fort Yuma Reservation

Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee
P.O. Box 1899
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

Quechan Tribe of the Fort Yuma Reservation

Jill McCormick, Historic
Preservation Officer
P.O. Box 1899
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

Ramona Band of Cahuilla

Joseph Hamilton, Chairperson
P.O. Box 391670
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
admin@ramona-nsn.gov

Ramona Band of Cahuilla

Rincon Band of Luiseno Indians

Cheryl Madrigal, Tribal Historic
Preservation Officer
One Government Center Lane Luiseno
Valley Center, CA, 92082
Phone: (760) 297 - 2635
crd@rincon-nsn.gov

Rincon Band of Luiseno Indians

Bo Mazzetti, Chairperson
One Government Center Lane Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
bomazzetti@aol.com

San Manuel Band of Mission Indians

Jessica Mauck, Director of
Cultural Resources
26569 Community Center Drive Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
Jessica.Mauck@sanmanuel-nsn.gov

Santa Rosa Band of Cahulla Indians

Lovina Redner, Tribal Chair
P.O. Box 391820
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
lsaul@santarosa-nsn.gov

Serrano Nation of Mission Indians

Wayne Walker, Co-Chairperson
P. O. Box 343
Patton, CA, 92369
Phone: (253) 370 - 0167
serranonation1@gmail.com

Serrano Nation of Mission Indians

Mark Cochrane, Co-Chairperson
P. O. Box 343
Patton, CA, 92369
Phone: (909) 528 - 9032
serranonation1@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed City of Beaumont West Side Fire Station Project, Riverside County.

**Native American Heritage Commission
Native American Contact List
Riverside County
11/17/2021**

Soboba Band of Luiseno

Indians

Isaiah Vivanco, Chairperson
P. O. Box 487
San Jacinto, CA, 92581
Phone: (951) 654 - 5544
Fax: (951) 654-4198
ivivanco@soboba-nsn.gov

Cahuilla
Luiseno

Soboba Band of Luiseno

Indians

Joseph Ontiveros, Cultural
Resource Department
P.O. BOX 487
San Jacinto, CA, 92581
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Cahuilla
Luiseno

Torres-Martinez Desert Cahuilla

Indians

Michael Mirelez, Cultural
Resource Coordinator
P.O. Box 1160
Thermal, CA, 92274
Phone: (760) 399 - 0022
Fax: (760) 397-8146
mmirelez@tmdci.org

Cahuilla

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed City of Beaumont West Side Fire Station Project, Riverside County.



AUGUSTINE BAND OF CAHUILLA INDIANS
PO Box 846 84-481 Avenue 54 Coachella CA 92236
Telephone: (760) 398-4722
Fax (760) 369-7161
Tribal Chairperson: Amanda Vance
Tribal Vice-Chairperson: William Vance
Tribal Secretary: Victoria Martin

Date: November 22, 2021

**RE: REQUEST FOR INFORMATION CONCERNING THE WEST SIDE FIRE STATION PROJECT
(PROJECT)**

Dear: Richard Shultz
Cultural Resources Specialist

Thank you for the opportunity to offer input concerning the development of the above-identified project. We appreciate your sensitivity to the cultural resources that may be impacted by your project and the importance of these cultural resources to the Native American peoples that have occupied the land surrounding the area of your project for thousands of years. Unfortunately, increased development and lack of sensitivity to cultural resources have resulted in many significant cultural resources being destroyed or substantially altered and impacted. Your invitation to consult on this project is greatly appreciated.

At this time, we are unaware of specific cultural resources that may be affected by the proposed project, however, in the event, you should discover any cultural resources during the development of this project please contact our office immediately for further evaluation.

Very truly yours,

Victoria Martin

Victoria Martin, Tribal Secretary
Augustine Band of Cahuilla Indians

From: Quechan Historic Preservation Officer <historicpreservation@quechantribe.com>
Sent: Monday, November 22, 2021, 6:54 AM
To: 'Eduvijes Davis-Mullens'
Subject: RE: SUBJECT: REQUEST FOR INFORMATION CONCERNING THE WEST SIDE FIRE STATION PROJECT

This email is to inform you that we have no comments on this project. We defer to the more local Tribes and support their decisions on the projects.

From: Eduvijes Davis-Mullens [<mailto:emullens@chambersgroupinc.com>]
Sent: Friday, November 19, 2021 6:37 PM
To: historicpreservation@quechantribe.com
Cc: Richard Shultz
Subject: SUBJECT: REQUEST FOR INFORMATION CONCERNING THE WEST SIDE FIRE STATION PROJECT

McCormick, Jill
Historic Preservation Officer
Quechan Tribe of the Fort Yuma Reservation
P.O. Box 1899
Yuma, AZ 85366

SUBJECT: REQUEST FOR INFORMATION CONCERNING THE WEST SIDE FIRE STATION PROJECT (PROJECT)

Dear Jill,

Chambers Group, Inc. is kindly requesting any information and concerns that you may have regarding the proposed West Side Fire Station Project (Project), described below. This letter is being provided to you because your Tribe, the Quechan Tribe of the Fort Yuma Reservation, was listed on the Native American Heritage Commission (NAHC) directory as an individual or group who may have additional knowledge pertaining to tribal cultural resources within this geographic area.

The proposed West Side Fire Station Project (Project) is within the City of Beaumont (City), Riverside County (County). The proposed Project site is an approximately 1.59-acre lot and is located by San Timiteo Canyon Road to the north, Interstate 10 to the east, SR 60 to the south, and Potrero Boulevard to the west, spanning portions of three different parcels: (APN 414-120-040, 414-120-041, 414-120-042) The property is located on the United States Geological Survey (USGS) San Bernardino 7.5-minute topographic quadrangle, Section 5, Township 3 South, Range 1 West (see attached map).

Richard Shultz

From: Ryan Nordness <Ryan.Nordness@sanmanuel-nsn.gov>
Sent: Wednesday, December 15, 2021 11:27 AM
To: Richard Shultz
Subject: RE: Information Request for the West Side Fire Station Project

Hello Richard,

Thank you for reaching out to the San Manuel Band of Mission Indians concerning the proposed project area. SMBMI appreciates the opportunity to review the project documentation received by the Cultural Resources Management Department on November 30th. The proposed project is not located near any known Serrano villages or archaeological sites. Thank you again for your correspondence, if you have any additional questions or comments please reach out to me at your earliest convenience.

Respectfully,
Ryan Nordness

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination or copying of this communication is strictly prohibited. If you have received this electronic transmission in error, please delete it from your system without copying it and notify the sender by reply e-mail so that the email address record can be corrected. Thank You

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION



03-036-2020-005

December 21, 2021

[VIA EMAIL TO: emullens@chambersgroupinc.com]
Chambers Group, Inc
Ms. Eduvijes Davis-Mullens
9620 Chesapeake Drive, Suite 202
San Diego, California 92123

Re: West Side Fire Station

Dear Ms. Eduvijes Davis-Mullens,

The Agua Caliente Band of Cahuilla Indians (ACB CI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the West Side Fire Station project. The project area is not located within the boundaries of the ACB CI Reservation. However, it is within the Tribe's Traditional Use Area. For this reason, the ACB CI THPO requests the following:

*Copies of any cultural resource documentation (report and site records) generated in connection with this project.

*A cultural resources inventory of the project area by a qualified archaeologist prior to any development activities in this area.

*A copy of the records search with associated survey reports and site records from the information center.

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760)883-1327. You may also email me at ACB CI-THPO@aguacaliente.net.

Cordially,

Arysa Gonzalez Romero
Historic Preservation Technician
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

CONFIDENTIAL. This document is confidential under California Government Code 6254.10 and the National Historic Preservation Act, Section 304, and other applicable federal, state, and local laws and regulations prohibiting public and unauthorized disclosure of records related to cultural resources. Recipients of this document acknowledge they are authorized to receive these materials and are responsible for maintaining the confidential nature of the contents related to cultural resources identified in this document and will not disclose confidential information to the public and/or unauthorized persons.

ATTACHMENT B (CONFIDENTIAL) – RECORD SEARCH RESULTS

Attachment B (Confidential): Record Search Results

APPENDIX E – ENERGY CALCULATIONS

Appendix E - Energy Calculations

Construction-Related Petroleum Fuels

The off-road construction equipment fuel usage was calculated through use of the off-road equipment assumptions utilized in the CalEEMod model run provided in Appendix A and the fuel usage calculations provided in the 2017 Off-road Diesel Emission Factors spreadsheet, prepared by CARB (<https://ww3.arb.ca.gov/msei/ordiesel.htm>). The Spreadsheet provides the following formula to calculate fuel usage from off-road equipment:

$$\text{Fuel Used} = \text{Load Factor} \times \text{Horsepower} \times \text{Total Operational Hours} \times \text{BSFC} / \text{Unit Conversion}$$

Where:

Load Factor - Obtained from CalEEMod default values

Horsepower – Obtained from CalEEMod default values

Total Operational Hours – Calculated by multiplying CalEEMod default daily hours by the estimated number of working days for each phase of construction

BSFC – Brake Specific Fuel Consumption (pounds per horsepower-hour) – If less than 100 Horsepower = 0.408, if greater than 100 Horsepower = 0.367

Unit Conversion – Converts pounds to gallons = 7.109

The Following Table shows the off-road construction equipment fuel calculations based on the above formula, which shows that the off-road equipment utilized during construction of the proposed project would consume 27,904 gallons of fuel.

Off-Road Construction Equipment Modeled in CalEEMod and Fuel Used

Equipment Type	Equipment Quantity	Horse-Power	Load Factor	Operating Hours Per Day	Total Operational Hours ¹	Fuel Used (gallons)
Site Preparation						
Grader	1	187	0.41	8	24	95
Scraper	1	367	0.48	8	24	218
Tractors/Loaders/Backhoes	1	97	0.37	7	21	43
Grading						
Grader	1	187	0.41	8	160	633
Rubber Tired Dozer	1	247	0.40	8	160	816
Tractors/Loaders/Backhoes	2	97	0.37	7	280	577
Building Construction						
Crane	1	231	0.29	8	1,760	6,087
Forklifts	2	89	0.2	7	3,080	3,146
Generator Set	1	84	0.74	8	1,760	6,279

Notes:

¹ Based on 3 days for Site Preparation, 20 days for Grading, 220 days for Building Construction, 10 days for Paving, and 10 days for Architectural Coatings.

Source: CalEEMod Version 2020.4.0, CARB, 2018.

The on-road construction-related vehicle trips fuel usage was calculated through use of the default construction vehicle trip assumptions from the CalEEMod model run. The calculated total construction miles were then divided by the fleet average for the South Coast Air Basin miles per gallon rates for the year 2022 that were calculated through use of the EMFAC2017 model (<https://www.arb.ca.gov/emfac/2017/>) and the EMFAC2017 model printouts are attached. The following Table shows the on-road construction vehicle trips modeled in CalEEMod and the fuel usage calculations, which shows that the on-road construction-related vehicle trips would consume 18,788 gallons of fuel for the proposed Project.

On-Road Construction Vehicle Trips Modeled in CalEEMod and Fuel Used

Vehicle Trip Types	Daily Trips	Trip Length (miles)	Total per Day (miles)	Total per Phase (miles)	Fleet Average Miles per Gallon	Fuel Used (gallons)
Worker Trips	15	14.7	221	2,205	26.0	85
Architectural Coatings						
Worker Trips	6	14.7	88	882	26.0	34
Total On-Road Vehicle Fuel used during Construction of the Proposed Project (gallons)						18,788

Notes:

¹ Based on 3 days for Site Preparation, 20 days for Grading, 220 days for Building Construction, 10 days for Paving, and 10 days for Architectural Coatings.

Source: CalEEMod Version 2020.4.0, CARB, 2018.

Operations-Related Petroleum Fuels

The on-road operations-related vehicle trips fuel usage was calculated through use of the total annual vehicle miles traveled assumptions from the CalEEMod model run provided in Appendix A, which found that operation of the proposed project would generate 413,086 vehicle miles traveled per year. The calculated total operational miles were then divided by the South Coast Air Basin fleet average rate of 26.0 miles per gallon, which was calculated through use of the EMFAC2017 model for year 2022. The EMFAC2017 model printouts are attached to this Appendix. Based on the above calculation methodology, the operation of the proposed Project would consume 15,895 gallons of petroleum fuels per year.

APPENDIX F – PRELIMINARY GEOTECHNICAL REPORT



SOILS SOUTHWEST, INC.

SOILS, MATERIALS AND ENVIRONMENTAL ENGINEERING CONSULTANTS

897 VIA LATA, SUITE N • COLTON, CA 92324 • (909) 370-0474 • (909) 370-0481 • FAX (909) 370-3156

**Feasibility Study
Report of Geotechnical Investigations &
Soil Infiltration Testing for WQMP-BMP Design**

Proposed Beaumont Fire Station
Potrero Boulevard @ Olivewood Way
Beaumont, California
APN: 414-120-042-4

Project No. 20009-F/BMP
June 5, 2020

Prepared for:

CEDG Architects
%Mr. Erik G. Peterson
401 E. Columbia Ave.
Pomona, CA 91767



SOILS SOUTHWEST, INC.

SOILS, MATERIALS AND ENVIRONMENTAL ENGINEERING CONSULTANTS

897 VIA LATA, SUITE N • COLTON, CA 92324 • (909) 370-0474 • (909) 370-0481 • FAX (909) 370-3156

June 5, 2020

Project No. 20009-F/BMP

CEDG Architects
401 E. Columbia Ave.
Pomona, CA 91767

Attention: Mr. Erik G. Peterson

Subject: Feasibility Study Reports of Geotechnical Investigations &
Soil Infiltration Testing for WQMP-BMP Stormwater Disposal Design
Proposed Beaumont Fire Station
Potrero Boulevard @ Olivewood Way
Beaumont, California

Reference: Tentative Site Plan as provided by the addressee

Gentlemen:

Presented herewith is the Feasibility Study Reports of Soils and Foundation Evaluations and WQMP-BMP stormwater disposal design [Section 7.0] for the site of the proposed City of Beaumont Fire Station to be located near Potrero Boulevard at Olivewood Way, City of Beaumont, Riverside County, California. In absence of grading and/or development plans, it is assumed that for future truck/vehicular accessibility, the current grades will be lowered by about 12 to 14 feet. Accordingly, the opinions and recommendations included should be considered "preliminary", subject to revision following development plan review.

Based on the geotechnical test explorations and laboratory testing completed at this time, it is our opinion that the soils encountered within the maximum exploratory depth of 31 feet, the soils encountered consist, in general, of upper compressible clayey silty, fine to medium coarse sand, overlying moderately dense deposits of silty fine to medium coarse to coarse gravelly sand of decomposed granitic origin.

Based on the information published by the State of California Department of Conservation it is understood that the site is not situated within an A-P Special Study Zone and with groundwater table at a depth in excess of 100 feet, based on the State of California DMG Special Publication SP-117, the site is considered non-susceptible to seismically induced soils liquefaction.

It is our opinion that the site should be considered suitable for the planned development using conventional construction provided the opinions and recommendations included are incorporated in final design and construction.

We offer no other warranty, express or implied.

Respectfully submitted,
Soils Southwest, Inc.

Moloy Gupta, RCE 31708



John Flippin, Project Coordinator

soilsouthwest@aol.com
Established 1984

1.0 Introduction

This report presents the results of Soils and Foundation Evaluations and recommendations for WQMP-BMP stormwater disposal design for the site proposed Beaumont Fire Station to be located near the northeast intersection of Potrero Boulevard and Western Knolls Avenue, City of Beaumont, California. In absence of grading and development details the recommendations included should be considered "preliminary". Supplemental evaluations may be warranted based on review of the proposed grades when established.

The purpose of this study is to determine the nature and engineering properties of the near grade and subsurface soils and to provide tentative geotechnical recommendations for site preparations and grading, foundation design, slab-on-grade, paving, parking and inspections and testing during site preparation and grading. The recommendations for WQMP-BMP design is included in the later section of this report.

The geotechnical recommendations contained reflect our best estimate of the soils conditions as encountered during field investigations conducted for the site. It is not to be considered as a warranty of the soils for other areas, or for the depths beyond the explorations advanced at this time. The recommendations supplied should be considered in association with the following:

- i. Pre-grade meeting with contractor, public agency, and soils engineer,
- ii. Excavated bottom inspections and verifications by soils engineer prior to backfill placement,
- iii. Continuous observations and testing during site preparation and structural fill soils placement,
- iv. Observation and inspection of footing trenching prior to steel and concrete placement,
- v. Plumbing trench backfill placement prior to concrete slab-on-grade placement,
- vi. On and off-site utility trench backfill testing and verifications, and
- vii. Consultations as required during construction, or upon your request.

1.1 Proposed Development

No grading and/or development plan is prepared and none such is available for review. Based on the preliminary project information supplied it is understood that the subject site will be developed to accommodate a fire station of one or two-story construction. Based on the current site topography it is assumed that moderate grading should be warranted in form lowering of the current grades which are about 10-14 feet above the current accessways.

For the development planned, use of conventional wood-frame and stucco or concrete block construction with spread footings and concrete slabs-on-grade with structural loadings of 50 kips and 4 klf, for isolated column and wall footings, respectively, are assumed. Associated construction of interior driveways and parking are assumed along with curb-gutter, flatwork, landscaping, and others. Moderate site preparations and grading should be expected with the development planned.

1.2 Site Description

The undeveloped 4.09-acre parcel, in general, is bounded by minor downslopes leading to other undeveloped properties to the north, east, and to the south, and by Potrero Boulevard on the west. Overall vertical relief within the parcel is unknown, however, based on site reconnaissance sheet-flow from incidental rainfalls appears to flow towards the north. With the exception of near surface weeds and brush, along with a cut slope and a drainage channel on the north/northwest, no other significant features are noted.

2.0 Scope of Services

Geotechnical evaluations included subsurface explorations using truck-mounted hollow-stem auger drilling rig, soil sampling, necessary laboratory testing, engineering analyses and the preparation of this report. Being beyond scope of work, no geologic or site environmental evaluations are included. Reports on such will be supplied on request.

In general, scope of services included the following tasks:

o **Field Explorations**

Five (5) exploratory test borings using a hollow-stem auger drilling rig, varying in depth from 10 feet to depth 31 feet below grade. Prior to explorations, an underground utility clearance was established with Underground Service Alert (USA) of Southern California to avoid possible subsurface life-line obstruction and rupture. Following necessary soil sampling and in-situ testing, the test excavations were backfilled with local soils using minimum compaction effort. Collected samples were subsequently transferred to our laboratory for necessary geotechnical testing. Approximate test excavation locations are shown on the attached Plate 1.

During excavations, the soils encountered were continuously logged and bulk and undisturbed samples were procured, and Standard Penetration Tests (SPT) blow-counts were recorded. Collected samples were subsequently transferred to our laboratory for necessary geotechnical testing. Description of the soils encountered is shown on the Log of Boring (B-1 to B-5) in Appendix A.

o **Laboratory Testing**

Representative bulk and undisturbed soils procured were tested in laboratory to aid in the soils classification and to evaluate relevant engineering properties pertaining to the project requirements. The laboratory tests completed include the following:

- In-situ moisture contents and dry density (ASTM Standard D2216),
- Maximum Dry Density and Optimum Moisture Content (ASTM Standard D1557),
- Direct Shear (ASTM Standard D3080),
- Soil consolidation (ASTM Standard D2435),
- Soils Gradation evaluations (ASTM Standard D422),
- Soils Sand Equivalent, SE (ASTM Standard D 2419), and
- Soil Expansion Index, EI (ASTM Standard D4829)

No soils chemical analysis is currently included. Post-grading soil chemical analyses, including determinations of pH, sulfate, chloride and resistivity should be performed following mass grading completion.

Description of the test results and test procedures used are provided in Appendix B of this report.

o Based on the test explorations and laboratory testing engineering analyses and evaluations were made on which to base our recommendations for foundations design, concrete of slab-on-grade, paving and parking, site preparations and grading and monitoring during construction.

o Preparation of this report for initial use by the project design professionals. Updated recommendations may be warranted following grading and development plans review.

3.0 Site Conditions

3.1 Subsurface Conditions

The soils encountered, in general, consists of upper compressible clayey silty, fine to medium coarse sand with pebbles and scattered minor rocks, overlying deposits of moderately dense, silty fine to medium coarse to coarse gravelly sand of decomposed granitic origin to the maximum 31 feet depth explored. No shallow-depth groundwater or bedrock was encountered.

It should be noted that the presence of an approximate 3-inch diameter concrete pipe was encountered running east-west just north of the existing utility truck parking lot. Supplemental buried utilities may be encountered during grading and construction.

3.2 Soil Expansion Characteristics

The silty sandy clayey in nature, the upper 4-5 feet soils encountered are considered "low" in expansion characteristics with an Expansion Index, EI of 38. Based on the test explorations completed, it is our opinion that the soils underlying below 6 to 7 feet, however, should consist of non-expansive gravelly sandy soils of granitic origin.

It is our opinion that during site preparations and grading the upper "low" expansive soils may be adequately mixed with the underlying gravelly sandy soils and such may be incorporated in construction as structural fills for conventional construction as described in this report. No other special construction requirements should be warranted.

3.3 Excavability

It is our opinion that the site preparations and grading required for the project may be accomplished by using conventional heavy-duty construction equipment. No blasting or jackhammering should be warranted.

3.4 Subsurface Variations

It is our opinion that during site preparations and grading, variations in subsoils continuity and depths of subsoils deposit may be expected. Due to the nature and depositional characteristics of the soils underlying care should be exercised in interpolating and/or extrapolating of the subsurface conditions existing in between and beyond the test explorations as completed.

3.5 Soil Chemical Corrosivity Analyses

During site preparations and grading, since the site soil chemical compositions are expected to change considerably, no soil chemical analysis is currently included. It is recommended that during and/or following site preparations and grading, representative site soils should be laboratory tested to determine, in minimum, the pH, sulfate, chloride and resistivity, based on which supplemental recommendations will be supplied.

3.6 Groundwater

No shallow depth groundwater was encountered within the maximum 31 feet depth explored and none such should be expected within the excavation depths that should be expected during grading and construction.

The following table lists the historical groundwater table as based on the information as supplied by the local reporting agency.

GROUNDWATER TABLE	
Reporting Agency	Water Master Support Services-San Bernardino Valley Conservation District/Western Municipal Water District Cooperative Well Measuring Program, Fall 2018
Well Number	03S/01W-5R003S Schuelke Real Estate \$493
Well Monitoring Agency	San Gorgonio Pass Water Agency
Well Location: Township/Range/Section	T3S-R1W-Section 5
Well Elevation:	2512.8
Current Depth to Water (Measured in feet)	184..09
Current Date Water was Measured	November 27, 2018
Depth to Water (Measured in feet) (Shallowest)	176.2
Date Water was Measured (Shallowest)	May 4, 2010

3.7 Faulting and Seismicity

3.7.1 Direct or Primary Seismic Hazards

With the nearest San Jacinto-SJV earthquake fault at about 4.62 miles, the site is considered not situated within an A-P Special Study Zone. However, as per the current CBC, the site is located within Seismic Zone 4, where it is likely that during life expectancy of the subject development moderate to severe ground shaking may be anticipated. It is our opinion that, adverse effect of ground-shaking may be minimized by using the seismic design parameters as described in the current CBC and as described herein.

3.7.2 Induced or Secondary Seismic Hazards

In addition to ground shaking, effects of seismic activity may include surface rupture, flooding, land-sliding, lateral spreading, settlements, and subsidence. Potential effects of such are as described below.

3.7.2.1 Surface Fault Rupture

The potential for surface rupture resulting from nearby fault movement is not known for certainty, but in our opinion that such should be considered remote considering the distant proximity of the site with respect to the known San Jacinto-SJV earthquake fault at about 4.62 miles away.

3.7.2.2 Flooding

Flooding hazards include tsunamis (seismic sea waves), seiches, and failure of manmade reservoirs, tank, and aqueducts.

Considering inland nature of the site, along with the absence of nearby known bodies of water such as pond, lake, or water tank, it is our opinion that seismically induced potential for flooding should be considered remote.

3.7.2.3 Land-Sliding

Seismically induced landslides and other slope failures are common occurrences during or soon after an earthquake. By visual observations of the project site area, it is our opinion that existence of land sliding is not obvious. If warranted, potential for such hazards may be estimated by a registered geologist along with its remediation, if applicable.

3.7.2.4 Lateral Spreading

Seismically induced lateral spreading involves lateral movement of existing soils due to ground shaking. Lateral spreading is demonstrated by near vertical cracks with predominantly horizontal movement of the soil mass involved. In absence of any obvious sign of such ground rupture, it is our opinion that the potential for seismically induced lateral-spreading should be considered remote.

3.8 Seismically Induced Settlement and Subsidence

The site is situated at about 4.62 miles from the San Jacinto-SJV fault capable of generating an earthquake magnitude M=7.0 and Peak Ground Acceleration, PGA of 0.575g. Considering the proximity of the earthquake fault as described, it is our opinion that potential for some total and differential settlements due to ground shaking may be expected. For estimation purpose, it is our opinion that over a span of 40 feet, Seismically Induced estimated total and differential ground settlements of 1-inch and ½-inch, respectively, should be considered structurally “tolerable” for the development planned.

3.9 Seismic Design Coefficients

Using site coordinates of 33.933966.^oN and -117.008034^oW, and considering the site being situated at about 4.62 miles from the San Jacinto (SJV) fault, for foundation and structural design the following seismic parameters are suggested based on the current 2019 CBC:

Recommended values are based upon the USGS ASCE 7-Hazard Reports Parameters and the California Geologic Survey: PSHA Ground Motion Interpolator seismic parameters as provided in Appendix C and as described as follows:

3.10 Seismic Design Parameters

CBC Chapter 16	2019 ASCE 7-16 Standard Seismic Design Parameters	Recommended Values
1613A.5.2	Site Class	C
1613.5.1	The mapped spectral accelerations at short period	S_s
1613.5.1	The mapped spectral accelerations at 1.0-second period	S_1
1613A5.3(1)	Site Class B / Seismic Coefficient, S_s	1.66 g
1613A5.3(2)	Site Class B / Seismic Coefficient, S_1	0.618 g
1613A5.3(1)	Site Class C / Seismic Coefficient, F_a	1.000 g
1613A5.3(2)	Site Class C / Seismic Coefficient, F_v	NA
16A-37 Equation	Spectral Response Accelerations, $S_{Ms} = F_a S_s$	1.66 g
16A-38 Equation	Spectral Response Accelerations, $S_{M1} = F_v S_1$	NA
16A-39 Equation	Design Spectral Response Accelerations, $S_{Ds} = 2/3 \times S_{Ms}$	1.107 g
16A-40 Equation	Design Spectral Response Accelerations, $S_{D1} = 2/3 \times S_{Ms}$	NA

TABLE 3.10.1 Seismic Source Type

Based on the California Geological Survey the Probabilistic Seismic Hazard Assessment Peak Horizontal Ground Acceleration (PHGA) having a 10 percent probability of exceedance in a 50-year period is described as below:

Seismic Source Type / Appendix C	
Nearest Maximum Fault Magnitude	$M>1=7.0$
Peak Horizontal Ground Acceleration (PHGA)	0.575g

In design, vertical acceleration may be assumed to about 1/3 to 2/3 of the estimated horizontal ground accelerations described.

It should be noted that lateral force requirement in design by structural engineer should be intended to resist total structural collapse during an earthquake. During lifetime use of the structure built, it is our opinion that some structural damage may be anticipated requiring some structural repairs. Adequate structural design and implementation of the seismic design parameters described should be strictly observed.

4.0 Evaluations and Recommendations

4.1 General Evaluations

Considering the current topography and adjacent possible accessways, it is assumed that for future service vehicle accessibility the current pad grades will be lowered by about 12-14 feet, or more. However, in absence of grading and final pad grade elevations, the following tentative conclusions and recommendations are provided for preliminary use.

- (i) From geotechnical viewpoint, the site is considered grossly stable and suitable for the proposed development provided the assumptions, recommendations and opinions included are considered in design and construction.
- (ii) With the presence of the upper loose and compressible soils existing as encountered, it is our opinion that no load bearing foundations and/or concrete slabs should be installed bearing directly on the grade surface currently existing.
- (iii) The current grade surface is assumed to be lowered by about 12-14 feet as described earlier. Following lowering to the proposed grades, site preparations should include subexcavations of the exposed surface to sufficient depth so as to maintain a minimum 24-inch thick compacted fill mat blanket underneath footings or minimum 5 feet, encompassing in minimum the planned building footprint areas and minimum 5 feet beyond. Actual planar extents and depth of subexcavations should be determined by soils engineer during site preparations and grading.
- (iv) It is recommended that structural footings should be established exclusively into engineered fills of local soils compacted to minimum 95%. Construction of footings and slabs straddling over cut/fill transition, shall be avoided.
- (v) Structural design consideration should include probability for moderate to high peak ground acceleration from relatively active nearby earthquake faults. The adverse effects of ground shaking, however, can be minimized by implementing the seismic design parameters and procedures as outlined in the current CBC, and as described in earlier section of this report.
- (vi) Although no shallow depth groundwater was encountered, provisions should be maintained during construction to divert incidental rainfall away from the structural pads constructed.
- (vii) It is our opinion that, if site preparations and grading are performed as described the proposed development will not adversely affect the stability of the site or it's adjacent.

4.1 Preparations for Structural Pads

No grading plan is prepared, and none such are available for review. Considering the current minor hilly nature of the site and future accessibility, it is assumed that the current grades will be lowered approximately by about 12 to 14 feet. With such assumptions, it is our opinion that site preparations and grading should also include, in minimum, subexcavations of the grades once exposed to:

- (i) the planned deepest footing embedment + 24-inch, or
- (ii) to minimum 5 feet below the planned pad finish grades, or
- (iii) to the underlying moist and dense natural soils approved by soils engineer, whichever is greater.

In minimum, the subexcavations described should encompass the planned building footprint areas and 5 feet beyond.

Site grading should also include 6 to 8-inch scarification, moisture conditioning to near Optimum Moisture Content, followed by replacement of the excavated local soils in 6 to 8-inch thick lifts compacted to minimum 95 percent of the soil's Maximum Dry Density.

During grading proper selection of construction equipment will be contractor's responsibility. Earth works should be in accordance with the applicable grading recommendations as described in the current CBC, and as recommended in Section 5.0 of this report.

The subexcavation depths described should be considered as "approximate". Localized additional subexcavations may be warranted within areas underlain by undocumented old fills, buried utilities, abandoned sewer, buried septic systems and others.

During grading, it should be the responsibility of the grading contractor to clearly mark the future building footprint areas and minimum five feet beyond, along with the final pad grade elevations that will be established. Being beyond our expertise and scope of work, we assume no responsibility for lines and grades established for the project.

4.2 Structural Fills

The local silty gravelly sandy soils as exposed following lowering of the current grades free of debris, organic, roots and rocks larger than 6 to 8-inch in diameter may be considered suitable for re-use as structural backfills. Import soils, if required, should be gravelly sandy in nature of the local soils, or its better as approved by soils engineer.

In general, fill soils for structural support should meet the mature of the following criteria:

Liquid Limit, LL	<35
Plasticity Index, PI	<15
Expansion Index, EI	<20

4.2.1 Structural Fill Soils Placement

Structural fills shall be placed in 6 to 8-inch loose lifts and uniformly moisture conditioned. Each lift should be compacted to the minimum 95% compaction of the soils Maximum Dry Density at near Optimum Moisture condition as described. No fill shall be placed, spread, or compacted during unfavorable weather conditions.

4.3 Foundation Recommendations-Conventional Spread Footings

Following lowering of the current grades as discussed, the soils exposed are expected to include non-expansive silty gravelly sand anticipated to incorporated during site preparations and mass grading. Based on such, load bearing exterior continuous wall footings and interior isolated column foundations may be designed based on the allowable soil vertical bearing capacity equations as described below:

Continuous Wall Footing: $q_{allowable} = 1140 + 984 d + 180 b$

Isolated Square: $q_{allowable} = 30 + 1230 d + 640 b$, where

$q_{allowable}$ = allowable soil vertical bearing capacity, in psf.

d= footing depth (recommended min. 24" for exterior wall, and 24" for isolated column)

b= footing width (recommended min. 18" for exterior wall, and min. 24" for isolated column).

The above soil bearing capacity may be increased for each additional depth in excess of the minimums recommended. Total maximum vertical bearing capacity is recommended not to exceed 4000 psf.

If normal code requirements are applied, the above capacities may further be increased by an additional 1/3 for short duration of loading which includes the effect of wind and seismic forces.

Actual foundation dimensions (b & d) and reinforcement requirements should be provided by the project structural engineer based on anticipated structural dead load, soil bearing capacity and Peak Ground Accelerations (PHGA) as described earlier.

From geotechnical viewpoint, the perimeter wall footings should be reinforced with minimum 2-#4 rebar placed near the top and 2-#4 rebar near the bottom of continuous footings.

Under static loading conditions, over a 40-ft. span, estimated total and differential settlements are estimated to about 1 and ½-inch, respectively. Most of the elastic deformations, however, are expected to occur during construction.

4.4 Concrete Slab-on-Grade

Following lowering of the current grades as assumed, the prepared subgrades to receive footings should be considered suitable for conventional concrete slab-on-grade placement. For heavy-duty fire engine truck storage/truck parking, from geotechnical viewpoint, use of 6-inch thick (net) low-slump concrete slab-on-grade reinforced with #5 rebar at 24-inch o/c, is recommended. Actual parking/storage concrete slab thickness should be as designed by the project structural engineer based upon anticipated structural loadings, seismic design parameters and horizontal peak ground acceleration (PGA) as described in earlier, and on an assumed soils subgrade modulus, k_s , of 300 kcf.

Within areas of moisture sensitive flooring, concrete slabs should be underlain by 2-inch of compacted clean sand followed by 10-mil thick Stego-Wrap or Visqueen, overlying additional 2-inch of sand with minimum Sand Equivalent, SE of 30.

In addition, it is recommended that utility trenches underlying concrete slabs should be thoroughly backfilled with gravelly sandy soils and such should be mechanically compacted to prior to concrete pour. No jetting should be allowed as a means for soil compaction within utility trenches.

Slab subgrades should be verified and certified by soils engineer immediately prior to rebar and concrete placement. Soils Southwest will assume no responsibility for any structural distress in event the slab subgrades are poured without verification by soils engineer.

4.4.1 Concrete Driveway Construction

Concrete driveways for use by fully loaded fire trucks should be at least 6-inch (net) thick with 12-inch thickened edges (prevent sliding and/or cracking), reinforced with #5 rebar at 24" on-center, placed over minimum 4-inch thick Class II base compacted to 95%.

The subgrades prepared to receive driveways should include a minimum 18-inch subexcavations and the excavated soils replacement in 6 to 8-inch thick lifts compacted to minimum 95%.

Actual driveway slab thickness, reinforcing and construction and expansion joint requirements, however, should be incorporated as designed by the project structural engineer using a soil Subgrade Reaction, k_s , of 300 kcf.

4.5 Concrete Curing and Crack Control

The recommendations presented in this report are intended to reduce the potential for cracking of concrete due to concrete curing or settlement. Even when implemented, foundations, stucco walls and concrete slabs-on-grade may display some minor cracking due to soil movement and concrete shrinkage.

To reduce potential for excessive shrinkage or cracking, concrete slabs shall be "cured" by using commercially available concrete curing agent as selected by the project design engineer. In addition, occurrence of concrete cracking may be reduced and/or controlled by limiting concrete slump, proper concrete placement and by placement of crack control joints at reasonable intervals where re-entrant slab corners occur.

For standard crack control, maximum expansion joint spacing should be limited to maximum 24 to 30 times the concrete thickness. Shorter distance between joint spacing would provide greater crack control. Joints at curves and angle points are suggested, as recommended by structural engineer.

4.6 Resistance to Lateral Loads

Resistance to lateral loads can be restrained by friction acting at the base of foundation and by passive earth pressure. A coefficient of friction of 0.40 may be assumed with normal dead load forces for footing established into compacted fills of silty gravelly sand when incorporated in grading.

An allowable passive lateral earth resistance of 230 pounds per square foot per foot of depth may be assumed for the sides of foundations poured against compacted fill local soils or its similar. The maximum lateral passive earth pressure is recommended not to exceed 2300 pounds per square foot.

The above values may be increased by 1/3 when designing for short duration wind or seismic forces. The above values are based on footings placed on compacted engineered fills, where footing sides are formed and backfills are placed against the footings compacted to at least 90 percent of soil's Maximum Dry Density.

For design, lateral pressures from local soils when used as level backfill may be estimated from the following equivalent fluid density:

Active:	$(k_a) = 35 \text{ pcf}$
Seismic:	$k_{he} = 3/8. \gamma. H^2. a_{max}/g$
At Rest:	80 pcf

where γ = soils density in pcf, H = wall height or footing depth, in ft., a_{max} = maximum horizontal ground acceleration as described earlier.

4.7 Shrinkage and Subsidence

It is our opinion that, during grading the upper existing soils may be subjected to a volume change. Assuming a 95% relative compaction for structural fills and assuming the over-excavation and re-compaction depth as described earlier, such volume change due to shrinkage may be on the order of 10 to 1 percent. Further volume change may be expected due to supplemental shrinkage during preparation of subgrade soils. For estimation purpose, such may be approximated to about 3-inch.

4.8 Construction Considerations

4.8.1 Unsupported Excavation

Temporary excavations up to 4 feet in depth may be made without rigorous lateral supports. Excavated surface should be "dampened" in order to minimize potential surface soil raveling. No surcharge loading should be allowed within an imaginary 1:1 line drawn upward from toe of temporary excavations.

4.8.2 Supported Excavations

If vertical excavations exceeding 4 feet become warranted, such should be achieved using shoring to support side walls. Supplemental recommendations of such will be supplied on request.

4.9 Soil Caving

Dry and gravelly in nature, the site soils are considered susceptible to caving. Temporary excavations in excess of 4 feet should be made at a slope 2 to 1 (h:v), or flatter, and as per the construction guidelines as provided by the Cal-Osha.

4.10 Retaining Wall (if any)

Earth retaining walls, if required, should be designed based on following parameters:

Slope of Retained Material (H:V)	Equivalent Fluid Density, pcf Clean Sand Local Soil	
level	30	33
2:1	42	58

For retaining wall design for wall height in excess of 6 feet, use of a seismic lateral pressure equal to 25 H psf may be considered, where H = wall height.

Walls adjacent to traffic areas should be designed to resist a uniform lateral pressure of 100 pounds per square foot, which is a result of an assumed 300 pounds per square foot surcharge behind the walls due to normal traffic. If the traffic is kept back ten feet from the wall, the traffic surcharge may be neglected.

The design parameters do not include any hydrostatic pressure build-up. Consequently, installation of "french-drain" behind retaining walls is recommended to minimize water pressure build-up. Use of impervious material is preferred within upper 18 inches of the backfills placed.

Backfills behind retaining wall should be compacted to a minimum 90 percent relative laboratory Maximum Dry Density as determined by the ASTM D1557 test method. Flooding and/or jetting behind wall should not be permitted. Local sandy soils may be used as backfill.

4.11 Flexible Asphalt Paving/Parking

Flexible paving/parking, if used, based on an estimated Traffic Index (TI) and on the estimated soils R-value of 60 as based on soil Sand Equivalent, SE, of 45, the following paving sections are supplied for estimation purposes. Following mass grading, the paving sections supplied should be verified based on actual soil R-value testing on representative soils sampled from street finish grades.

Service Area	Traffic Index, TI	Paving Type	Paving Thickness (net), inch.
Interior Driveways	6.5	a.c over Local Soils	5" a.c. over 6' CI 2 Base
Off-Site Street Widening	8.0	a.c over Class II base	6" a.c over 8" CI.2 base

For ac over Class II base, or on Crushed Miscellaneous Base (CMB) materials, the upper 18-inch of subgrade soils should be processed and compacted to minimum 95%.

Base material used should conform to the Caltrans Class II specification compacted to minimum 95%. The pavement sections supplied should be verified by the local public agency for their approval prior to their use to the project.

4.12 Utility Trench Backfill

Utility trench backfill within the structural pad and beyond should be placed in accordance with the following recommendations:

- o Trench backfill should be placed in 6 to 8-inch thin lifts mechanically compacted to 90 percent or better of the laboratory maximum dry density for the soils used. Within areas of paving, upper 1.5 feet of the trench backfill should be compacted to 95%, or better. No water-jetting should be considered for compaction in lieu of the mechanical compaction described.
- o Exterior trenches along a foundation or a toe of a slope and extending below a 1:1 imaginary line projected from the outside bottom edge of the footing or toe of the slope should be compacted to 90 percent of the Maximum Dry Density for the soils used during backfill. All trench excavations should conform to the requirements and safety as specified by the Cal-Osha

4.13 Pre-Construction Meeting

It is recommended that no clearing or grading operation of the site be performed without the presence of a representative of this office. An on-site pre-grading meeting should be arranged between the soils engineer and the grading contractor prior to any construction.

4.14 Seasonal Limitations

No fill shall be placed, spread or rolled during unfavorable weather conditions. Where the work is interrupted by heavy rains, fill operations shall not be resumed until moisture conditions are considered favorable by the soils engineer.

4.15 Planters

In order to minimize potential differential settlement to foundations, use of planters requiring heavy irrigation should be restricted from using adjacent to footings. In event such becomes unavoidable, planter boxes with sealed bottoms, should be considered.

4.16 Landscape Maintenance

Only the amount of irrigation necessary to sustain plant life should be provided. Pad drainage should be directed towards streets and to other approved areas away from foundations. Slope areas should be planted with draught resistant vegetation. Over watering landscape areas could adversely affect the proposed site development during its life-time use.

4.17 Observations and Testing During Construction

Recommendations provided are based on assumption that structural footings and slab-on-grade be established exclusively into engineered compacted fills og non-expansive in nature. Excavated footings should be inspected, verified, and certified by soils engineer prior to steel and concrete placement. Structural backfills discussed should be placed under direct observations and testing by this facility. Excess soils generated from footing trench excavations should be removed from pad areas and such should not be allowed on concrete slab-subgrades.

5.0 Earth Work/General Grading Recommendations

Site preparations and grading should involve overexcavation and replacement of local soils as structural fill compacted to the minimum relative compactions as described earlier.

Structural Backfill:

Local soils free of debris, large rocks and organic should be considered suitable for reuse as backfill. Loose soils, formwork and debris should be removed prior to backfilling retaining walls. On-site sand backfill should be placed and compacted in accordance with the recommended specifications provided below. Where space limitations do not allow conventional backfilling operations, special backfill materials and procedures may be required. Pea gravel or other select backfill can be used in limited space areas. Recommendations for placement and densification of pea gravel or other special backfill can be provided during construction.

Site Drainage:

Adequate positive drainage should be provided away from the structure to prevent water from ponding and to reduce percolation of water into backfill. A desirable slope for surface drainage is 2 percent in landscape areas and 1 percent in paved areas. Planters and landscaped areas adjacent to building perimeter should be designed to minimize water filtration into subsoils. Considerations should be given to the use of closed planter bottoms, concrete slabs and perimeter subdrains where applicable.

Utility Trenches:

Buried utility conduits should be bedded and backfilled around the conduit in accordance with the project specifications. Where conduit underlies concrete slab-on-grade and pavement, the remaining trench backfill above the pipes should be placed and compacted in accordance with the following grading specifications.

General Grading Recommendations:

Recommended general specifications for surface preparation to receive fill and compaction for structural and utility trench backfill and others are presented below.

1. Areas to be graded, backfilled or paved, shall be grubbed, stripped and cleaned of all buried and undetected debris, structures, concrete, vegetation and other deleterious materials prior to grading.
2. Where compacted fill is to provide vertical support for foundations, all loose, soft and other incompetent soils should be removed to full depth as approved by soils engineer, or at least up to the depth as previously described in this report. The areas of such removal should extend at least 5 feet beyond the perimeter of exterior foundation limit or to the extent as approved by soils engineer during grading.
3. The fills to support foundations and slab-on-grade should be compacted to minimum 95% of the soil's Maximum Dry Density at 3 to 5% over Optimum. To minimize potential differential settlements to foundations and slabs straddling over cut and fill transition, cut portions following cut, should be further over excavated and such be replaced as engineered fill compacted to at least 90% of the soil's Maximum Dry Density as described in this report.
4. Utility trenches within building pad areas and beyond should be backfilled with granular material and such should be mechanically compacted to at least 90% of the maximum density for the material used.

5. Compaction for structural fills shall be determined relative to the maximum dry density as determined by ASTM D1557 compaction methods. All in-situ field density of compacted fill shall be determined by the ASTM D1556 standard methods or by other approved procedures.
6. New imported soils, if required, shall be clean, granular, non-expansive material or as approved by the soils engineer.
7. During grading, fill soils shall be placed as thin layers, thickness of which following compaction shall not exceed six to eight inches.
8. No rocks over six to eight inches in diameter shall be permitted to use as a grading material without prior approval of the soils engineer.
9. No jetting and/or water tampering be considered for backfill compaction for utility trenches without prior approval of the soils engineer. For such backfill, hand tampering with fill layers of 8 to 12 inches in thickness, or as approved by the soils engineer is recommended.
10. Utility trenches at depth and cesspool and abandoned septic tank existing within building pad areas and beyond, should be excavated and removed, or such should be backfilled with gravel, slurry or by other material as approved by soils engineer.
11. Imported fill soils if required, should be equivalent to site soils or better. Such should be approved by the soils engineer prior to their use.
12. Grading required for pavement, side-walk or other facilities to be used by general public, should be constructed under direct observation of soils engineer or as required by the local public agencies.
13. A site meeting should be held between grading contractor and soils engineer prior to actual construction. Two days of prior notice will be required for such meeting.

6.0 Closure

The conclusions and recommendations presented are based upon the findings and observations as made during subsurface test excavations and subsequent laboratory testing and engineering evaluations. The recommendations supplied should be considered "preliminary" since they are based on soil samples only. If during construction, the subsoil conditions appear different from those as disclosed during field investigation this office should be notified to consider any possible need for modification for the geotechnical recommendations as provided in this report.

Recommendations provided are based on the assumptions that structural footings will be established exclusively into compacted fill. No footings and/or slabs are allowed straddling over cut/fill transition interface.

Site grading must be performed under observations by a geotechnical representative of this office. Further, it is recommended that excavated footings should be verified and approved by soils engineer prior to steel and concrete placement to ensure that foundations are founded into satisfactory soils and excavations are free of loose and disturbed materials.

A pregrading meeting between grading contractor and soils engineer is recommended prior to construction preferably at the site, to discuss the grading procedures to be implemented and other requirements described in this report to be fulfilled.

This report has been prepared exclusively for the use of the addressee for the project referenced in the context. It shall not be transferred or be used by other parties without a written consent by Soils Southwest, Inc. We cannot be responsible for use of this report by others without inspection and testing of grading operations by our personnel.

Should the project be delayed beyond one year after the date of this report; the recommendations presented shall be reviewed to consider any possible change in site conditions.

The recommendations presented are based on the assumption that the necessary geotechnical observations and testing during construction will be performed by a representative of this office. The field observations are considered a continuation of the geotechnical investigation performed.

If another firm is retained for geotechnical observations and testing, our professional liability and responsibility shall be limited to the extent that Soils Southwest, Inc. would not be the geotechnical engineer of record. Further, use of the geotechnical recommendations by others will relieve Soils Southwest, Inc. of any liability that may arise during lifetime use of the structures constructed.

7.0 WQMP-BMP Stormwater Disposal Design Water Infiltration Rate Using Porchet Method

Presented herewith are the preliminary results of soils infiltration testing performed for the planned storm water disposal design system proposed for the project site described. Since no WQMP-BMP disposal system locations are currently selected and known WQMP-BMP design rate supplied should be considered tentative. Additional testing maybe warranted following grading plan review.

Two (2) infiltration tests were performed at about 10 feet below the current grades using the standardized "falling-head" test converted using the Porchet Method to infiltration rate as per the guidelines in accordance with the Table 1, Infiltration Basin Option 2 of Appendix A of the Riverside County-Low Impact Development (LID) BMP design Handbook/ Approximate test locations are shown on Plate 1, attached.

For the lower elevation test boring (BMP-1), the soils encountered consist in general upper fine silty clayey sands overlying fine silty sands with traces of clay, pebbles with scattered rock fragments to the maximum 10 feet depth explored. For the upper elevation test boring (BMP-2), the soils encountered consist in general upper fine silty clayey sands overlying fine to medium sands with traces of silt, pebbles, rock fragments, and scattered rocks to the maximum 10 feet depth explored.

No free groundwater was encountered. Descriptions of the soils encountered are provided in the Log of Borings, P-1, and P-2 attached.

Based on the field infiltration testing completed, it is our opinion that for the infiltration system design proposed at about 10 feet below grade, the average observed soils infiltration rate is 2.5 in/hr.

For design, it is suggested that, use of an appropriate factor of safety as determined by the design engineer should considered to the observed rate to account for long-term saturation, inconsistencies in subsoil conditions, potential for silting and lack of maintenance. The observed soils percolation rates are provided in Table 7.4.1 in Section 7.4 of this report.

7.1.0 PROPOSED DEVELOPMENT

Based on the preliminary project information supplied, it is understood the subject site consists of two fire station structures along with that of storm water disposal system at the approximate test locations as described. Based on existing site topography, minor to moderate site preparations and grading may be anticipated with the development planned.

7.2.0 EXCAVATED TEST BORINGS

For BMP soil infiltration testing at the location as shown on the accompanying Plate 1, two (2) tests borings (P-1 and P-2) were made using a 6-inch diameter hollow-stem auger drilling rig, advanced to approximately 10 feet below the current grade in absence of precise proposed bottom depth provided by project engineer. Water used during infiltration percolation testing was supplied by using water jugs.

7.3.0 METHODOLOGY AND TEST PROCEDURES: EQUIPMENT SET-UP (POST EXCAVATION) PROCEDURES

Following test boring completion, each of the test holes were fitted with perforated pvc pipes backfilled with 2-inch thick crushed rock at the bottom to minimize potentials for scouring and caving. For testing, each test hole was initially filled using water supplied by water jugs.

Prior to actual testing, in order to determine test intervals, as per the Section 2.3 for deep percolation testing of the referenced handbook guideline, one to two consecutive readings were performed to determine if six (6) or more inches of water seeped in 25 minutes. For P-1, since less than six (6) inches seeped away in the first 25-minute test interval, subsequent testing commenced with 30-minute testing for six hours or until the rates became consistent. For P-2, since 6 inches or more of water seeped away in less than 25 minutes, subsequent ten percolation testing were performed at 10-minute time intervals for at least the minimum one hour or until the rates were consistent. Testing included water placement at about 8 feet below existing grade surface (inlet depth or 24 inches above infiltration system bottom).

The final 10-minute recorded percolation test rate was converted into an Infiltration Rate (I_t) for inches per hour using the "Porchet Method" equation as described in the Reference 2, Riverside County Low Impact Development BMP Design Handbook or the Appendices Section VII.3.8 of the San Bernardino County Technical Guidance Document for Water Quality Management Plans handbook.

7.4.0 INFILTRATION TEST RESULT

Based on the soils infiltration testing completed at the test locations and at the test depth as described, the observed soil percolation rates are 0.12"/hr. and 4.95"/hr for the test locations P-1 and P-2 respectively.

Calculations to convert the percolation test rate to infiltration test rates in accordance with Section 2.3 of the County Handbook are presented in Table I and II below. For design, it is suggested that, use of a factor of safety of 2.0 to 3.0, or an appropriate Factor of Safety as selected by the design engineer should be considered to the observed field percolation rate described.

7.4.1. Conversion Calculations & Summary:

TABLE I
Conversion Table (Porchet Method)

Test No.	Depth Test Hole (inches)	Time Interval	Initial Depth (inch)	Final Depth (inch)	Initial Water Height (inch)	Final Water Height (inch)	Change Height/Time	Average Head Height/Time
	D_T	ΔT (Min)	D_O (in)	D_f (in)	$H_o = D_T - D_O$	$H_f = D_T - D_f$	$\Delta H = H_f - H_o$	$H_{avg} = (H_o + H_f)/2$
P-1	120	30	96	97	24.0	23.0	1.0	23.5
P-2	119	10	95	106	24.0	13.0	11.0	18.5

Test No.	Infiltration Rate (It) = $\Delta H 60r / \Delta t(r + 2H_{avg})$		
	A	B	C
	$\Delta H 60r$	$\Delta t (r + 2H_{avg})$	$A/B = in/hr$
P-1	180	1500	0.12
P-2	1980	400	4.95

TABLE II

Based on the soils infiltration testing completed, and calculations as described for WQMP-BMP design, the following infiltration rates may be considered. Actual field test data are attached.

Observed Infiltration Rate for Design

Test Date	Test No.	Relative Site Location	Test Depth (ft.) Below Grade	Observed Rate (inch/hour.)
	P-1	Lower Northeast	10.0	0.12
	P-2	Upper near proposed Engine Bays	10.0	4.95

Average observed infiltration rate: 2.5 in/hr.

Use of safety factor should be considered to account for long-term saturation, inconsistencies in subsoil conditions, along with the potential for silting of percolating soils.

The infiltration rate described is based on the in-situ testing completed at the locations as suggested by the project civil engineer. In event the final chamber location and depth vary considerably from those as described herein, supplemental soils infiltration testing may be warranted.

It should be noted that over prolong use and lack of maintenance the detention/infiltration basins or deep chambers constructed based on the suggested design rate may experience much lower infiltration rate due to the accumulation of silts, fines, oils and others. Regular maintenance of the chambers in form of removal of debris, oil and fines are strongly recommended. A maintenance record of such is suggested for future use, if any.

Suggested Site Requirements for Stormwater BMP installation

The invert of stormwater infiltration shall be at least 10 feet above the groundwater elevation. Stormwater infiltration BMPs shall not be placed on steep slopes and shall not create the condition or potential for slopes instability.

Stormwater infiltration shall not increase the potential for static or seismic settlement of structures on or its adjacent.

Stormwater infiltration shall not place an increased surcharge on structures or foundations on or its adjacent. The pore-water pressure shall not be increased on soil retaining structures on or adjacent to the site.

The invert of stormwater infiltration shall be set back at least 15 feet, and outside a 1:1 plan drawn up from the bottom of adjacent foundations.

Stormwater infiltration shall not be located near utility lines where the introduction of stormwater could cause damage to utilities or settlement of trench backfill.

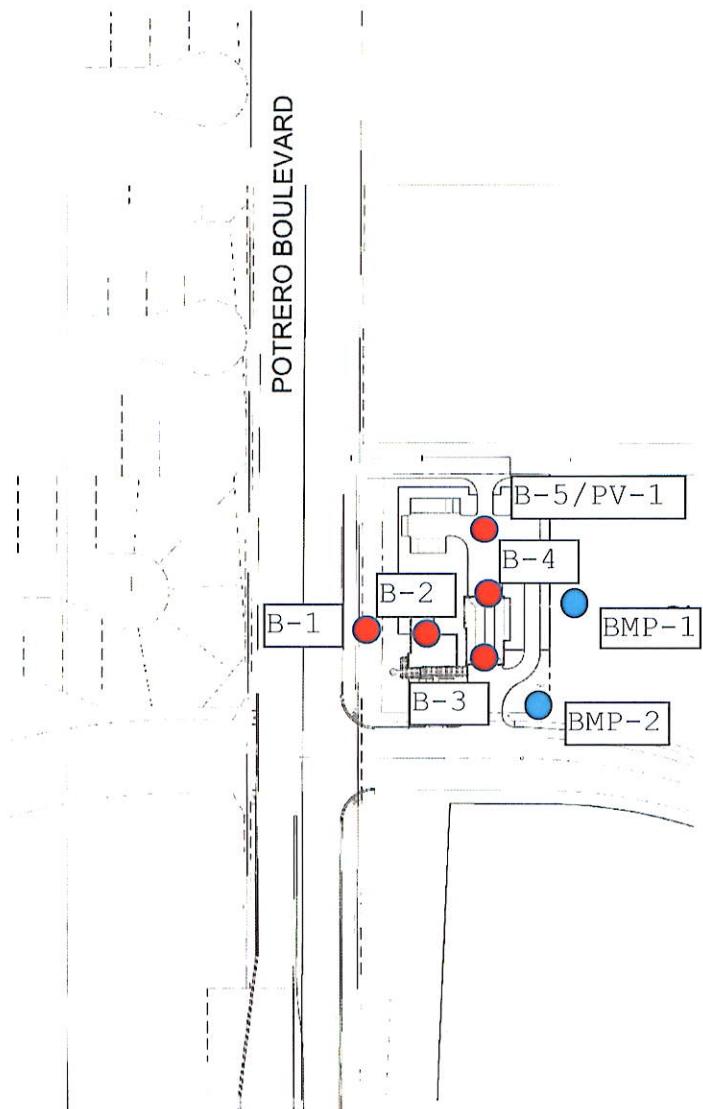
Stormwater infiltration is not allowed within 100 feet of any potable groundwater production well.

Once installed, regular maintenance of the detention basin is recommended.

PLOT PLAN AND TEST LOCATIONS
Proposed Beaumont Fire Station
NEC Potrero Boulevard & Western Knolls Ave.
Beaumont, California
APN: 414-120-042

(NTS)

N



Legend:



TP-1 Approximate Location of Exploratory Test Borings



B-1 Approximate Location of Infiltration Test Borings

Plate 1

8.0 APPENDIX A

Field Explorations

For geotechnical evaluations field evaluations included five (5) exploratory test borings (B-1 to B-5) along with two (2) infiltration test borings using a hollow-stem auger drilling rig advanced to maximum 31 feet below existing the grade surface. Approximate test exploration locations are shown on attached Plate 1.

Soils encountered during explorations were logged and such were classified by visual observations in accordance with the generally accepted classification system. The field descriptions were modified, where appropriate, to reflect laboratory test results.

In addition to undisturbed soils sampling during test borings, within areas of excavated test pits portable nuclear gauge is used for determining relative soil density and moisture content (ASTM D2261). The bulk and undisturbed soil samples procured were sent to our laboratory for geotechnical analyses as described in the attached Test Boring Logs.

Logs of test explorations are presented in the following summary sheets that include the description of the soils and/or fill materials encountered.

LOG OF TEST EXPLORATIONS



Soils Southwest, Inc.
897 Via Lata, Suite N
Colton, CA 92324
(909) 370-0474 Fax (909) 370-3156

LOG OF BORING B-1

Project: Beaumont Firehouse

Job No.: 20009-F/BMP

Logged By: John F.

Boring Diam.: 6" HSA

Date: 4-6-20

Standard Penetration (Blows per Ft.)	Sample Type	Water Content in %	Dry Density in PCF	Percent Compaction	Unified Classification System	Graphic	Depth in Feet	Description and Remarks	
26					SM	.....		seasonal weeds toe of slope near existing Potrero Blvd.	
		5.2	126.9		SP-SM	.....	5	SAND - light reddish brown, silty, fine to medium, pebbles, occasional rock fragments, damp to moist	
		4.3	120.1		SP	.....	10	<ul style="list-style-type: none"> - color change to light yellow brown, slightly silty, fine to medium coarse, pebble, rock fragments, scattered 1/4"-1" rock damp, medium dense to dense, presence of rippled granitic material - traces of silt - traces of silt, gravelly, medium to coarse rippled granitic material, dense, dry 	
44					GP-SP	.....	15	<ul style="list-style-type: none"> - color change to light brown - color change to orangish to yellowish light brown, d.g. origin material with rippled granitic material, dry, dense 	
40							20	<ul style="list-style-type: none"> - End of test boring @ 16.0 ft. - no bedrock - no groundwater 	
							25		
							30		

Groundwater: n/a

Approx. Depth of Bedrock: n/a

Datum: n/a

Elevation: +/- 2451

Site Location

Proposed Fire Facility
Potrero Blvd & Olivewood Way
Beaumont, California

Plate #

█ Standard penetration test

█ Bulk/Grab sample

█ California sampler



Soils Southwest, Inc.
897 Via Lata, Suite N
Colton, CA 92324
(909) 370-0474 Fax (909) 370-3156

LOG OF BORING B-2

Project: Beaumont Firehouse

Job No.: 20009-F/BMP

Logged By: John F.

Boring Diam.: 6" HSA

Date: 4-6-20

Standard Penetration (Blows per Ft.)	Sample Type	Water Content in %	Dry Density in PCF	Percent Compaction	Unified Classification System	Graphic	Depth in Feet	Description and Remarks	
					SM-ML			seasonal weeds and brush SAND - brown, silty, fine, pebbles	
		15	114.0		SM-SC		5	<ul style="list-style-type: none"> - color change to red-brown, clayey, silty, pebbles, moist - color change to light brown 	
20					SM-ML		10	<ul style="list-style-type: none"> - color change to tannish yellowish brown, silty, fine, pebble, dry 	
							15	<ul style="list-style-type: none"> - with scattered rock fragments 	
							20	<ul style="list-style-type: none"> - medium dense to dense 	
							25		
30					GM-SM		30	<ul style="list-style-type: none"> - color change to greenish light gray-brown, silty, fine, scattered pebbles and rippable graniitic material, dense - End of test boring @ 31.0 ft. - no bedrock & no groundwater 	

Groundwater: n/a

Approx. Depth of Bedrock: n/a

Datum: n/a

Elevation: +/- 2459.1

Site Location

Proposed Fire Facility
Potrero Blvd & Olivewood Way
Beaumont, California

Plate #

 Standard penetration test

 Bulk/Grab sample

 California sampler



Soils Southwest, Inc.
897 Via Lata, Suite N
Colton, CA 92324
(909) 370-0474 Fax (909) 370-3156

LOG OF BORING B-3

Project: Beaumont Firehouse

Job No.: 20009-F/BMP

Logged By: John F.

Boring Diam.: 6" HSA

Date: 4-6-20

Standard Penetration (Blows per Ft.)	Sample Type	Water Content in %	Dry Density in PCF	Percent Compaction	Unified Classification System	Graphic	Depth in Feet	Description and Remarks	
14		8.9	125.3		SM-SC			seasonal weeds and brush SAND - reddish brown, silty, clayey, fine pebbles, moist - low to medium dense (Max Dry Density = 109pcf @ 21.5%)	
12		7.2	126.9		SM		5	- color change to orangish red brown, traces of clay, silty, fine to medium, pebble scattered rock fragments	
					SM-ML		10	- color change to light yellowish brown, silty, fine, pebble, scattered rock fragments - low to medium dense	
							15	- dense	
							20	- End of test boring @ 16.0 ft. - no bedrock - no groundwater	
							25		
							30		

Groundwater: n/a

Approx. Depth of Bedrock: n/a

Datum: n/a

Elevation: +/- 2470.1

Site Location

Proposed Fire Facility
Potrero Blvd & Olivewood Way
Beaumont, California

Plate #

Standard penetration test

Bulk/Grab sample

California sampler



Soils Southwest, Inc.
897 Via Lata, Suite N
Colton, CA 92324
(909) 370-0474 Fax (909) 370-3156

LOG OF BORING B-4

Project: Beaumont Firehouse

Job No.: 20009-F/BMP

Logged By: John F.

Boring Diam.: 6" HSA

Date: 4-6-20

Standard Penetration (Blows per Ft.)	Sample Type	Water Content in %	Dry Density in PCF	Percent Compaction	Unified Classification System	Graphic	Depth in Feet	Description and Remarks
					SM-SC			seasonal weeds and brush SAND - reddish gray-brown, silty, clayey, fine, pebble, moist
25		7.0	126.4		SP		5	- color change to light reddish brown, traces of silt and clay, fine to medium, pebble rock fragments
18					SM		10	- color change to light brown, silty, traces of clay, fine to medium, pebbles, dense, damp - color change to orangish brown - color change to tannish yellowish brown, silty, fine, pebbles, medium dense, dry
19					SM-ML		15	
							20	- with scattered rock fragments
							25	- End of test boring @ 21.0 ft. - no bedrock - no groundwater
							30	

Groundwater: n/a

Approx. Depth of Bedrock: n/a

Datum: n/a

Elevation: n/a

Site Location

Proposed Fire Facility
Potrero Blvd & Olivewood Way
Beaumont, California

Plate #

Standard penetration test

Bulk/Grab sample

California sampler



Soils Southwest, Inc.
897 Via Lata, Suite N
Colton, CA 92324
(909) 370-0474 Fax (909) 370-3156

LOG OF BORING B-5/PV-1

Project: Beaumont Firehouse

Job No.: 20009-F/BMP

Logged By: John F.

Boring Diam.: 6" HSA

Date: 4-6-20

Standard Penetration (Blows per Ft.)	Sample Type	Water Content in %	Dry Density in PCF	Percent Compaction	Unified Classification System	Graphic	Depth in Feet	Description and Remarks	
					SM-SC			seasonal weeds and brush	
							5	SAND - Reddish gray-brown, silty, clayey, fine, moist	
18					SM		10	<ul style="list-style-type: none"> - isolated color change to tan with pebbles and rocks - color change to tannish brown, slightly clayey, silty, fine to medium with pebbles rock fragments, damp to moist, stiff to medium dense - color change to tan, silty, fine 	
							15	<ul style="list-style-type: none"> - End of test boring @ 10.0 ft. - no bedrock - no groundwater 	
							20		
							25		
							30		

Groundwater: n/a

Approx. Depth of Bedrock: n/a

Datum: n/a

Elevation: +/- 2468.5

Site Location

Proposed Fire Facility
Potrero Blvd & Olivewood Way
Beaumont, California

Plate #

 Standard penetration test

 Bulk/Grab sample

 California sampler



Soils Southwest, Inc.
897 Via Lata, Suite N
Colton, CA 92324
(909) 370-0474 Fax (909) 370-3156

LOG OF BORING BMP-1

Project: Beaumont Firehouse

Job No.: 20009-F/BMP

Logged By: John F.

Boring Diam.: 6" HSA

Date: 4-6-20

Standard Penetration (Blows per Ft.)	Sample Type	Water Content in %	Dry Density in PCF	Percent Compaction	Unified Classification System	Graphic	Depth in Feet	Description and Remarks	
					SM-SC			seasonal weeds and brush SAND- reddish gray-brown, clayey, silty, fine, pebble, moist	
					SM-ML		5	- color change to tan, silty, traces of clay fine, pebbles, scattered rock fragments	
							10	- End of BMP Infiltration test boring @ 10 ft. - no bedrock - no groundwater - 3" pvc pipe installed with gravel at bottom	
							15		
							20		
							25		
							30		

Groundwater: n/a
Approx. Depth of Bedrock: n/a
Datum: n/a
Elevation: +/- 2469

Site Location

Proposed Fire Facility
Potrero Blvd & Olivewood Way
Beaumont, California

Plate #

Standard penetration test

Bulk/Grab sample

California sampler



Soils Southwest, Inc.
897 Via Lata, Suite N
Colton, CA 92324
(909) 370-0474 Fax (909) 370-3156

LOG OF BORING BMP-2

Project: Beaumont Firehouse

Job No.: 20009-F/BMP

Logged By: John F.

Boring Diam.: 6" HSA

Date: 4-6-20

Standard Penetration (Blows per Ft.)	Sample Type	Water Content in %	Dry Density in PCF	Percent Compaction	Unified Classification System	Graphic	Depth in Feet	Description and Remarks	
					SM-SC			seasonal weeds and brush SAND- gray-brown, clayey, silty, fine, pebble, moist - color change to reddish brown, with occasional rock fragments, scattered rock	
					SP-SM		5	- color change to yellowish/tannish brown traces of silt, fine to medium, pebble, rock fragments	
							10	- End of BMP Infiltration test boring @ 10 ft. - no bedrock - no groundwater - 3" pvc pipe installed with gravel at bottom	
							15		
							20		
							25		
							30		

Groundwater: n/a

Approx. Depth of Bedrock: n/a

Datum: n/a

Elevation: +/- 2469

Site Location

Proposed Fire Facility
Potrero Blvd & Olivewood Way
Beaumont, California

Plate #

Standard penetration test

Bulk/Grab sample

California sampler

KEY TO SYMBOLS

Symbol Description

Strata symbols



Silty sand



Poorly graded sand
with silt



Poorly graded sand



Poorly graded gravel
and sand



Poorly graded silty
fine sand



Poorly graded clayey
silty sand



Silty sand and gravel

Soil Samplers



Standard penetration test



Bulk/Grab sample



California sampler

Notes:

1. Exploratory borings were drilled on 4-6-20 using a 4-inch diameter continuous flight power auger.
2. No free water was encountered at the time of drilling or when re-checked the following day.
3. Boring locations were taped from existing features and elevations extrapolated from the final design schematic plan.
4. These logs are subject to the limitations, conclusions, and recommendations in this report.
5. Results of tests conducted on samples recovered are reported on the logs.

Percolation Test Data Sheet

Project:	Beaumont Fire	Project No.:	20009-BMP	Date:			
Test Hole No.:	P-1	Tested By:	JP				
Depth of Test Hole, D_t :	120 inq	USCS Soil Classification:	SM-SC				
Test Hole Dimensions (inches)			Length	Width			
Diameter (if round)=		Sides (if rectangular)=					
Sandy Soil Criteria Test*							
Trial No.	Start Time	Stop Time	Time Interval, (min.)	Initial Depth to Water (in.)	Final Depth to Water (in.)	Change in Water Level (in.)	Greater than or Equal to 6"? (y/n)
1	12:58	1:23	25	94	94.5	0.5	N
2							

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25".

Trial No.	Start Time	Stop Time	At Time Interval (min.)	D_0 Initial Depth to Water (in.)	D_t Final Depth to Water (in.)	ΔD Change in Water Level (in.)	Percolation Rate (min./in.)
1	1:25	1:55	30	94.25	97.5	3.25	
2	1:58	2:28	30	95.50	98.0	2.50	
3	2:36	3:06	30	95.0	96.5	1.50	
4	3:08	3:38	30	96.0	97.0	1.00	
5	3:40	4:10	30	96.0	97.0	1.00	
6	4:11	4:41	30	96.0	97.0	1.00	
7	4:42	5:12	30	96.0	97.0	1.00	
8							
9							
10							
11							
12							
13							
14							
15							

COMMENTS:

Percolation Test Data Sheet

Project:	Beaumont Fire	Project No.:	20009-BMP	Date:	4-23-20		
Test Hole No.:	P-2	Tested By:	JF				
Depth of Test Hole, D _T :	119 inch	USCS Soil Classification:	SP-SM				
Test Hole Dimensions (inches)			Length	Width			
Diameter (if round)= 6 inches Sides (if rectangular)=							
Sandy Soil Criteria Test*							
Trial No.	Start Time	Stop Time	Time Interval, (min.)	Initial Depth to Water (in.)	Final Depth to Water (in.)	Change in Water Level (in.)	Greater than or Equal to 6"? (y/n)
1	1:08	1:33	25.0	95	119	24	y
2	1:36	1:58	22.0	95	119	24	y

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25".

Trial No.	Start Time	Stop Time	Δt Time Interval (min.)	D ₀ Initial Depth to Water (in.)	D _f Final Depth to Water (in.)	ΔD Change in Water Level (in.)	Percolation Rate (min./in.)
1	2:05	2:15	10	95	111	16.00	
2	2:18	2:28	10	95	110	15.00	
3	2:32	2:42	10	95	110	15.00	
4	2:45	2:55	10	95	109	14.00	
5	2:58	3:08	10	95	107	12.00	
6	3:11	3:21	10	95	107	12.00	
7	3:22	3:32	10	95	106	11.00	
8	3:33	3:43	10	95	106	11.00	
9	3:44	3:54	10	95	106	11.00	
10	3:55	4:05	10	95	106	11.00	
11							
12							
13							
14							
15							

COMMENTS:

9.0 APPENDIX B

Laboratory Test Programs

Laboratory tests were conducted on representative soils for the purpose of classification and for the determination of the physical properties and engineering characteristics. The number and selection of the types of testing for a given study are based on the geotechnical conditions of the site. A summary of the various laboratory tests performed for the project is presented below.

Moisture Content and Dry Density (ASTM D2937):

Data obtained from these tests performed on undisturbed samples are used to aid in geotechnical soil classification and correlation of the soils and to provide qualitative information regarding in-situ soil strengths.

Direct Shear (ASTM D3080):

Data obtained from this test performed at increased and field moisture conditions on relatively undisturbed and remolded soil sample is used to evaluate soil shear strengths. Samples contained in brass sampler rings placed directly on test apparatus are sheared at a constant strain rate of 0.002 inch per minute under saturated conditions and under varying loads appropriate to represent anticipated structural loadings. Shearing deformations are recorded to failure. Peak and/or residual shear strengths are obtained from the measured shearing load versus deflection curve. Test results, plotted on graphical form, are presented on Plate B-1 of this section.

Consolidation (ASTM D2835):

Drive-tube samples are tested at their field moisture contents and at increased moisture conditions since the soils may become saturated during lifetime use of the planned structure.

Data obtained from this test performed on relatively undisturbed and/or remolded samples, were used to evaluate the consolidation characteristics of foundation soils under anticipated foundation loadings. Preparation for this test involved trimming the sample, placing it in one inch high brass ring, and loading it into the test apparatus which contained porous stones to accommodate drainage during testing. Normal axial loads are applied at a load increment ratio, successive loads being generally twice the preceding.

Soil samples are usually under light normal load conditions to accommodate seating of the apparatus. Samples were tested at the field moisture conditions at a predetermined normal load. Potentially moisture sensitive soil typically demonstrated significant volume change with the introduction of free water. The results of the consolidation tests are presented in graphical forms on Plate B-2 of this section.

Potential Expansion (ASTM Standard D4829)

Clayey-Silty sandy in nature, the soils are considered 'low to medium' in expansion characteristic with an Expansion Index, EI, 38. Supplemental soil expansion testing may be warranted following mass grading completion.

Soils Gradation evaluations (ASTM D422), analyses were performed on procured bulk samples at various testing for depths to determine the classification of existing soil conditions.

Laboratory Test Results

Table I. Maximum Dry Density - Optimum Moisture Content

Trench No. & Sample Depth, ft.	Max. Dry Density, pcf.	Optimum Moisture, %
B-3 @ 3-5	109.0	21.5

Table II. In-Situ Moisture-Density Determinations

Test Boring No.	Sample Depth, ft.	Dry Density, pcf.	Moisture Content, %
1	5.0	126.9	5.2
1	8.0	120.1	4.3
2	3.0	114.0	14.8
3	5.0	125.3	8.9
3	15.0	126.9	7.2
4	7.0	126.4	7.0

Table III: Soils Expansion Index, EI. (ASTM D4829)

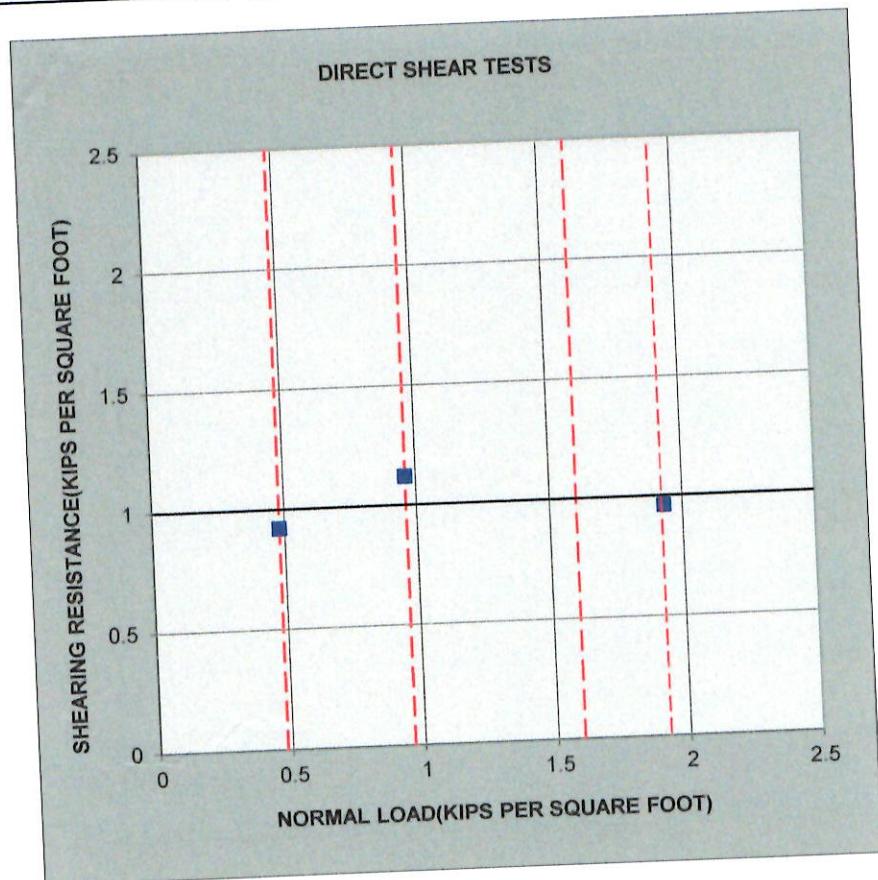
Sample Location & Soils Type	Soil Expansion Index, EI	Expansion Potential
B-3 @ 3-5 ft. Sand-silty clayey	38	"low"

Table IV: Consolidation (D2435)

Boring B #	Depth (ft.)	Consolidation prior to saturation (%) @ 2 kips	Hydro collapse (%) @ 2 kips	Total Consolidation (%@ 8 kips) (saturated)
3 (remolded)	3 - 5	1.3	0.4	4.6
3 (undisturbed)	0.7	0.3	0.3	3.7
4 (undisturbed)	7.0	0.0	0.0	2.0
1 (undisturbed)	5.0	0.3	0.1	2.2

Table V: Direct Shear (ASTM D3080)

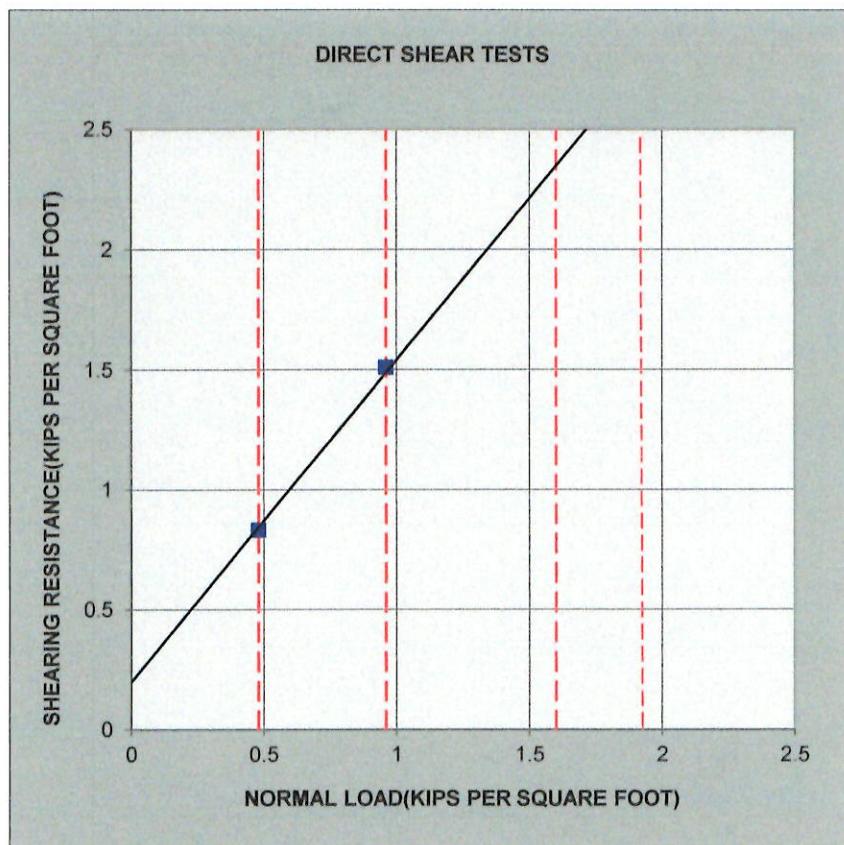
Test Trench or Boring & Sample Depth	Test Condition	Cohesion (PSF)	Friction (Degree)
B-3 @ 3-5 ft	Remolded to 90%	1,000	0
B-3 @ 5.0	Undisturbed	200	53.5



SYMBOL	LOCATION	DEPTH (FT)	TEST CONDITION	COHESION (psf)	FRICITION (degree)
■	B-3	3 to 5	Remolded to 90%	1000.16	0.05
Proposed Firehouse Complex Potrero Boulevard @ Olivewood Way Beaumont, California				PROJECT NO.	20009-F
				PLATE	B-1



SOILS SOUTHWEST, INC.
Consulting Foundation Engineers

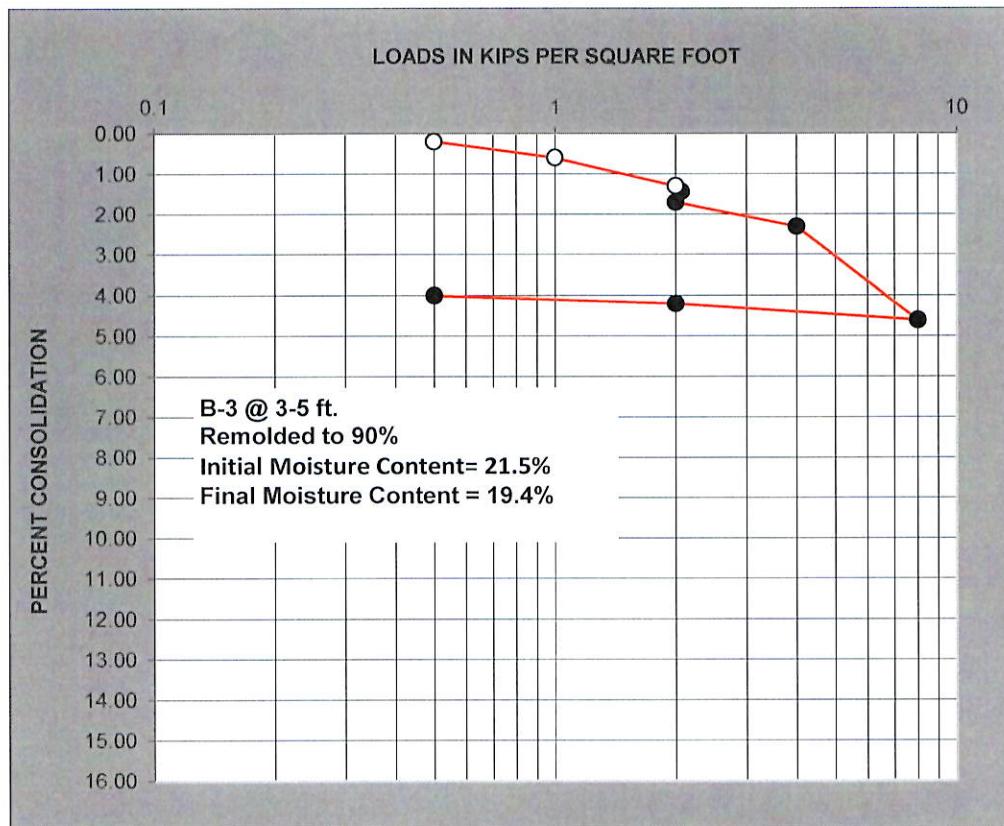


SYMBOL	LOCATION	DEPTH (FT)	TEST CONDITION	COHESION (psf)	FRICITION (degree)
■	B-3	5.0	Undisturbed	200.04	53.31
Proposed Firehouse Complex Potrero Boulevard @ Olivewood Way Beaumont, California			PROJECT NO.	20009-F	
			PLATE	B-1-1	



SOILS SOUTHWEST, INC.
Consulting Foundation Engineers

CONSOLIDATION TESTS

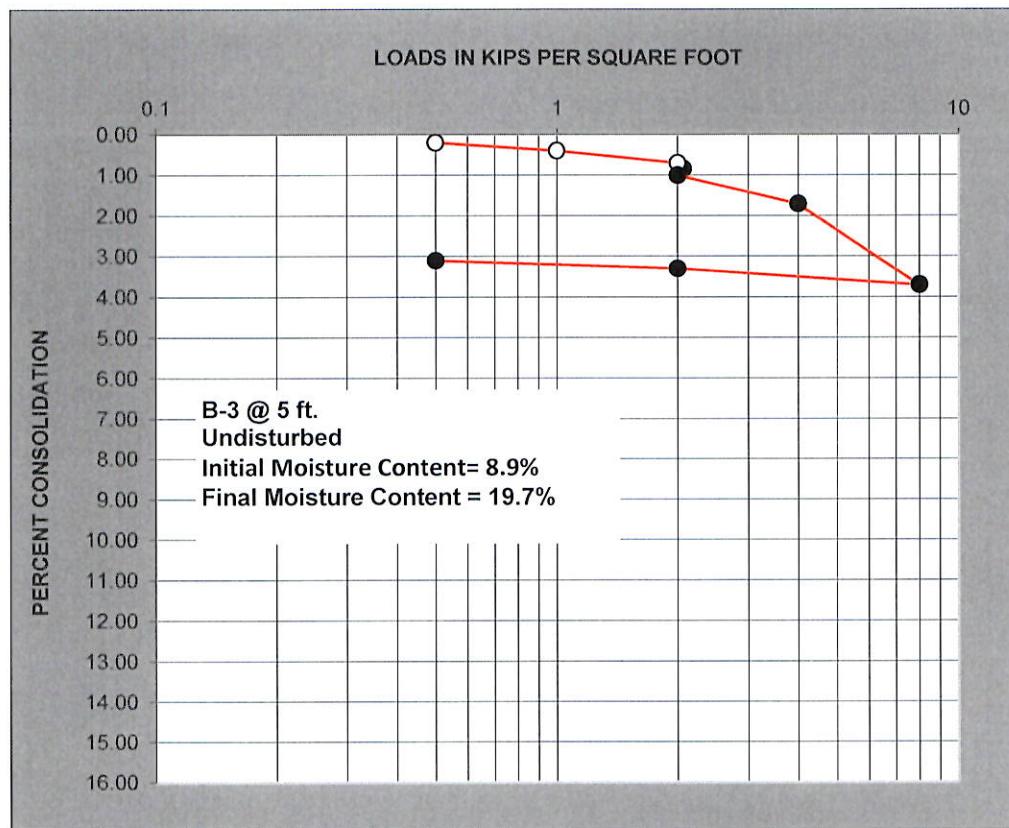


- WATER PERMITTED TO CONTACT SAMPLE

	PROJECT	Proposed Fire Complex Potrero Boulevard @ Olivewood Way, Beaumont		
PROJECT NO.	20009-F	PLATE	B-2	

SOILS SOUTHWEST INC.
Consulting Foundation Engineers

CONSOLIDATION TESTS

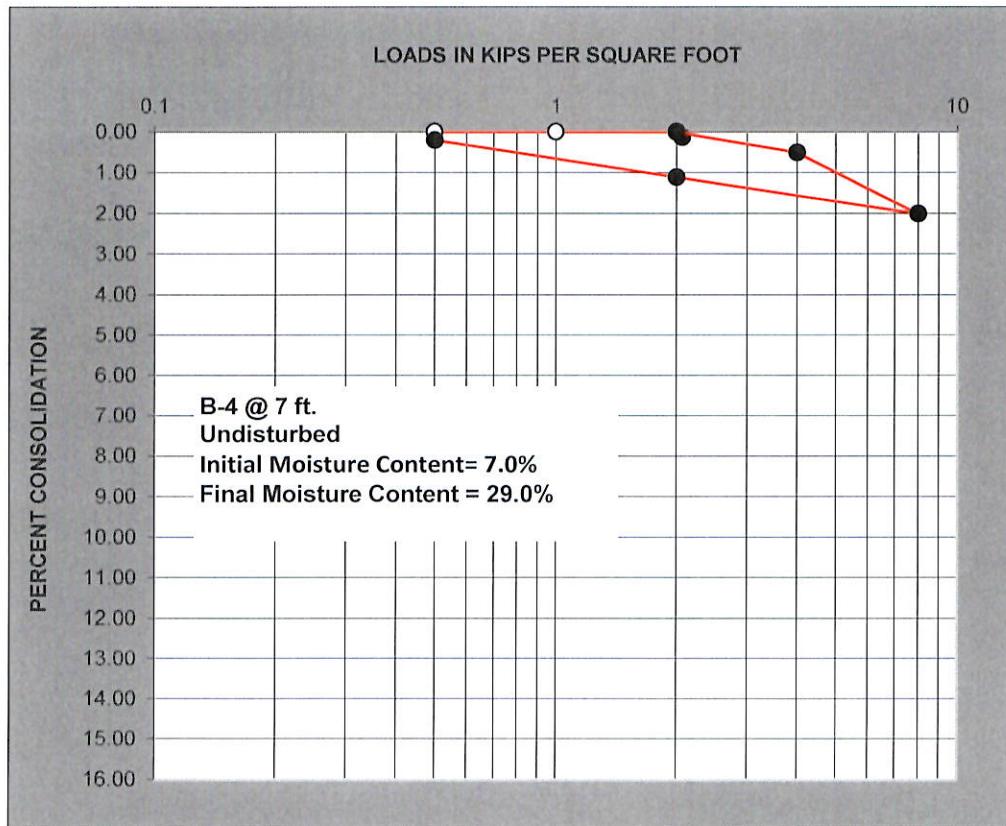


- WATER PERMITTED TO CONTACT SAMPLE

	PROJECT	Proposed Fire Complex Potrero Boulevard @ Olivewood Way, Beaumont		
	PROJECT NO.	20009-F	PLATE	B-2-1

SOILS SOUTHWEST INC.
Consulting Foundation Engineers

CONSOLIDATION TESTS

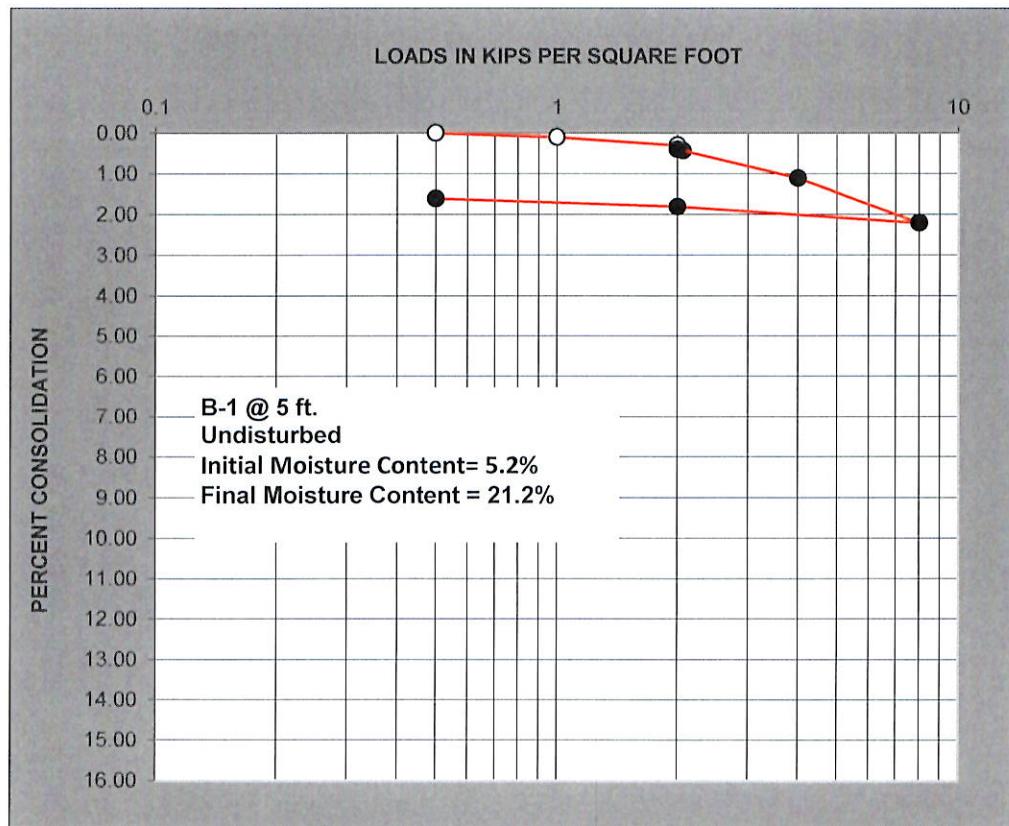


- WATER PERMITTED TO CONTACT SAMPLE

	PROJECT	Proposed Fire Complex Potrero Boulevard @ Olivewood Way, Beaumont		
	PROJECT NO.	20009-F	PLATE	B-2-2

SOILS SOUTHWEST INC.
Consulting Foundation Engineers

CONSOLIDATION TESTS



- WATER PERMITTED TO CONTACT SAMPLE

	PROJECT	Proposed Fire Complex Potrero Boulevard @ Olivewood Way, Beaumont		
	PROJECT NO.	20009-F	PLATE	B-2-3

SOILS SOUTHWEST INC.
Consulting Foundation Engineers

Expansion Index

ASTM D 4829

Machine No: 1
Project No: 20009-F
Depth (ft): 3 to 5
Location: Potrero Boulevard
Date: 5/7/2020

Project Name: Beaumont Fire
Lot/Boring/Trench: B-3
Tract No:
Technician: JF and AD

TEST DATA		Load: 144 lb	Ring = 1" x 4"
	Dial Reading	Time (h:m)	Date
Dry / 10 min	0	3:50	5/7/2020
Inundate	0	4:00	5/7/2020
Reading	17	4:03	5/7/2020
Reading	38	4:20	5/7/2020
EI (measured)	42	12:45	5/8/2020

DEGREE OF SATURATION DATA	Test A	Test B
A. Initial Moisture Content (%)	20.60%	10.61%
B. Weight of wet soil + Ring (g)	612.60	558.30
C. Weight of Ring (g)	188.70	188.70
D. Weight of Wet Soil (g) (B-C)	423.90	369.60
E. Weight of Dry Soil (g) (D/(1 + A))	351.49	334.15
F. Wet Density (pcf) D g/cubic cm/207 cubic cm convert to pcf (x 62.4) (1gram/cubic cm = 62.4 lbs cubic foot)	127.78	111.42
G. Dry Density (pcf) E g/cubic cm/207 cubic cm convert to pcf (x 62.4)	105.96	100.73
H. Weight of Water (pcf) (A x G)	21.83	10.69
I. Volume of Solids (cubic ft) (G/(2.7 sp. Gravity x 62.4))	0.63	0.60
J. Volume of Voids (cubic ft) (1-l)	0.37	0.40
Degree of saturation (%) Volume of water/volume of void x 100		
H/62.4/J (%)	94.26	42.59

Expansion Potential			
Test A	Test B		
0 - 20	N/A	↔	VERY LOW
21 - 50	N/A	↔	LOW
51 - 90	N/A	N/A	MEDIUM
91 - 130	N/A	N/A	HIGH L.L.=38 and P.L.=23 Plastic Index=15
>130	N/A	N/A	VERY HIGH

FINAL RESULTS		
Expansion Index (EI60) (A)		Final Moisture Content (%) 30.8
Expansion Index (EI60) (B)	38.00	← Note: Disregard Test (B) if Degree of Saturation is 0.0

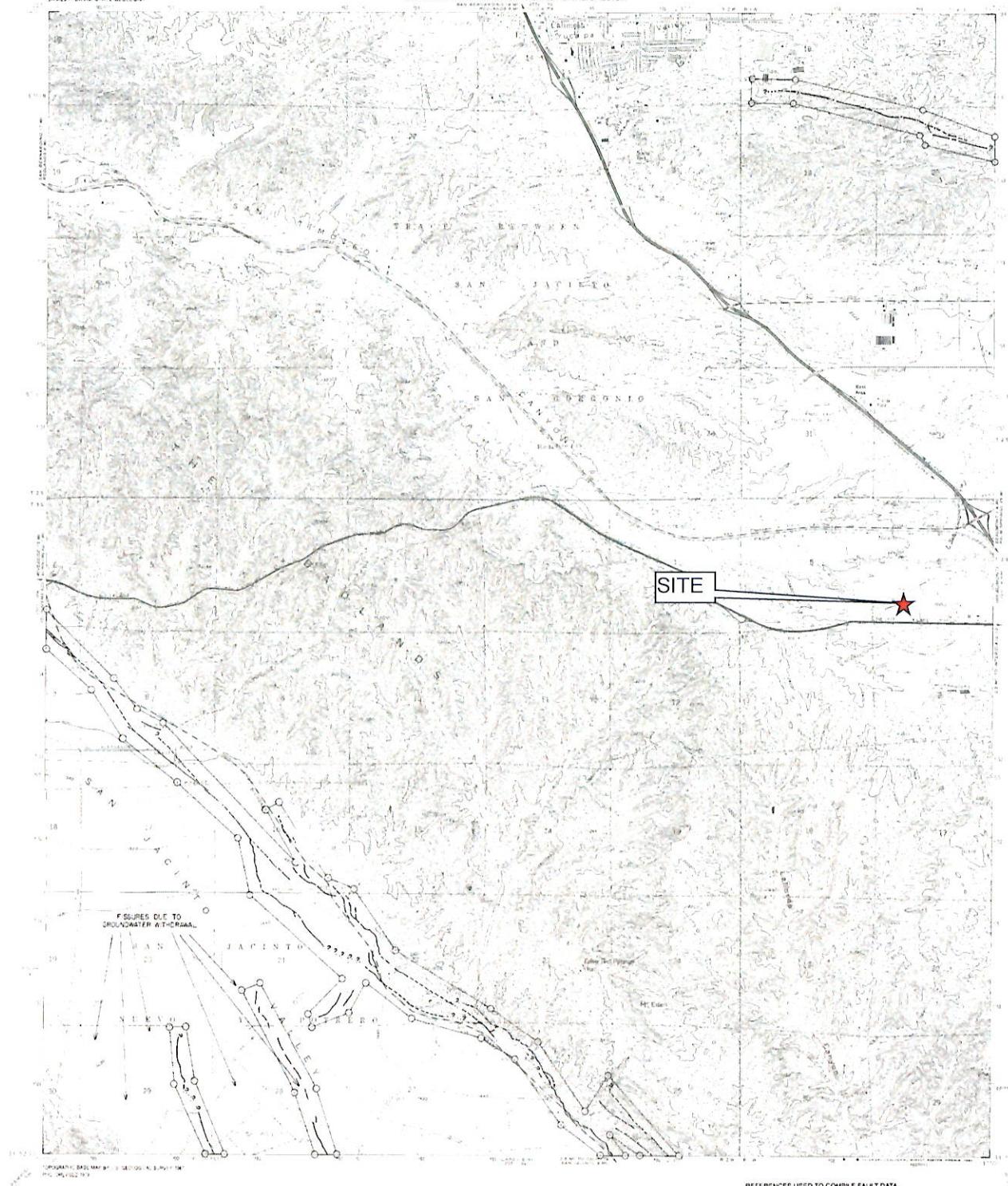
CORRECTION FOR DEGREE OF SATURATION

$EI60 = EI \text{ measured} - (50-S \text{ measured}) \times ((65 + EI \text{ measured}) / (220 - S \text{ measured}))$

Soils Southwest, Inc

©April 16, 2008

APPENDIX C
Supplemental Seismic Design Parameters



GEODETIC BASIS: 1932 GEODIALIC SURVEY

PC: 1952 SURVEY

MAP EXPLANATION

Active Faults

Faults considered to have been active during Holocene time and to have potential for surface rupture. Solid line where accurately located; long dash where approximately located; short dash where inferred; dotted where concealed; query (?) indicates additional evidence; bracketed numbers indicate by year of earthquake associated event or C for displacement caused by fault creep.

Earthquake Fault Zone Boundaries

These are delineated as straight line segments that connect enclosed turning points so as to define Earthquake Fault Zone segments.

Seaward projection of zone boundary.

SCALE 1:24,000
0 1000 2000 3000 4000 5000 6000 7000 FEET
0 5 0 KILOMETER
CONTOUR INTERVAL 40 FEET
SOUTH DRAWS, CREEKS, AND STREAMS
NATIONAL GEODETIC VERTICAL DRAIN OF 1929

STATE OF CALIFORNIA
EARTHQUAKE FAULT ZONES

Delineated in compliance with
Chapter 7.5, Division 2 of the California Public Resources Code
(Alquist-Priolo Earthquake Fault Zoning Act)

EL CASCO QUADRANGLE

REVISED OFFICIAL MAP

Effective: June 1, 1995

State Geologist

REFERENCES USED TO COMPILE FAULT DATA

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IMPORTANT - PLEASE NOTE

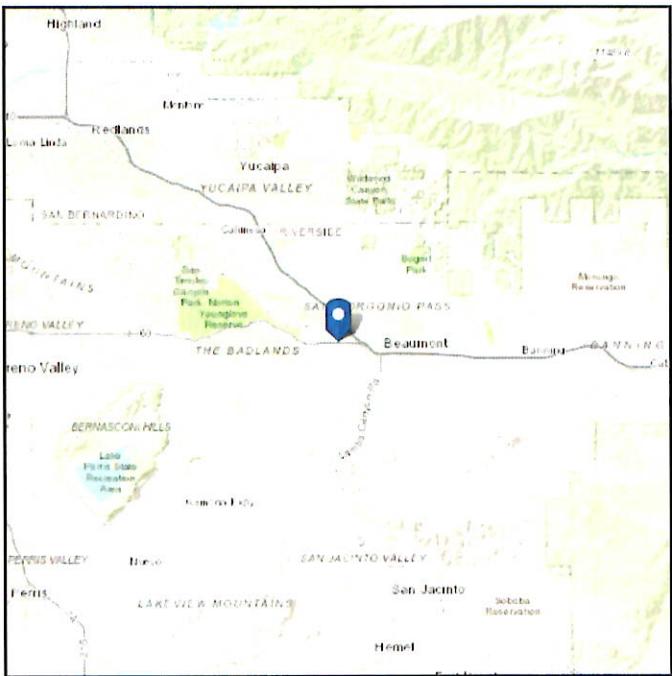
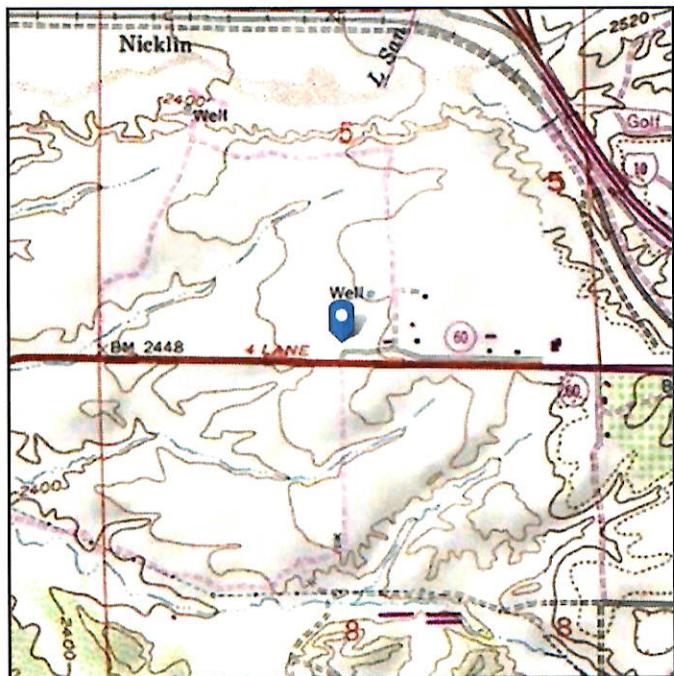
- This map may not show all faults that have the potential for surface fault rupture, either within the Earthquake Fault Zones or outside their boundaries.
- Faults shown are the basis for establishing the boundaries of the Earthquake Fault Zones.
- The identification and location of these faults are based on the best available data. However, the quality of data used is varied. Traces have been drawn as accurately as possible at this map scale.
- Fault information on this map is not sufficient to serve as a substitute for the geologic site investigations required under Chapter 7.5 of Division 2 of the California Public Resources Code.

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: III
Soil Class: D - Stiff Soil

Elevation: 2509.6 ft (NAVD 88)
Latitude: 33.933966
Longitude: -117.008034



Seismic

Site Soil Class: D - Stiff Soil

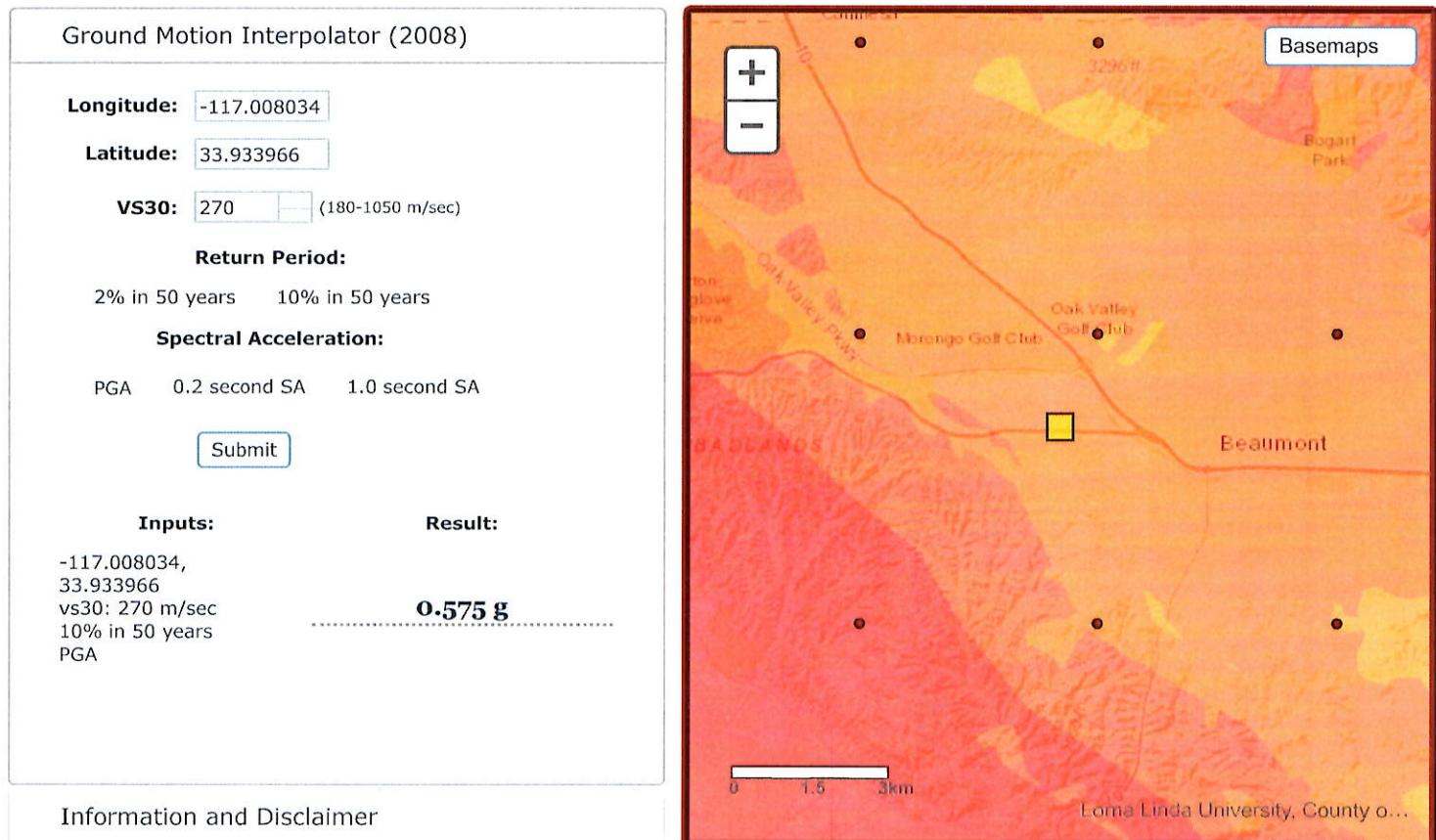
Results:

S_S :	1.66	S_{D1} :	N/A
S_1 :	0.618	T_L :	8
F_a :	1	PGA :	0.689
F_v :	N/A	PGA _M :	0.758
S_{MS} :	1.66	F_{PGA} :	1.1
S_{M1} :	N/A	I_e :	1.25
S_{DS} :	1.107	C_v :	1.432

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Tue Mar 10 2020

Date Source: [USGS Seismic Design Maps](#)



Information and Disclaimer

2008 National Seismic Hazard Maps - Source Parameters

[New Search](#)

Distance in Miles	Name	State	Pref Slip Rate (mm/yr)	Dip (degrees)	Dip Dir	Slip Sense	Rupture Top (km)	Rupture Bottom (km)	Length (km)
4.62	San Jacinto;SJV	CA	18	90	V	strike slip	0	16	43
4.62	San Jacinto;SBV+JV	CA	n/a	90	V	strike slip	0	16	88
4.90	San Jacinto;SJV+A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	196
4.90	San Jacinto;SBV+JV+A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	241
4.90	San Jacinto;JV+A	CA	n/a	90	V	strike slip	0	17	89
4.90	San Jacinto;JV+A+C	CA	n/a	90	V	strike slip	0	17	136
4.90	San Jacinto;JV+A+CC	CA	n/a	90	V	strike slip	0	16	136
4.90	San Jacinto;JV+A+CC+B	CA	n/a	90	V	strike slip	0.1	15	170
4.90	San Jacinto;SBV+JV+A	CA	n/a	90	V	strike slip	0	16	134
4.90	San Jacinto;SBV+JV+A+C	CA	n/a	90	V	strike slip	0	17	181
4.90	San Jacinto;SBV+JV+A+CC	CA	n/a	90	V	strike slip	0	16	181
4.90	San Jacinto;SBV+JV+A+CC+B	CA	n/a	90	V	strike slip	0.1	15	215
6.26	San Jacinto;A+CC+B+SM	CA	n/a	90	V	strike slip	0.1	15	178
6.26	San Jacinto;A	CA	9	90	V	strike slip	0	17	71
6.26	San Jacinto;A+CC+B	CA	n/a	90	V	strike slip	0.1	15	152
6.26	San Jacinto;A+CC	CA	n/a	90	V	strike slip	0	16	118
6.26	San Jacinto;A+C	CA	n/a	90	V	strike slip	0	17	118

U.S. Geological Survey - Earthquake Hazards Program

2008 National Seismic Hazard Maps - Source Parameters

[New Search](#)

Fault Name	State
San Jacinto;SJV	California

GEOMETRY

Dip (degrees)	90
Dip direction	V
Sense of slip	strike slip
Rupture top (km)	0
Rupture bottom (km)	16
Rake (degrees)	180
Length (km)	43

MODEL VALUES

Slip Rate	18
-----------	----

Probability of activity	1
-------------------------	---

	ELLSWORTH	HANKS
Minimum magnitude	6.5	6.5
Maximum magnitude	7.04	6.85
b-value	0.8	0.8

Fault Model	Deformation	Char Rate ¹	GR-a-	Weight
-------------	-------------	------------------------	-------	--------

PROFESSIONAL LIMITATIONS

Our investigation was performed using the degree of care and skill ordinarily exercised, under similar circumstances by other reputable Soils Engineers practicing in these general or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report.

The investigations are based on soil samples only, consequently the recommendations provided shall be considered 'preliminary'. The samples taken and used for testing and the observations made are believed representative of site conditions; however, soil and geologic conditions can vary significantly between boring. As in most major projects, conditions revealed by excavations may vary with preliminary findings. If this occurs, the changed conditions must be evaluated by the Project Soils Engineer and designs adjusted as required or alternate design recommended.

The report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the project architect and engineers. Appropriate recommendations should be incorporated into structural plans. The necessary steps should be taken to see that out such recommendations in field.

The findings of this report are valid as of this present date. However, changes in the conditions of a property can occur with the passage of time, whether they due to natural process or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur from legislation or broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by change outside of our control. Therefore, this report is subject to review and should be updated after a period of one year.

RECOMMENDED SERVICES

The review of grading plans and specifications, field observations and testing by a geotechnical representative of this office is integral part of the conclusions and recommendations made in this report. If Soils Southwest, Inc. (SSW) is not retained for these services, the Client agrees to assume SSW's responsibility for any potential claims that may arise during and after construction, or during the life-time use of the structure and its appurtenant.

The recommendations supplied should be considered valid and applicable, provided the following conditions, in minimum, are met:

- i. Pre-grade meeting with contractor, public agency and soils engineer,
- ii. Excavated bottom inspections and verification s by soils engineer prior to backfill placement,
- iii. Continuous observations and testing during site preparation and structural fill soils placement,
- iv. Observation and inspection of footing trenching prior to steel and concrete placement,
- v. Subgrade verifications including plumbing trench backfills prior to concrete slab-on-grade placement,
- vi. On and off-site utility trench backfill testing and verifications,
- vii. Precise-grading plan review, and
- viii. Consultations as required during construction, or upon your request.

Soils Southwest, Inc. will assume no responsibility for any structural distresses during its life-time use; in event the above conditions are not strictly fulfilled.

APPENDIX G – CALEEMOD GHG PRINTOUT

West Side Fire Station - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SSAFE Vehicle Rule Applied**West Side Fire Station**

Riverside-South Coast County, Annual

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	10.76	1000sqft	0.89	10,760.00	0
Unrefrigerated Warehouse-No Rail	0.57	1000sqft	0.20	570.00	0
Parking Lot	16.00	Space	0.50	21,569.00	0
Other Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MMWhr)	390.98	CH4 Intensity (lb/MMWhr)	0.033	N2O Intensity (lb/MMWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Site = 1.59 acre + 1.0 acre of offsite Road Improvements = 2.59 acres disturbed
 Construction Phase - Grading Phase extended to 20 working days to account for export of dirt
 Grading - 40,041 cubic yards exported

Trips and VMT - 6 vendor trucks per day added to Site Preparation and Grading Phases to account for water truck emissions
 Construction Off-road Equipment Mitigation - Water Exposed Area 2x per day selected to account for SCAQMD Rule 403 minimum requirements

Water Mitigation - Install low flow fixtures and use water-efficient Irrigation systems selected to account for Title 24 part 11 requirements
 Stationary Sources - Emergency Generators and Fire Pumps - 50 kW (86 HP0 Diesel Generator 0.5 hr/day & 26 hr/year

West Side Fire Station - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	PhaseEndDate	2/10/2023	3/2/2023
tblConstructionPhase	PhaseEndDate	1/13/2023	2/2/2023
tblConstructionPhase	PhaseEndDate	3/11/2022	3/31/2022
tblConstructionPhase	PhaseEndDate	1/27/2023	2/16/2023
tblConstructionPhase	PhaseStartDate	1/28/2023	2/17/2023
tblConstructionPhase	PhaseStartDate	3/12/2022	4/1/2022
tblConstructionPhase	PhaseStartDate	1/14/2023	2/3/2023
tblGrading	MaterialExported	0.00	40,041.00
tblLandUse	LandUseSquareFeet	6,400.00	21,569.00
tblLandUse	LotAcreage	0.25	0.89
tblLandUse	LotAcreage	0.01	0.20
tblLandUse	LotAcreage	0.14	0.50
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	86.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	26.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00

2.0 Emissions Summary

West Side Fire Station - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
2022	0.2202	2.0297	1.7132	4.6800e-003	0.1620	0.0818	0.2439	0.0584	0.0781	0.1365	0.0000	415.0464	415.0464	0.0490	0.0262	424.0765
2023	0.0912	0.2196	0.2552	4.8000e-004	6.2300e-003	9.9600e-003	0.0162	1.6800e-003	9.4800e-003	0.0112	0.0000	40.6190	40.6190	7.3700e-003	4.9000e-004	40.9605
Maximum	0.2202	2.0297	1.7132	4.6800e-003	0.1620	0.0818	0.2439	0.0584	0.0781	0.1365	0.0000	415.0464	415.0464	0.0490	0.0262	424.0765

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
2022	0.2202	2.0297	1.7132	4.6800e-003	0.1204	0.0818	0.2022	0.0392	0.0781	0.1173	0.0000	415.0461	415.0461	0.0490	0.0262	424.0762
2023	0.0912	0.2196	0.2552	4.8000e-004	6.2300e-003	9.9600e-003	0.0162	1.6800e-003	9.4800e-003	0.0112	0.0000	40.6189	40.6189	7.3700e-003	4.9000e-004	40.9605
Maximum	0.2202	2.0297	1.7132	4.6800e-003	0.1204	0.0818	0.2022	0.0392	0.0781	0.1173	0.0000	415.0461	415.0461	0.0490	0.0262	424.0762

West Side Fire Station - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
0.00	0.00	0.00	0.00	0.00	24.76	0.00	16.02	31.95	0.00	13.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-1-2022	4-30-2022	0.7365	0.7365
2	5-1-2022	7-31-2022	0.5662	0.5662
3	8-1-2022	10-31-2022	0.5664	0.5664
4	11-1-2022	1-31-2023	0.5528	0.5528
5	2-1-2023	4-30-2023	0.1305	0.1305
		Highest	0.7365	0.7365

West Side Fire Station - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															MT/yr
Area	0.0513	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	0.0000	7.5000e-004
Energy	2.1000e-004	1.8700e-003	1.5700e-003	1.0000e-005	0.004	1.4000e-004	1.4000e-004	0.04	1.4000e-004	0.04	0.0000	21.1407	21.1407	1.6500e-003	2.3000e-004	21.2513
Mobile	0.0762	0.1106	0.6976	1.5300e-003	0.11563	1.2700e-003	0.11575	0.0417	1.1900e-003	0.0429	0.0000	143.2681	143.2681	8.4200e-003	7.6200e-003	145.7494
Stationary	1.8300e-003	5.9800e-003	6.6600e-003	1.0000e-005	0.005	2.7000e-004	2.7000e-004	0.04	2.7000e-004	0.04	0.0000	0.8515	0.8515	1.2000e-004	0.0000	0.8545
Waste						0.0000	0.0000	0.0000	0.0000	0.0000	2.1416	0.0000	2.1416	0.1266	0.0000	5.3056
Water						0.0000	0.0000	0.0000	0.0000	0.0000	0.7200	7.8219	8.5419	0.0746	1.8300e-003	10.9512
Total	0.1296	0.1185	0.7062	1.5500e-003	0.1563	1.6800e-003	0.1579	0.0417	1.6000e-003	0.0434	2.8615	173.0828	175.9444	0.2114	9.6800e-003	184.1128

West Side Fire Station - Riverside-South Coast County, Annual

2.2 Overall Operational Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
	tons/yr										MT/yr						
Area	0.0513	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.0000e-004	0.0000	0.0000	0.0000	0.0000	7.5000e-004	
Energy	2.1000e-004	1.8700e-003	1.5700e-003	1.0000e-005	0.004	1.4000e-004	1.4000e-004	0.04	1.4000e-004	0.04	0.0000	21.1407	21.1407	1.6500e-003	2.3000e-004	21.2513	
Mobile	0.0762	0.1106	0.6976	1.5300e-003	0.11563	1.2700e-003	0.11575	0.0417	1.1900e-003	0.0429	0.0000	143.2681	143.2681	8.4200e-003	7.6200e-003	145.7494	
Stationary	1.8300e-003	5.9800e-003	6.6600e-003	1.0000e-005	0.005	2.7000e-004	2.7000e-004	0.04	2.7000e-004	0.04	0.0000	0.8515	0.8515	1.2000e-004	0.0000	0.8545	
Waste						0.0000	0.0000		0.0000		0.0000	2.1416	0.0000	2.1416	0.1266	0.0000	5.3056
Water						0.0000	0.0000		0.0000		0.0000	0.5760	0.5760	6.6163	7.1923	0.0597	9.1216
Total	0.1296	0.1185	0.7062	1.5500e-003	0.11563	1.6800e-003	0.1579	0.0417	1.6000e-003	0.0434	2.7175	171.8773	174.5948	0.1965	9.3100e-003	182.2832	

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Weeks	Phase Description
1	Site Preparation		3/1/2022	3/3/2022	2	3	
2	Grading		3/4/2022	3/31/2022	5	20	

3.0 Construction Detail

Construction Phase

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFe Vehicle Rule Applied

3	Building Construction	Building Construction	4/1/2022	2/2/2023	5	220
4	Paving	Paving	2/3/2023	2/16/2023	5	10
5	Architectural Coating	Architectural Coating	2/17/2023	3/2/2023	5	10

Acres of Grading (Site Preparation Phase): 4.5**Acres of Grading (Grading Phase): 20****Acres of Paving: 1.5**

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 16,995; Non-Residential Outdoor: 5,665; Striped Parking Area: 3,908
(Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	6.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	31.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2022**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	MT/yr	
																	tons/yr	tons/yr
Fugitive Dust					2.3600e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	2.0700e-003	0.0235	0.0151	4.0000e-005	8.9000e-004	8.9000e-004	8.9000e-004	8.2000e-004	8.2000e-004	8.2000e-004	0.0000	3.2321	3.2321	1.0500e-003	0.0000	0.0000	3.2582	
Total	2.0700e-003	0.0235	0.0151	4.0000e-005	2.3300e-003	8.9000e-004	3.2800e-003	2.6000e-004	1.0800e-004	3.2321	3.2321	1.0500e-003	0.0000	0.0000	3.2582			

3.2 Site Preparation - 2022

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															MT/yr
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.0000e-005	1.3000e-004	0.0000	6.0000e-005	1.0000e-005	6.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1576	0.1576	0.0000	2.0000e-005	0.1646
Worker	4.0000e-005	3.0000e-005	4.1000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1043	0.1043	0.0000	0.0000	0.1052
Total	5.0000e-005	4.3000e-004	5.4000e-004	0.0000	1.9000e-004	1.0000e-005	1.9000e-004	6.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.2619	0.2619	0.0000	2.0000e-005	0.2698

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															MT/yr
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0700e-003	0.0235	0.0151	4.0000e-005	8.9000e-004	8.9000e-004	8.9000e-004	8.2000e-004	8.2000e-004	8.2000e-004	0.0000	3.2321	3.2321	1.0500e-003	0.0000	3.2582
Total	2.0700e-003	0.0235	0.0151	4.0000e-005	1.0700e-003	8.9000e-004	8.9000e-004	8.2000e-004	8.2000e-004	8.2000e-004	0.0000	3.2321	3.2321	1.0500e-003	0.0000	3.2582

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.2 Site Preparation - 2022****Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
	tons/yr															MT/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	1.0000e-005	4.0000e-005	1.3000e-004	0.0000	6.0000e-005	1.0000e-005	6.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1576	0.1576	0.0000	2.0000e-005	0.1646	0.0000	
Worker	4.0000e-005	3.0000e-005	4.1000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1043	0.1043	0.0000	0.0000	0.1052	0.0000	
Total	5.0000e-005	4.3000e-004	5.4000e-004	0.0000	1.9000e-004	1.0000e-005	1.9000e-004	6.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.2619	0.2619	0.0000	2.0000e-005	0.2698	0.0000	

3.3 Grading - 2022**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
	tons/yr															MT/yr		
Fugitive Dust					0.0734	0.0000	0.0734	0.0346	0.0000	0.0346	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.0154	0.1698	0.0922	2.1000e-004	7.4200e-003	7.4200e-003	7.4200e-003	6.8300e-003	6.8300e-003	6.8300e-003	0.0000	18.1027	18.1027	5.8500e-003	0.0000	18.2491	0.0000	
Total	0.0154	0.1698	0.0922	2.1000e-004	0.0734	7.4200e-003	0.0898	0.0346	6.8300e-003	0.0415	0.0000	18.1027	18.1027	5.8500e-003	0.0000	18.2491	0.0000	

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.3 Grading - 2022****Unmitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															MT/yr
Hauling	7.7600e-003	0.3370	0.0719	1.4400e-003	0.0432	3.7200e-003	0.0469	0.0119	3.5600e-003	0.0154	0.0000	139.2896	139.2896	0.0219	145.8753	
Vendor	1.0000e-004	2.6600e-003	9.0000e-004	1.0000e-005	3.8000e-004	4.0000e-005	4.2000e-004	1.1000e-004	4.0000e-005	1.4000e-004	0.0000	1.0507	1.0507	1.0000e-005	1.6000e-004	
Worker	3.5000e-004	2.7000e-004	3.4100e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.0000e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8691	0.8691	2.0000e-005	2.0000e-005	
Total	8.2100e-003	0.3399	0.0762	1.4600e-003	0.0447	3.7700e-003	0.0484	0.0123	3.6100e-003	0.0159	0.0000	141.2095	141.2095	0.0221	147.8496	

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															MT/yr
Fugitive Dust					0.0330	0.0000	0.0330	0.0156	0.0000	0.0156	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.0154	0.1698	0.0922	2.1000e-004	7.4200e-003	7.4200e-003	7.4200e-003	6.8300e-003	6.8300e-003	6.8300e-003	0.0000	18.1027	18.1027	0.0000	18.2491	
Total	0.0154	0.1698	0.0922	2.1000e-004	0.0330	7.4200e-003	0.0404	0.0156	6.8300e-003	0.0224	0.0000	18.1027	18.1027	0.0000	18.2491	

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.3 Grading - 2022****Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr												MT/yr			
Hauling	7.7600e-003	0.3370	0.0719	1.4400e-003	0.0432	3.7200e-003	0.0469	0.0119	3.5600e-003	0.0154	0.0000	139.2896	139.2896	0.0219	145.8753	
Vendor	1.0000e-004	2.6600e-003	9.0000e-004	1.0000e-005	3.8000e-004	4.0000e-005	4.2000e-004	1.1000e-004	4.0000e-005	1.4000e-004	0.0000	1.0507	1.0507	1.0000e-005	1.6000e-004	
Worker	3.5000e-004	2.7000e-004	3.4100e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.0000e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8691	0.8691	2.0000e-005	2.0000e-005	
Total	8.2100e-003	0.3399	0.0762	1.4600e-003	0.0447	3.7700e-003	0.0484	0.0123	3.6100e-003	0.0159	0.0000	141.2095	141.2095	0.0221	147.8496	

3.4 Building Construction - 2022**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.1818	1.4312	1.4066	2.4500e-003	0.0688	0.0688	0.0688	0.0660	0.0660	0.0660	0.0000	203.5265	203.5265	0.0393	0.0000	204.5082
Total	0.1818	1.4312	1.4066	2.4500e-003	0.0688	0.0688	0.0688	0.0660	0.0660	0.0660	0.0000	203.5265	203.5265	0.0393	0.0000	204.5082

3.4 Building Construction - 2022
Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0200e-003	0.0566	0.0191	2.3000e-004	8.0500e-003	7.8000e-004	8.8300e-003	2.3200e-003	7.4000e-004	3.0700e-003	0.0000	22.3100	22.3100	2.3000e-004	3.3100e-003	23.3024
Worker	0.0106	8.2700e-003	0.1035	2.9000e-004	0.0334	1.7000e-004	0.0336	8.8700e-003	1.6000e-004	9.0200e-003	0.0000	26.4038	26.4038	7.0000e-004	7.3000e-004	26.6392
Total	0.0126	0.0648	0.1225	5.2000e-004	0.0414	9.5000e-004	0.0424	0.0112	9.0000e-004	0.0121	0.0000	48.7138	48.7138	9.3000e-004	4.0400e-003	49.9416

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.1818	1.4312	1.4066	2.4500e-003	0.0688	0.0688	0.0688	0.0660	0.0660	0.0660	0.0000	203.5263	203.5263	0.0393	0.0000	204.5079
Total	0.1818	1.4312	1.4066	2.4500e-003	0.0688	0.0688	0.0688	0.0660	0.0660	0.0660	0.0000	203.5263	203.5263	0.0393	0.0000	204.5079

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SSAFE Vehicle Rule Applied**3.4 Building Construction - 2022****Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															MT/yr
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0566	0.0191	2.3000e-004	8.0500e-004	7.8000e-004	8.8300e-003	2.3200e-003	7.4000e-004	3.0700e-003	3.0700e-003	0.0000	22.3100	22.3100	2.3000e-004	3.3100e-003	23.3024
Worker	0.0106	0.1035	2.9000e-004	0.0334	1.7000e-004	0.0336	8.8700e-003	1.6000e-004	9.0200e-003	9.0200e-003	0.0000	26.4038	26.4038	7.0000e-004	7.3000e-004	26.6392
Total	0.0126	0.0648	0.1225	5.2000e-004	0.0414	9.5000e-004	0.0424	0.0112	9.0000e-004	0.0121	0.0000	48.7138	48.7138	9.3000e-004	4.0400e-003	49.9416

3.4 Building Construction - 2023**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															MT/yr
Off-Road	0.0206	0.1635	0.1706	3.0000e-004	7.3600e-003	7.3600e-003	7.3600e-003	7.0600e-003	7.0600e-003	7.0600e-003	0.0000	24.9243	24.9243	4.7100e-003	0.0000	25.0421
Total	0.0206	0.1635	0.1706	3.0000e-004	7.3600e-003	7.3600e-003	7.3600e-003	7.0600e-003	7.0600e-003	7.0600e-003	0.0000	24.9243	24.9243	4.7100e-003	0.0000	25.0421

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3.4 Building Construction - 2023
Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	CH4	N2O	CO2e	
	tons/yr															MT/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	5.3500e-004	2.1300e-003	3.0000e-005	9.9000e-004	4.0000e-005	1.0300e-003	2.8000e-004	4.0000e-005	3.3000e-004	2.6247	2.6247	3.0000e-005	3.9000e-004	2.7410				
Worker	1.2100e-003	8.9000e-004	0.0117	3.0000e-005	4.0000e-003	2.0000e-005	4.1100e-003	1.0900e-003	2.0000e-005	1.1000e-003	0.0000	3.1484	3.1484	8.0000e-005	8.0000e-005	3.1749		
Total	1.3800e-003	6.2400e-003	0.0138	6.0000e-005	5.0800e-003	6.0000e-005	5.1400e-003	1.3700e-003	6.0000e-005	1.4300e-003	0.0000	5.7731	5.7731	4.7000e-004	4.7000e-004	5.9159		

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	CH4	N2O	CO2e	
	tons/yr															MT/yr		
Off-Road	0.0206	0.1635	0.1706	3.0000e-004	7.3600e-003	7.3600e-003	7.3600e-003	7.0600e-003	7.0600e-003	0.0000	24.9242	24.9242	4.7100e-003	0.0000	0.0000	25.0421		
Total	0.0206	0.1635	0.1706	3.0000e-004	7.3600e-003	7.3600e-003	7.3600e-003	7.0600e-003	7.0600e-003	0.0000	24.9242	24.9242	4.7100e-003	0.0000	0.0000	25.0421		

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
	tons/yr															MT/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	5.3500e-004	2.1300e-003	3.0000e-005	9.9000e-004	4.0000e-005	1.0300e-003	2.8000e-004	4.0000e-005	3.3000e-004	2.6247	2.6247	3.0000e-005	3.9000e-004	2.7410				
Worker	1.7000e-004	8.9000e-004	0.0117	3.0000e-005	4.0000e-003	2.0000e-005	4.1100e-003	1.0900e-003	2.0000e-005	1.1000e-003	0.0000	3.1484	3.1484	8.0000e-005	8.0000e-005	3.1749		
Total	1.3800e-003	6.2400e-003	0.0138	6.0000e-005	5.0800e-003	6.0000e-005	5.1400e-003	6.0000e-005	5.1370e-003	6.0000e-005	1.4300e-003	0.0000	5.7731	5.7731	1.1000e-004	4.7000e-004	5.9159	

3.5 Paving - 2023

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
	tons/yr															MT/yr		
Off-Road	4.4000e-003	0.0431	0.0584	9.0000e-005	2.1700e-003	2.1700e-003	2.1700e-003	2.0000e-003	2.0000e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	0.0000	7.8179		
Paving	1.9700e-003				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
Total	6.3700e-003	0.0431	0.0584	9.0000e-005	2.1700e-003	2.1700e-003	2.1700e-003	2.0000e-003	2.0000e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	0.0000	7.8179		

West Side Fire Station - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SSAFE Vehicle Rule Applied**3.5 Paving - 2023****Unmitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															MT/yr
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.8000e-004	2.3500e-003	1.0000e-005	8.2000e-004	0.0000	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6348	0.6348	2.0000e-005	0.005	0.6401
Total	2.4000e-004	1.8000e-004	2.3500e-003	1.0000e-005	8.2000e-004	0.0000	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6348	0.6348	2.0000e-005	0.005	0.6401

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															MT/yr
Off-Road	4.4000e-003	0.0431	0.0584	9.0000e-005	2.1700e-003	2.1700e-003	2.1700e-003	2.0000e-003	2.0000e-003	2.0000e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8178
Paving	1.9700e-003				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.3700e-003	0.0431	0.0584	9.0000e-005	2.1700e-003	2.1700e-003	2.1700e-003	2.0000e-003	2.0000e-003	2.0000e-003	0.0000	7.7564	7.7564	2.4600e-003	0.0000	7.8178

West Side Fire Station - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.5 Paving - 2023****Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.8000e-004	2.3500e-003	1.0000e-005	8.2000e-004	0.0000	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6348	0.6348	2.0000e-005	0.0000	0.6401
Total	2.4000e-004	1.8000e-004	2.3500e-003	1.0000e-005	8.2000e-004	0.0000	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6348	0.6348	2.0000e-005	0.0000	0.6401

3.6 Architectural Coating - 2023**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Archit. Coating	0.0616						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-005	1.0000e-005	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	1.2766	1.2766	8.0000e-005	0.0000	1.2785	
Total	0.0625	6.5100e-003	9.0600e-003	1.0000e-005	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	CH4	N2O	CO2e
	tons/yr										MT/yr						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	9.4000e-004	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.2539	0.2539	1.0000e-005	1.0000e-005	0.05	0.2560	0.2560
Total	1.0000e-004	7.0000e-005	9.4000e-004	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.2539	0.2539	1.0000e-005	1.0000e-005	0.05	0.2560	0.2560

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	CH4	N2O	CO2e
	tons/yr										MT/yr						
Archit. Coating	0.0616						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	1.2766	1.2766	8.0000e-005	8.0000e-005	0.05	1.2785	1.2785
Total	0.0625	6.5100e-003	9.0600e-003	1.0000e-005	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	1.2766	1.2766	8.0000e-005	8.0000e-005	0.0000	1.2785	1.2785

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr																MT/yr
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	9.4000e-004	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.2539	0.2539	0.2539	1.0000e-005	1.0000e-005	0.2560
Total	1.0000e-004	7.0000e-005	9.4000e-004	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.2539	0.2539	0.2539	1.0000e-005	1.0000e-005	0.2560

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

West Side Fire Station - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	MT/yr															
	tons/yr															
Mitigated	0.0762	0.1106	0.6976	1.5300e-003	0.1563	1.2700e-003	0.1575	0.0417	1.1900e-003	0.0429	0.0000	143.2681	143.2681	8.4200e-003	7.6200e-003	145.7494
Unmitigated	0.0762	0.1106	0.6976	1.5300e-003	0.1563	1.2700e-003	0.1575	0.0417	1.1900e-003	0.0429	0.0000	143.2681	143.2681	8.4200e-003	7.6200e-003	145.7494

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated			Mitigated		
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT	Annual VMT	Annual VMT
Government Office Building	243.07	0.00	0.00	408,835	408,835	408,835	408,835	408,835	408,835
Other Asphalt Surfaces	0.00	0.00	0.00						
Parking Lot	0.00	0.00	0.00						
Unrefrigerated Warehouse-No Rail	0.99	0.99	0.99	4,251	4,251	4,251	4,251	4,251	4,251
Total	244.06	0.99	0.99	413,086	413,086	413,086	413,086	413,086	413,086

4.3 Trip Type Information

Land Use	Miles				Trip %				Trip Purpose %			
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by	Primary	Diverted	Pass-by
Government Office Building	16.60	8.40	6.90	33.00	62.00	5.00	50	34	16			
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0			
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0			
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3			

4.4 Fleet Mix

West Side Fire Station - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Government Office Building	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Other Asphalt Surfaces	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Parking Lot	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Unrefrigerated Warehouse-No Rail	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	MT/yr
	tons/yr																
Electricity Mitigated								0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	19.1100	19.1100	19.2086	
Electricity Unmitigated								0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	19.1100	19.1100	19.2086	
NaturalGas Mitigated	2.1000e-004	1.8700e-003	1.5700e-003	1.0000e-005				1.4000e-004	1.4000e-004	1.4000e-004	0.0000	2.0306	2.0306	4.0000e-005	4.0000e-005	2.0427	
NaturalGas Unmitigated	2.1000e-004	1.8700e-003	1.5700e-003	1.0000e-005				1.4000e-004	1.4000e-004	1.4000e-004	0.0000	2.0306	2.0306	4.0000e-005	4.0000e-005	2.0427	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**5.2 Energy by Land Use - NaturalGas****Unmitigated**

Land Use	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr															MT/yr
Government Office Building	36906.8	2.0000e-004	1.8100e-003	1.5200e-003	1.0000e-005	0.0000	1.4000e-004	1.4000e-004	0.0000	1.4000e-004	1.4000e-004	0.0000	1.9695	4.0000e-005	4.0000e-005	1.9812	
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Unrefrigerated Warehouse-No Rail	1145.7	1.0000e-005	6.0000e-005	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0611	0.0611	0.0000	0.0000	0.0615
Total	2.1000e-004	1.8700e-003	1.5700e-003	1.0000e-005			1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0306	2.0306	4.0000e-005	4.0000e-005	2.0427

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**5.2 Energy by Land Use - NaturalGas****Mitigated**

Land Use	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr															MT/yr
Government Office Building	36906.8	2.0000e-004	1.8100e-003	1.5200e-003	1.0000e-005	0.0000	1.4000e-004	1.4000e-004	0.0000	1.4000e-004	1.4000e-004	0.0000	1.9695	4.0000e-005	4.0000e-005	1.9812	
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Unrefrigerated Warehouse-No Rail	1145.7	1.0000e-005	6.0000e-005	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0611	0.0611	0.0000	0.0000	0.0615	
Total	2.1000e-004	1.8700e-003	1.5700e-003	1.0000e-005			1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0306	2.0306	4.0000e-005	4.0000e-005	2.0427

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**5.3 Energy by Land Use - Electricity****Unmitigated**

Land Use	Electricity Use kWh/yr	Total CO2 MT/yr	CH4	N2O	CO2e
Government Office Building	98884.4	17.5367	1.4800e-003	1.8000e-004	17.6272
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	7549.15	1.3388	1.1000e-004	1.0000e-005	1.3457
Unrefrigerated Warehouse-No Rail	1322.4	0.2345	2.0000e-005	0.0000	0.2357
Total		19.1100	1.6100e-003	1.9000e-004	19.2086

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**5.3 Energy by Land Use - Electricity****Mitigated**

Land Use	Electricity Use kWh/yr	Total CO ₂	CH ₄	N ₂ O	CO ₂ e MT/yr
Government Office Building	98884.4	17.5367	1.4800e-003	1.8000e-004	17.6272
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	7549.15	1.3388	1.1000e-004	1.0000e-005	1.3457
Unrefrigerated Warehouse-No Rail	1322.4	0.2345	2.0000e-005	0.0000	0.2357
Total		19.1100	1.6100e-003	1.9000e-004	19.2086

6.0 Area Detail**6.1 Mitigation Measures Area**

West Side Fire Station - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															MT/yr
Mitigated	0.0513	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.0000e-004	0.0000	0.0000	0.0000	0.0000	7.5000e-004
Unmitigated	0.0513	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.0000e-004	0.0000	0.0000	0.0000	0.0000	7.5000e-004

6.2 Area by SubCategory**Unmitigated**

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															MT/yr
Architectural Coating	6.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0452					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	0.0000	0.0000	0.0000	7.5000e-004
Total	0.0513	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.0000e-004	0.0000	0.0000	0.0000	0.0000	7.5000e-004

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**6.2 Area by SubCategory****Mitigated**

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															MT/yr
Architectural Coating	6.1600e-003				0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0452				0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	0.0000	7.5000e-004
Total	0.0513	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	0.0000	7.5000e-004

7.0 Water Detail**7.1 Mitigation Measures Water**

Install Low Flow Bathroom Faucet
Install Low Flow Kitchen Faucet

Install Low Flow Toilet
Install Low Flow Shower

Use Water Efficient Irrigation System

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFe Vehicle Rule Applied

Category	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr		
Mitigated	7.1923	0.0597	1.4600e-003	9.1216
Unmitigated	8.5419	0.0746	1.8300e-003	10.9512

7.2 Water by Land Use

Unmitigated

Land Use	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
	Mgal	MT/yr			
Government Office Building	2.13758 / 1.31013	8.1956	0.0703	1.7200e-003	10.4659
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.131813 / 0	0.3462	4.3200e-003	1.0000e-004	0.4854
Total		8.5418	0.0746	1.8200e-003	10.9512

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**7.2 Water by Land Use****Mitigated**

Land Use	Indoor/Out door Use Mgal	Total CO2 MT/yr	CH4	N2O	CO2e
Government Office Building	1.71006 / 1.23021	6.9153	0.0563	1.3800e-003	8.7334
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.10545 / 0	0.2770	3.4600e-003	8.0000e-005	0.3883
Total		7.1923	0.0597	1.4600e-003	9.1217

8.0 Waste Detail**8.1 Mitigation Measures Waste**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFe Vehicle Rule Applied**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.1416	0.1266	0.0000	5.3056
Unmitigated	2.1416	0.1266	0.0000	5.3056

8.2 Waste by Land Use
Unmitigated

Land Use	Waste Disposed	Total CO2	CH4	N2O	CO2e
	tons	MT/yr			
Government Office Building	10.01	2.0319	0.1201	0.0000	5.0340
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.54	0.1096	6.4800e-003	0.0000	0.2716
Total		2.1416	0.1266	0.0000	5.3056

West Side Fire Station - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**8.2 Waste by Land Use****Mitigated**

Land Use	Waste Disposed tons	Total CO2 MT/yr	CH4	N2O	CO2e
Government Office Building	10.01	2.0319	0.1201	0.0000	5.0340
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.54	0.1096	6.4800e-003	0.0000	0.2716
Total	2.1416	0.1266	0.0000	5.3056	

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.51	26	86	26	0.73 Diesel

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.51	26	86	26	0.73 Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources Unmitigated/Mitigated

Equipment Type	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr
Emergency Generator - Diesel (75 - 100 HP)	1.8300e-003	5.9800e-003	6.6600e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	0.8515	0.8515	1.2000e-004	0.0000	0.8545
Total	1.8300e-003	5.9800e-003	6.6600e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	0.8515	0.8515	1.2000e-004	0.0000	0.8545

11.0 Vegetation

APPENDIX H – NOISE CALCULATIONS

Site A - On Power Pole on Project Site

Date Time=10/28/21 5:17:00 PM
Sampling Time=3 Weighting=A
Record Num= 28600 Weighting=Slow CNEL(24hr)= 64.0
Leq 59.8 SEL Value=108.9 Ldn(24hr)= 63.8
MAX 93.9 Min Leq1hr = 51.5 12:23 AM
MIN 37.4 Max Leq1hr = 66.1 3:15 PM

Site B - West of Project Site

Date Time=10/28/21 5:27:00 PM
Sampling Time=3 Freq Weighting=A
Record Num= 28600 Weighting=Slow CNEL(24hr)= 59.2
Leq 53.3 SEL Value=102.7 Ldn(24hr)= 58.8
MAX 82.5 Min Leq1hr = 49.0 3:48 AM
MIN 42 Max Leq1hr = 56.6 6:08 PM

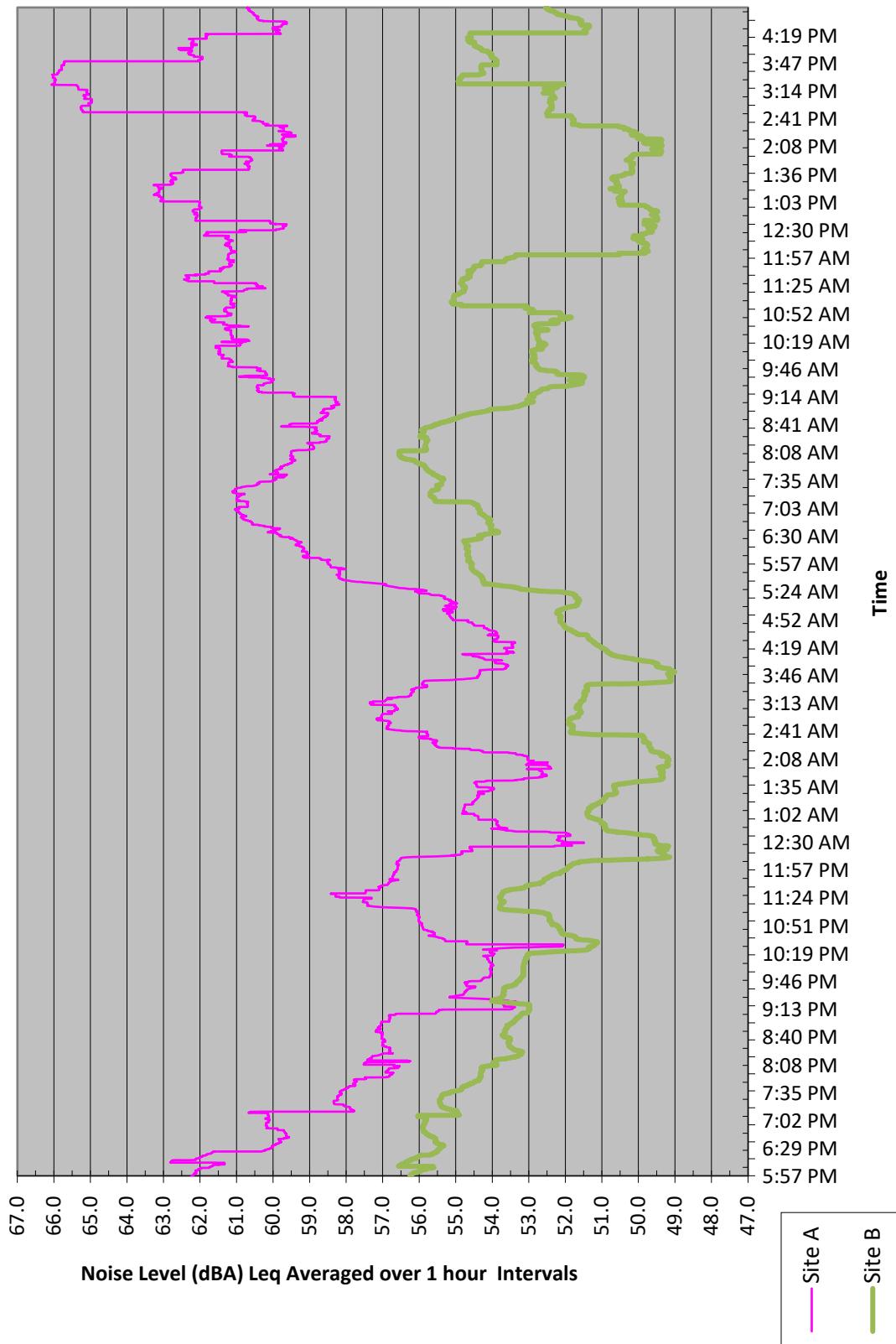
Site A - On Power Pole on Project Site

SPL **Time** **Leq (1 hour Avg.)** **Ldn** **CNEL**

59.5	17:17:00		59.5	59.5
60.5	17:17:03		60.5	60.5
68.5	17:17:06		68.5	68.5
60.5	17:17:09		60.5	60.5
61.4	17:17:12		61.4	61.4
57.9	17:17:15		57.9	57.9
63.2	17:17:18		63.2	63.2
57.4	17:17:21		57.4	57.4
61.5	17:17:24		61.5	61.5
61.6	17:17:27		61.6	61.6
66.8	17:17:30		66.8	66.8
69.4	17:17:33		69.4	69.4
65.3	17:17:36		65.3	65.3
61.4	17:17:39		61.4	61.4
54.2	17:17:42		54.2	54.2
55.8	17:17:45		55.8	55.8
64.7	17:17:48		64.7	64.7
62.8	17:17:51		62.8	62.8
61.4	17:17:54		61.4	61.4
56.6	17:17:57		56.6	56.6
68.3	17:18:00		68.3	68.3
59.3	17:18:03		59.3	59.3
50.8	17:18:06		50.8	50.8
55.7	17:18:09		55.7	55.7
57.4	17:18:12		57.4	57.4
50.9	17:18:15		50.9	50.9
49.9	17:18:18		49.9	49.9
48.9	17:18:21		48.9	48.9
48.3	17:18:24		48.3	48.3
47.5	17:18:27		47.5	47.5
47.3	17:18:30		47.3	47.3
50.1	17:18:33		50.1	50.1
55	17:18:36		55	55.0
53.5	17:18:39		53.5	53.5
52.2	17:18:42		52.2	52.2
55.9	17:18:45		55.9	55.9
56.5	17:18:48		56.5	56.5
60	17:18:51		60	60.0
61.9	17:18:54		61.9	61.9
60.4	17:18:57		60.4	60.4
60.4	17:19:00		60.4	60.4
55.4	17:19:03		55.4	55.4
54.6	17:19:06		54.6	54.6
52.2	17:19:09		52.2	52.2
49.3	17:19:12		49.3	49.3
48.6	17:19:15		48.6	48.6
47.9	17:19:18		47.9	47.9
48.5	17:19:21		48.5	48.5
48.9	17:19:24		48.9	48.9
49.8	17:19:27		49.8	49.8
47.6	17:19:30		47.6	47.6
48.5	17:19:33		48.5	48.5
52	17:19:36		52	52.0
58.8	17:19:39		58.8	58.8
60.1	17:19:42		60.1	60.1
53.6	17:19:45		53.6	53.6
55.3	17:19:48		55.3	55.3
54.6	17:19:51		54.6	54.6
55.7	17:19:54		55.7	55.7
52.1	17:19:57		52.1	52.1
50.7	17:20:00		50.7	50.7
56.4	17:20:03		56.4	56.4
60.1	17:20:06		60.1	60.1
60.2	17:20:09		60.2	60.2
54.8	17:20:12		54.8	54.8
52.6	17:20:15		52.6	52.6
51.8	17:20:18		51.8	51.8
54.4	17:20:21		54.4	54.4
57.3	17:20:24		57.3	57.3
64.5	17:20:27		64.5	64.5
66.9	17:20:30		66.9	66.9
63.5	17:20:33		63.5	63.5
56.9	17:20:36		56.9	56.9
53.7	17:20:39		53.7	53.7
55.3	17:20:42		55.3	55.3
55.1	17:20:45		55.1	55.1
53.6	17:20:48		53.6	53.6

Site B - West of Project Site

SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
58	17:27:00		58	58
57	17:27:03		57	57
55.1	17:27:06		55.1	55.1
58.7	17:27:09		58.7	58.7
55.6	17:27:12		55.6	55.6
55.1	17:27:15		55.1	55.1
55.3	17:27:18		55.3	55.3
52.2	17:27:21		52.2	52.2
54.4	17:27:24		54.4	54.4
58.6	17:27:27		58.6	58.6
60.2	17:27:30		60.2	60.2
57.1	17:27:33		57.1	57.1
57.3	17:27:36		57.3	57.3
57.7	17:27:39		57.7	57.7
56.5	17:27:42		56.5	56.5
52.7	17:27:45		52.7	52.7
54.7	17:27:48		54.7	54.7
57	17:27:51		57	57
57.2	17:27:54		57.2	57.2
54.1	17:27:57		54.1	54.1
59.1	17:28:00		59.1	59.1
55.5	17:28:03		55.5	55.5
59.8	17:28:06		59.8	59.8
59	17:28:09		59	59
55.6	17:28:12		55.6	55.6
54.1	17:28:15		54.1	54.1
54.3	17:28:18		54.3	54.3
54.6	17:28:19		54.6	54.6
55.9	17:28:22		55.9	55.9
55.5	17:28:24		55.5	55.5
57.1	17:28:27		57.1	57.1
55.6	17:28:30		55.6	55.6
58.7	17:28:33		58.7	58.7
54.3	17:28:36		54.3	54.3
54.6	17:28:39		54.6	54.6
55.4	17:28:42		55.4	55.4
55.5	17:28:45		55.5	55.5
57.1	17:28:48		57.1	57.1
55.6	17:28:51		55.6	55.6
55.4	17:28:54		55.4	55.4
57	17:28:57		57	57
57.7	17:29:00		57.7	57.7
58.6	17:29:03		58.6	58.6
55.7	17:29:06		55.7	55.7
56.3	17:29:09		56.3	56.3
56.8	17:29:12		56.8	56.8
58	17:29:15		58	58
56.4	17:29:18		56.4	56.4
57	17:29:21		57	57
58	17:29:24		58	58
55.7	17:29:27		55.7	55.7
55.2	17:29:30		55.2	55.2
52.3	17:29:33		52.3	52.3
54.1	17:29:36		54.1	54.1
57	17:29:39		57	57
54.7	17:29:42		54.7	54.7
57.6	17:29:45		57.6	57.6
54.6	17:29:48		54.6	54.6
53.3	17:29:51		53.3	53.3
53.7	17:29:54		53.7	53.7
54.3	17:29:57		54.3	54.3
55.8	17:30:00		55.8	55.8
60.9	17:30:03		60.9	60.9
56.5	17:30:09		56.5	56.5
60.7	17:30:12		60.7	60.7
57.1	17:30:15		57.1	57.1
56.1	17:30:18		56.1	56.1
56.8	17:30:21		56.8	56.8
57	17:30:24		57	57
55.8	17:30:27		55.8	55.8
59.4	17:30:30		59.4	59.4
56.6	17:30:33		56.6	56.6
58	17:30:36		58	58
57.6	17:30:39		57.6	57.6
57.3	17:30:42		57.3	57.3
57.1	17:30:45		57.1	57.1
60.9	17:30:48		60.9	60.9





Noise Measurement Site A - looking north



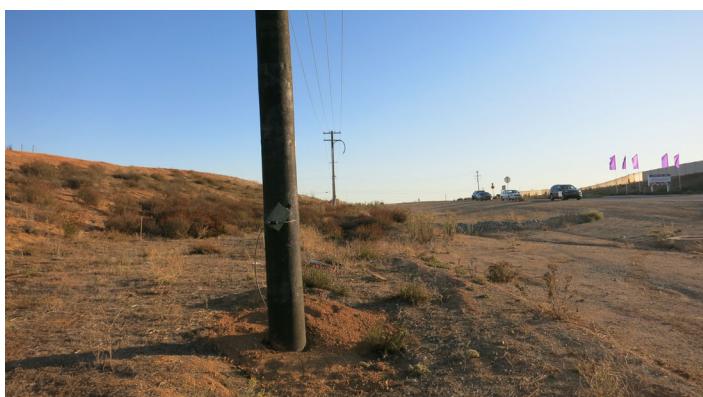
Noise Measurement Site A - looking northeast



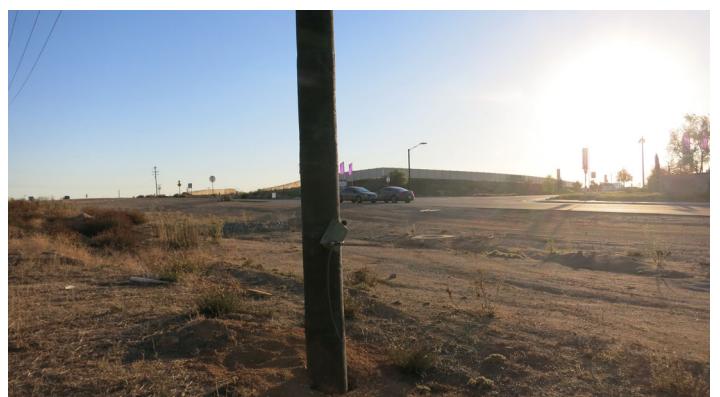
Noise Measurement Site A - looking east



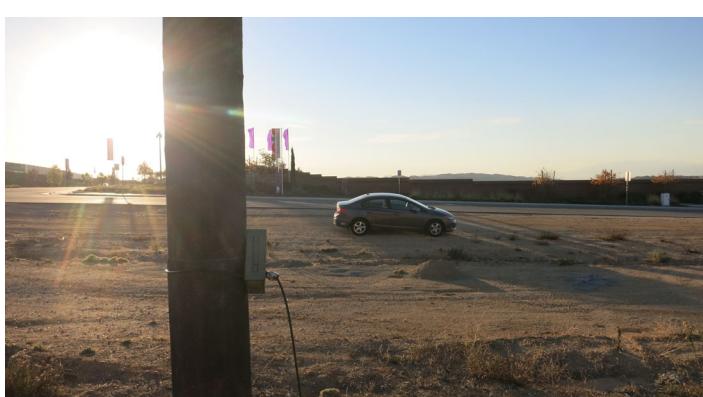
Noise Measurement Site A - looking southeast



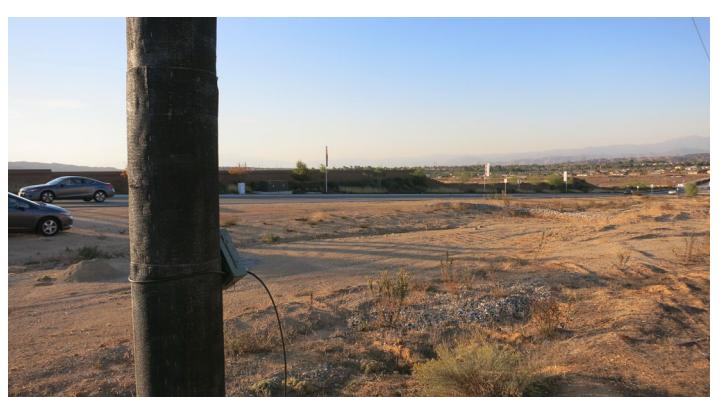
Noise Measurement Site A - looking south



Noise Measurement Site A - looking southwest



Noise Measurement Site A - looking west



Noise Measurement Site A - looking northwest



Noise Measurement Site B - looking north



Noise Measurement Site B - looking northeast



Noise Measurement Site B - looking east



Noise Measurement Site B - looking southeast



Noise Measurement Site B - looking south



Noise Measurement Site B - looking southwest



Noise Measurement Site B - looking west



Noise Measurement Site B - looking northwest

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/9/2021
 Case Description: West Side Fire Station - Site Preparation

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Nearest Occupied Home to SW	Residential	53.3	53.3	53.3

Description	Impact	Equipment				
		Spec	Actual	Receptor	Estimated	Shielding
Device	Usage(%)	Lmax	Lmax	Distance	(feet)	(dBA)
Grader	No	40	85		800	0
Scraper	No	40		83.6	800	0
Tractor	No	40	84		800	0

Equipment	Results			Noise Limits (dBA)		
	Calculated (dBA)			Day	Evening	
	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	60.9	56.9	N/A	N/A	N/A	N/A
Scraper	60	56	N/A	N/A	N/A	N/A
Tractor	59.9	55.9	N/A	N/A	N/A	N/A
Total	61	61	N/A	N/A	N/A	N/A
Interior		41				

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/9/2021
 Case Description: West Side Fire Station - Grading

---- Receptor #1 ----						
Description	Land Use	Baselines (dBA)				
		Daytime	Evening	Night	Equipment	Receptor
Nearest Occupied Home to SW	Residential	53.3	53.3	53.3	Spec Lmax (dBA)	Distance (feet)
					Actual Lmax (dBA)	Shielding (dBA)
Description	Impact Device	Usage(%)				
Grader	No	40	85		800	0
Dozer	No	40		81.7	800	0
Tractor	No	40	84		800	0
Front End Loader	No	40		79.1	800	0
Results						
Calculated (dBA)						
Noise Limits (dBA)						
Day Evening						
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	60.9	56.9	N/A	N/A	N/A	N/A
Dozer	57.6	53.6	N/A	N/A	N/A	N/A
Tractor	59.9	55.9	N/A	N/A	N/A	N/A
Front End Loader	55.0	51.0	N/A	N/A	N/A	N/A
Total	61	61	N/A	N/A	N/A	N/A
Interior		41				

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/9/2021
 Case Description: West Side Fire Station - Building Construction

---- Receptor #1 ----						
Description	Land Use	Baselines (dBA)				
		Daytime	Evening	Night	Equipment	Receptor
Nearest Occupied Home to SW	Residential	53.3	53.3	53.3	Spec Lmax	Distance (feet)
					Actual Lmax	Shielding (dBA)
Description	Impact Device	Usage(%)	(dBA)	(dBA)		
Crane	No	16		80.6	800	0
Gradall	No	40		83.4	800	0
Gradall	No	40		83.4	800	0
Generator	No	50		80.6	800	0
Tractor	No	40	84		800	0
Welder / Torch	No	40		74	800	0
Welder / Torch	No	40		74	800	0
Welder / Torch	No	40		74	800	0
Results						
Equipment	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Lmax	Day Leq	Evening Lmax	Leq
Crane	56.5	48.5	N/A	N/A	N/A	N/A
Gradall	59.3	55.3	N/A	N/A	N/A	N/A
Gradall	59.3	55.3	N/A	N/A	N/A	N/A
Generator	56.5	53.5	N/A	N/A	N/A	N/A
Tractor	59.9	55.9	N/A	N/A	N/A	N/A
Welder / Torch	49.9	45.9	N/A	N/A	N/A	N/A
Welder / Torch	49.9	45.9	N/A	N/A	N/A	N/A
Welder / Torch	49.9	45.9	N/A	N/A	N/A	N/A
Total	60	62	N/A	N/A	N/A	N/A
Interior		42				

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/9/2021
 Case Description: West Side Fire Station - Paving

---- Receptor #1 ----						
Description	Land Use	Baselines (dBA)				
		Daytime	Evening	Night	Equipment Spec	Actual
Nearest Occupied Home to SW	Residential	53.3	53.3	53.3	Lmax (dBA)	Lmax (dBA)
					Impact Device	Actual (dBA)
Description			Usage(%)			
Concrete Mixer Truck		No	40		78.8	800
Paver		No	50		77.2	800
Paver		No	50		77.2	800
Roller		No	20		80	800
Roller		No	20		80	800
Tractor		No	40	84		800
					Results	
					Calculated (dBA)	
Equipment		*Lmax	Leq	Lmax	Day Leq	Evening Lmax Leq
Concrete Mixer Truck		54.7	50.7	N/A	N/A	N/A N/A
Paver		53.1	50.1	N/A	N/A	N/A N/A
Paver		53.1	50.1	N/A	N/A	N/A N/A
Roller		55.9	48.9	N/A	N/A	N/A N/A
Roller		55.9	48.9	N/A	N/A	N/A N/A
Tractor		59.9	55.9	N/A	N/A	N/A N/A
Total		60	59	N/A	N/A	N/A N/A
Interior			39			

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/9/2021
 Case Description: West Side Fire Station - Painting

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Nearest Occupied Home to SW	Residential	53.3	53.3	53.3

Description	Impact	Device	Equipment			
			Spec Lmax	Actual Lmax	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	Device No	Usage(%) 40	(dBA) 77.7	800	0	

Equipment	Calculated (dBA)	Results					
		Noise Limits (dBA)			Day Evening		
Compressor (air)	*Lmax 53.6	Leq 49.6	Lmax N/A	Leq N/A	Lmax N/A	Leq N/A	
Total	54	50	N/A	N/A	N/A	N/A	
Interior		30					

*Calculated Lmax is the Loudest value.

Measurement Report

Report Summary

Meter's File Name	831_Data.001	Computer's File Name	SLM_0002509_831_Data_001.05.ldbin
Meter	831		
Firmware	2.314		
User	GT		
Description	Orange Fire Station No. 1 & Headquarters		
Note	Located on pole next to west property line of existing Fire Station at 176 S Grand St		
Start Time	2020-04-29 11:59:20	Duration	24:00:00.0
End Time	2020-04-30 11:59:20	Run Time	24:00:00.0
		Pause Time	0:00:00.0

Results

Overall Metrics

LA _{eq}	55.7 dB		
LAE	105.1 dB	SEA	--- dB
EA	3.6 mPa ² h		
LZ _{peak}	110.9 dB	2020-04-29 11:59:24	
LAS _{max}	86.8 dB	2020-04-29 16:31:32	
LAS _{min}	35.7 dB	2020-04-30 06:27:41	
LA _{eq}	55.7 dB		
LC _{eq}	63.2 dB	LC _{eq} - LA _{eq}	7.5 dB
LA _{eq}	58.6 dB	LA _{eq} - LA _{eq}	2.9 dB

Exceedances	Count	Duration
LAS > 65.0 dB	108	0:23:49.7
LAS > 85.0 dB	1	0:00:12.6
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	58.1 dB	57.4 dB	0.0 dB
	LDEN	LDay	LEve
	58.5 dB	58.0 dB	53.3 dB
			49.1 dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L _{eq}	55.7 dB		63.2 dB		70.4 dB	
L _{S(max)}	86.8 dB	2020-04-29 16:31:32	91.1 dB	2020-04-29 16:31:29	98.2 dB	2020-04-29 15:37:05
L _{F(max)}	89.0 dB	2020-04-29 11:59:24	92.5 dB	2020-04-29 16:31:29	104.3 dB	2020-04-29 15:37:05
L _{I(max)}	93.4 dB	2020-04-29 11:59:24	95.5 dB	2020-04-29 11:59:24	106.9 dB	2020-04-29 15:37:05
L _{S(min)}	35.7 dB	2020-04-30 06:27:41	50.2 dB	2020-04-30 04:02:40	54.2 dB	2020-04-30 04:15:23
L _{F(min)}	35.1 dB	2020-04-30 06:28:01	48.0 dB	2020-04-30 04:02:39	51.0 dB	2020-04-30 04:16:25
L _{I(min)}	35.7 dB	2020-04-30 06:28:01	50.7 dB	2020-04-30 04:04:33	55.5 dB	2020-04-30 04:14:25
L _{Peak(max)}	107.7 dB	2020-04-29 11:59:24	108.8 dB	2020-04-29 11:59:24	110.9 dB	2020-04-29 11:59:24

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	1	0:00:02.0

Statistics

LAS 5.0	57.9 dB
LAS 10.0	53.4 dB
LAS 33.3	49.6 dB
LAS 50.0	47.9 dB
LAS 66.6	46.1 dB
LAS 90.0	41.7 dB

Measurement Report

Report Summary

Meter's File Name	831_Data.004	Computer's File Name	SLM_0002509_831_Data_004.02.lbin
Meter	831		
Firmware	2.314		
User	GT		Location
Description	Riverside - The Motorcycle Company - Phase 3		
Note	On Roof - Approx 6 feet from HVAC Unit		
Start Time	2020-05-09 13:23:15	Duration	0:10:00.2
End Time	2020-05-09 13:33:15	Run Time	0:10:00.2
		Pause Time	0:00:00.0

Results

Overall Metrics

LA _{eq}	65.1 dB		
LAE	92.9 dB	SEA	--- dB
EA	214.7 μ Pa ² h		
LZ _{peak}	106.4 dB	2020-05-09 13:25:40	
LAS _{max}	80.1 dB	2020-05-09 13:25:19	
LAS _{min}	55.1 dB	2020-05-09 13:30:14	
LA _{eq}	65.1 dB		
LC _{eq}	78.1 dB	LC _{eq} - LA _{eq}	13.0 dB
LA _{eq}	68.9 dB	LA _{eq} - LA _{eq}	3.8 dB

Exceedances	Count	Duration
LAS > 65.0 dB	16	0:02:46.5
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	65.1 dB	65.1 dB	0.0 dB
	LDEN	LDay	LEve
	65.1 dB	65.1 dB	--- dB
			LNight
			--- dB

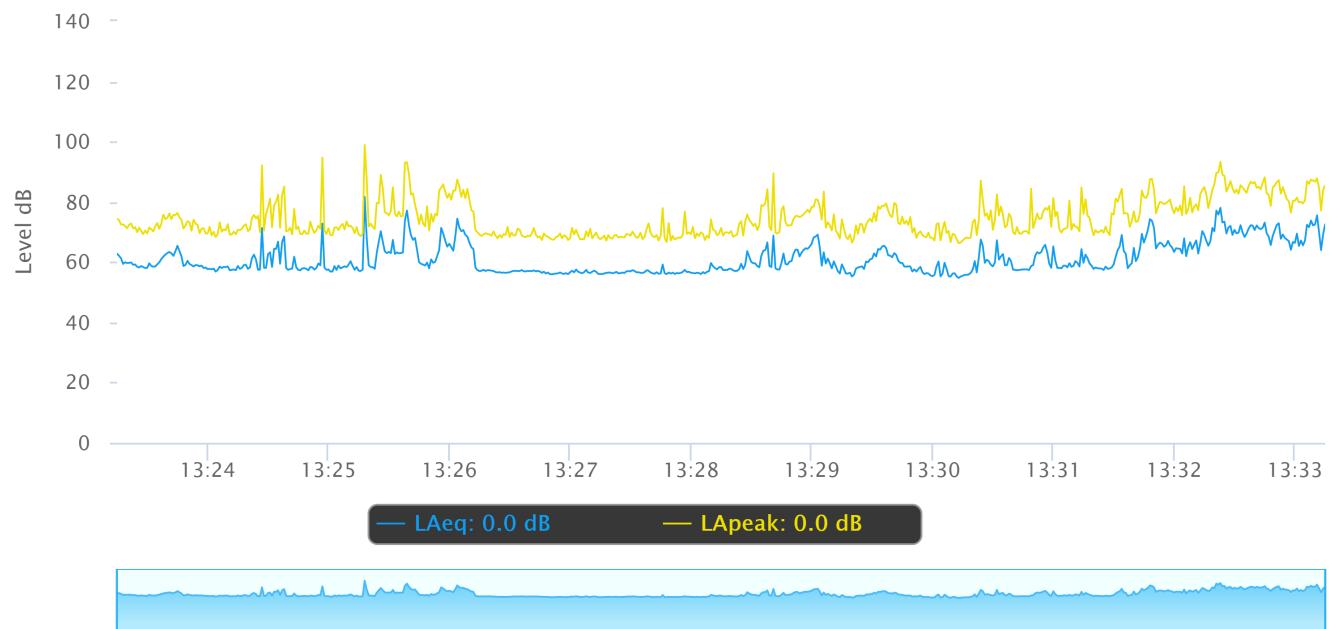
Any Data	A	C		Z		
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L _{eq}	65.1 dB		78.1 dB		80.9 dB	
L _{S(max)}	80.1 dB	2020-05-09 13:25:19	91.6 dB	2020-05-09 13:26:05	97.4 dB	2020-05-09 13:23:15
L _{F(max)}	84.7 dB	2020-05-09 13:25:18	95.4 dB	2020-05-09 13:25:40	97.5 dB	2020-05-09 13:23:15
L _{I(max)}	86.7 dB	2020-05-09 13:25:18	97.5 dB	2020-05-09 13:25:40	99.6 dB	2020-05-09 13:23:15
L _{S(min)}	55.1 dB	2020-05-09 13:30:14	64.7 dB	2020-05-09 13:30:02	67.4 dB	2020-05-09 13:28:06
L _{F(min)}	54.3 dB	2020-05-09 13:30:13	63.0 dB	2020-05-09 13:30:12	65.8 dB	2020-05-09 13:27:31
L _{I(min)}	54.6 dB	2020-05-09 13:30:13	65.0 dB	2020-05-09 13:30:02	68.0 dB	2020-05-09 13:27:59
L _{Peak(max)}	98.9 dB	2020-05-09 13:25:18	105.7 dB	2020-05-09 13:25:40	106.4 dB	2020-05-09 13:25:40

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

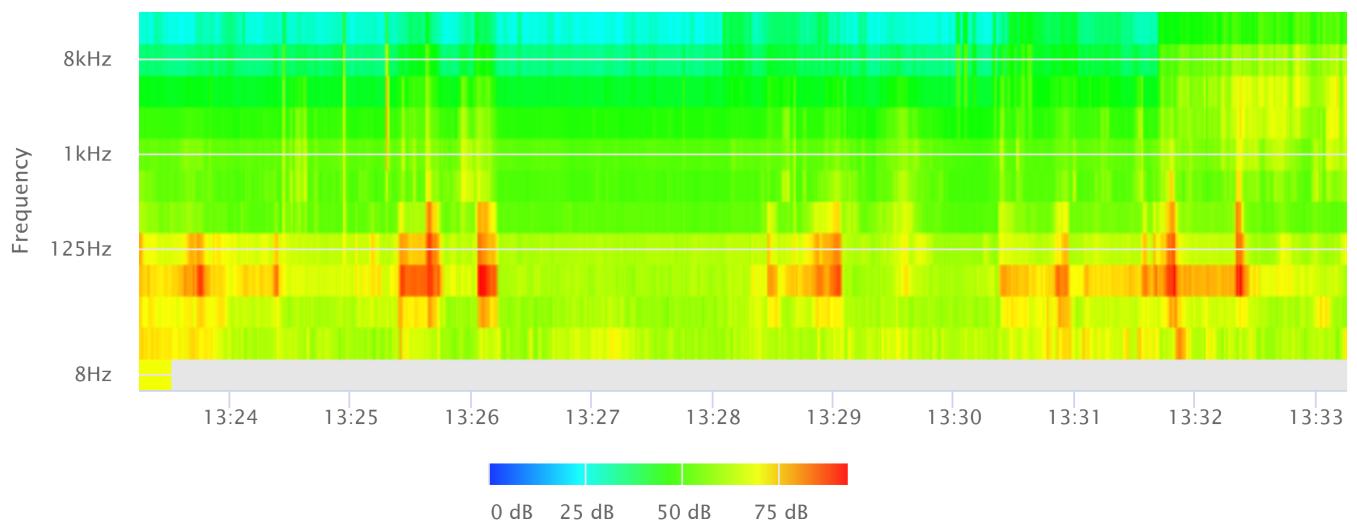
Statistics

LAS 5.0	71.5 dB
LAS 10.0	69.4 dB
LAS 33.3	62.7 dB
LAS 50.0	59.5 dB
LAS 66.6	58.1 dB
LAS 90.0	56.5 dB

Time History



OBA 1/1 Leq



KOHLER RENTAL

YOUR WORLD. **UNINTERRUPTED.**



GENERATORS

Sometimes the best response to a temporary challenge is to rent. Kohler Rental has seen every power, temperature control and hospitality challenge in virtually every environment and has provided the right, cost-effective real-world solution for each one. When you call Kohler, you're talking to more than a rental company – you're talking to a solutions provider.

With over 85 years of experience in the generator business, Kohler offers a full variety of generators, state-of-the-art air conditioning units and chillers, and true luxury restrooms featuring THE BOLD LOOK OF KOHLER® plumbing products. All from one company.

Product Features

- Fluid containment: Up to 115 percent of generator volume.
- Sound levels: KOHLER® generators are rated as low as 64 dBA at 7 meters (23 feet); Movie Quiet units are rated at 50 dBA at 15 meters (49 feet).
- Color-coded camlocks: Featured on generators 200 kW and smaller.
- Voltage selector switch: Available on all units 200 kW and smaller. Limited feature on generators up to 1000 kW.

Reliability and Performance

- Heavy-duty air cleaners: Flexible for different environmental conditions.
- Dual fuel/water separators: When fuel quality is unpredictable, dual fuel filters ensure delivery of clean and water-free fuel to the engine.
- GPS: For remote monitoring of operational functions. Issues alerts for low oil pressure, low fuel level, common

faults, unauthorized movement of equipment, service intervals and tracks low-battery conditions.

Power Accessories

Automatic transfer switches, cable and cable ramps, disconnects, distribution boxes, I-line panels, light towers, switchgear and transformers.

Capabilities

Solution Engineering including specification, sizing, and job-site design. Turnkey execution including transportation, fueling, labor, equipment maintenance and monitoring.

Technical Services and Design Team

At Kohler Rental, equipment is only part of the solution. In addition to state-of-the-art equipment, our technical services and design team provides a complete solution for your event, emergency planning or industrial needs. Truly turnkey, our team of experts takes the burden out of planning, saving you time and money.

Emergency Preparedness Plan

Limit the risks and financial impact of lost goods, productivity and customers with the KOHLER Emergency Preparedness Program before prolonged power outages hit. With KOHLER, be assured of backup power during high- demand periods. Kohler Co. simplifies the delivery logistics, helps minimize the transportation fees and offers a flat rate for typical run-times.



More than 80 sales and service locations nationwide.

CORPORATE OFFICE:
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888-769-3794
KohlerRental.com
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YOUR WORLD. UNINTERRUPTED.

GENERATORS

Products



Standard Generators
20 to 2000 kW rental packages engineered by Kohler Power Systems for event use, and in industrial and commercial markets.



Movie Quiet
Available in 60 and 100 kW generator packages designed with superior sound attenuation.

Dual Pack™ Redundant Power

Two 180 or 300 kW KOHLER® generators in a container with KOHLER switchgear provide built-in backup power for redundancy.



KOHLER Power Modules

A 1500 or 2000 kW KOHLER generator integrated with KOHLER switchgear in a single container. The flexible package can be used as a single, auto start/emergency backup generator or can be paralleled with multiple power modules and/or the utility.



From 20 to 2000 kW, Kohler Rental keeps a current power arsenal ready for power on demand.

Ready to serve in a variety of applications for backup or prime power.

Generator Type	Model No.	Output Ratings—Prime				Output Ratings—Standby				Diesel Fuel			Dimensions (L x W x H)	Weight (lb)	Sound Level (dBA @ 21 ft)			
		KVA	kW	Amps			KVA	kW	Amps									
				240 Volt, 1 Phase	208 Volt, 3 Phase	480 Volt, 3 Phase			240 Volt, 1 Phase	208 Volt, 3 Phase	480 Volt, 3 Phase							
Standard Generators	20	25	20	83	70	30	27	22	91	76	34	25	1.3	19.2	12' x 6' x 6'8"	2320	58	
	50	62.5	50	188	174	75	69	55	204	191	83	110	3.2	34.3	15'5" x 7'9" x 8'3"	6180	72	
	60	70	56	221	194	84	78	62	242	215	93	200	3.6	55.5	14'4" x 6'2" x 7'11"	4700	64	
	100	110	88	296	305	135	125	100	333	347	150	200	5.7	35.1	18'4" x 7'4" x 100'	7460	72	
	180	206	165	497	573	248	225	180	542	625	271	139	9.5	14.6	14'4" x 6'2" x 7'11"	9600	72	
	200	225	180	646	625	271	250	200	708	694	301	200	10.0	20.0	18'2" x 6'8" x 9'6"	8494	68	
	300	350	280		937	406	375	300		1041	451	560	14.9	37.6	28' x 8' x 13'3"	20,000	72	
	400T	450	360		1197	542	500	400		1285	602	500	19.9	25.1	24'9" x 8'6" x 11'10"	27,600	68	
	400C	469	375		1318	571	513	410		1423	616	650	19.9	32.7	28' x 8' x 13'3"	20,000	72	
	500	569	455		1543	684	631	505		1649	759	855	23.7	36.1	20' x 8' x 13'3"	28,300	71	
	600	681	545			819	750	600			902	650	29.3	22.0	28' x 8' x 13'3"	22,000	72	
	750	850	680			1022	938	750			1128	1000	37.9	26.4	40' x 8' x 13'3"	41,500	71	
	800	919	735			1105	1000	800			1218	1000	38.7	25.8	40' x 8' x 13'3"	37,000	78	
	1000	1138	910			1368	1250	1000			1504	1000	50.0	20.0	40' x 8' x 13'3"	37,000	78	
	1500	1700	1360			2045	1875	1500			2255	1000	68.3	14.6	40' x 8' x 13'3"	57,000	80	
	2000	2275	1700			2736	2500	2000			3007	1000	90.8	11.0	40' x 8' x 13'3"	61,000	82	
Dual Pack	180	206	165		573		238	190		625		550			28' x 8.5' x 13'	28,580	62	
	300	350	280		937		375	300		1041		750			40' x 8' x 13'	40,820	66	
Movie Quiet	60	75	60	400	500							160	3.2	50.0	8' x 4' x 3'10"	3500	50**	
	100	125	100	600	825							160	6.1	26.2	8' x 4' x 7'3"	5500	50**	
KOHLER Power Modules	1500	1875	1500		2045		1875	1500		2255		1000	69.5	14.4	40' x 8' x 13'3"	57,480	80	
	2000	2500	2000		2736		2500	2000		3007		1000	91.7	10.9	40' x 8' x 13'3"	60,200	82	

*At 75 percent prime-rated load

**At 50 feet

Specs and features vary by product model and year manufactured. Consult your Kohler Rental sales representative for assistance with selecting the appropriate equipment for the application and load profile.