GENERAL PLAN AMENDMENT FOR THE RIVERWALK SENIOR HOUSING PROJECT

MITIGATED NEGATIVE DECLARATION (MND)

June 10, 2022

City of Yucaipa
Development Services Department
34272 Yucaipa Boulevard
Yucaipa, CA 92399

CITY OF YUCAIPA
INITIAL STUDY

ENVIRONMENTAL CHECKLIST FORM

1. Project Title: Case No. 21-045/GPA/LUCR/MJV/DBA/ARC

2. Lead Agency Name and Address: City of Yucaipa, 34272 Yucaipa Blvd., Yucaipa, CA 92399

3. Contact Person and Phone Number: Madeline Jordan, (909) 797-2489 x 250

4. Project Location: 12836 3rd Street, APN: 0319-112-03.

5. Project Sponsor's Name and Address: ATTN: Randy Citlau; 4059 Elderberry Ridge, Lake Elsinore, CA 92530

6. General Plan Designation: Existing – RM-72C (Multiple Residential 7,200 square foot minimum for subdivision, base density of 8.7 dwelling units per acre for multiple-family) / Proposed – RM-24 (High Density Residential, 5 gross acre minimum district size, base density of 24 dwelling units per acre for multiple-family)

7. Description of the Project: Case No. 21-045/GPA/LUCR/MJV/DBA/ARC: A Minor General Plan Amendment to change the land use designation of a property from RM-72C (Multiple Residential) to RM-24 (High Density Multiple Residential), a Density Bonus Agreement (DBA) to qualify for a 25% increase in land density, a Land Use Compliance Review with Architectural Review to construct a 150-unit, three story, age-restricted senior housing complex for individuals who are 55 years and older, with two (2) monument signs at the entrance of the 5-acre site, and two (2) Major Variances to allow for a total of eighty (80) percent of the 150-units to be 1-bedroom in lieu of thirty-five (35) percent, and for one (1) bedroom units to provide seventy-six (76) square feet of private open space in lieu of the one hundred fifty (150) square feet required for ground floor units and the one hundred (100) square feet required for above ground units, located at 12836 3rd Street, APN: 0319-112-03.

8. Surrounding Land Uses and Setting: Multiple-family residences abut the property to the north, single-family residences are to the south, vacant land is to the east, and a mobile home park is to the west of the Project site.

9. Other public agencies whose approval is required (e.g. permits, financing approval, or participation agreement): Development Agreement with Yucaipa Valley Water District for water and sewer service.

Introduction

This section explains the background and purpose of this Mitigated Negative Declaration (MND), which is the environmental review document prepared pursuant to the provisions of the California Environmental Quality Act (CEQA) for a General Plan Amendment to designate a property with an existing Multiple Residential Land Use Designation as High Density Multiple Residential and an associated land use entitlement consistent with the amendment ("GPA" or "Project"). It establishes the context and scope for the MND, and outlines the process for reviewing the Draft MND and issuing the Final MND. The City of Yucaipa is the lead agency under CEQA. A "lead agency" is defined by Section 21067 of CEQA as "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment."

Environmental Review Process

This IS and Notice of Intent (NOI) to adopt an MND is being circulated for agency and public review and comment for 20 days beginning June 10, 2022. All written comments must be received by 5:30 p.m. June 30, 2022. Written comments or questions concerning this document should be directed to:

City of Yucaipa
ATTN: Madeline Jordan
34272 Yucaipa Boulevard
Yucaipa, CA 92399

Detailed Project Description

The proposed Project consists of an amendment to the City of Yucaipa General Plan ("GPA") to change the Land Use Designation of a single parcel (APN: 0319-112-03) from the City's Multiple Residential (RM-72C) Land Use Designation to High Density Multiple Residential (RM-24). This new designation would permit multiple family residential development projects with a maximum density of 24 dwelling units per acre. Concurrent with the GPA, the Project application includes a Land Use Compliance Review, Architectural Review and Density Bonus Agreement to permit a 150-unit, three story, age-restricted senior housing complex for individuals who are 55 years and older, with two (2) monument signs at the entrance of the site. As part of the Project design, two (2) Major Variances to allow for a total of eighty (80) percent of the 150-units to be 1-bedroom in lieu of thirty-five (35) percent, and for one (1) bedroom units to provide seventy-six (76) square feet of private open space in lieu of the one hundred fifty (150) square feet required for ground floor units and the one hundred (100) square feet required for above ground units.

Project Setting

The proposed GPA would change the land use designation of 5 (gross) acres of a mostly vacant site at 12836 3rd Street, located between Avenue E and Bella Vista Drive. (Figures 1 and 2). As a part of the Project, three (3) residential buildings are proposed to be demolished on the northeastern portion of the site. The Project area is primarily surrounded by residential uses. There is an existing mobilehome park which abuts the Project to the west, and single-family residences with deep lots that accommodate a drainage channel directly to the south of the site. To the east of the site is a large undeveloped property. The Project area is generally flat, and previously had an entitlement approved for Tentative Tract Map (TTM) 19900, an 18-lot, single-family residential subdivision. There is a portion of a blue line stream located along the

southern property line, which is intended to be avoided to the extension possible by the proposed Project design, that would be subject to regulatory permits should there ultimately be permanent impacts in jurisdictional features. The Project has frontage along 3rd Street and will be accessible via two (2) 24-foot-wide drive aisles that will be designed to meet appropriate Fire Department and Engineering standards.

Land Use Compliance Review and Density Bonus Agreement

As noted above, a residential entitlement (Land Use Compliance Review) for 150 apartment units is proposed on the parcel subject to the GPA, and has been designed to comply with the proposed Land Use District requirements. The proposed Project design would feature all 150 units within a large, U-shaped three-story apartment building, with 120 one (1) bedroom floorplans that offer 650 square feet of living space, and 30 two (2) bedroom floorplans that offer 980 square feet of living space. Private amenities to serve the residents of the development are provided as part of the Project, and includes a pool and spa, a barbecue facility, community multipurpose room, two (2) dog parks, a large open lawn area, and other open space and common area landscaping. Each residential unit is also provided with private open space; however, a Variance is requested for a reduction in the minimum private open space requirement from a minimum of 100 square feet to a minimum of 76 square feet. A Density Bonus Agreement is also proposed to create an age-restricted senior housing Project, and pursuant to Section 83.010715(b)(4) of the Yucaipa Development Code, would permit a 25% increase in the land use density. Therefore, the Project has an effective land use density of 30 dwelling units/acre with the RM-24 standards and the use of the Density Bonus procedures. Additionally, a LUCR for signage is also proposed for the two (2) monument signs that identify the Project name, and are located at the entrance of the site.

Incentive: As per the Yucaipa Development Code and State Law, incentives, defined as a reduction in site development standards or a modification of the requirements of the City of Yucaipa Development Code, may be requested through the Density Bonus Agreement process if an applicant agrees to construct a certain percentage of their units as affordable. Section 83.010715(c)(3) of Yucaipa Development Code details that one (1) incentive shall be provided to a developer who agrees to construct at least thirty (10) percent of the total units for low-income households. The Project would include this affordability component and is therefore requesting an incentive to remove the requirement for 125 square feet of exterior lockable storage area that would be otherwise be required per each unit within the Project. This incentive request is permitted pursuant to and consistent with state law for Density Bonus projects.

AB-744: California Assembly Bill 744 requires no more than 0.5 parking spaces per unit for rental senior housing projects with paratransit service or within ½-half mile of accessible bus route (operating at least eight times per day). Further, the applicant is proposing 146 on-site parking spaces for a 150-unit rental senior housing Project. Additionally, twenty-five (25) parking spots, or seventeen (17) percent of the total number of parking spaces are proposed as compact spots. Section 87.0601(a)(1) of Yucaipa Development Code, details that an approved Land Use Compliance Review or Conditional Use Permit application may authorize up to 25% of the required parking for multiple residential, commercial, industrial, and institutional uses to be allocated to compact car parking spaces.

Variances: The proposed Project includes the approval of a total of two (2) Major Variances. Section 88.01310(a) of Yucaipa Development Code details no more than thirty-five (35) percent of the total number of units shall be one-bedroom units. One (1) proposed variance is for a reduction in the maximum percentage of 1-bedroom units to allow for a total of eighty (80) percent of the 150-units to be 1-bedroom. Additionally, Section 88.01310(e) of Yucaipa Development Code details each dwelling unit shall have a minimum of private open space of one hundred fifty (150) square feet, in the form of patio or private yard, with a minimum dimension of ten (10) feet. For units above the ground unit, one or two balconies with a

combined area of one hundred (100) square feet shall be provided. The other proposed variance is for a reduction in this requirement. One (1) bedroom units are proposed to have 76 square feet of private open space in the form of a patio or balcony, and two (2) bedroom units are proposed to have 206 square feet of private open space (which is greater than the RM-24 design requirement). Both variances reflect the typical lifestyle habitats of the proposed demographic for this age-restricted, rental senior housing Project, and each unit would serve less people than a typical apartment intended for families. Findings for the Variance are required to be adopted as part of the Project approval process.

Architecture Review: Pursuant to Section 84.0335 of the Development Code, multiple-family dwelling units constructed in the High Density Multiple Residential (RM-24) District shall be permitted by right, pursuant to the administrative review procedures contained in Development Code Section 83.030305, and the development review procedures contained in the City's Architectural/Design Review application. Therefore, the Project includes the architecture review of the proposed building structures, which would fulfill the City's standard Conditions of Approval, as Planning Commission approval of the building design is required prior to the issuance of a building permit. Elevations of the design are provided as Figure 4 for reference.

Figure 1 – Aerial Image of Site

Figure 2 – Existing Land Use Designations

Figure 3 – Conditional Use Permit Exhibit

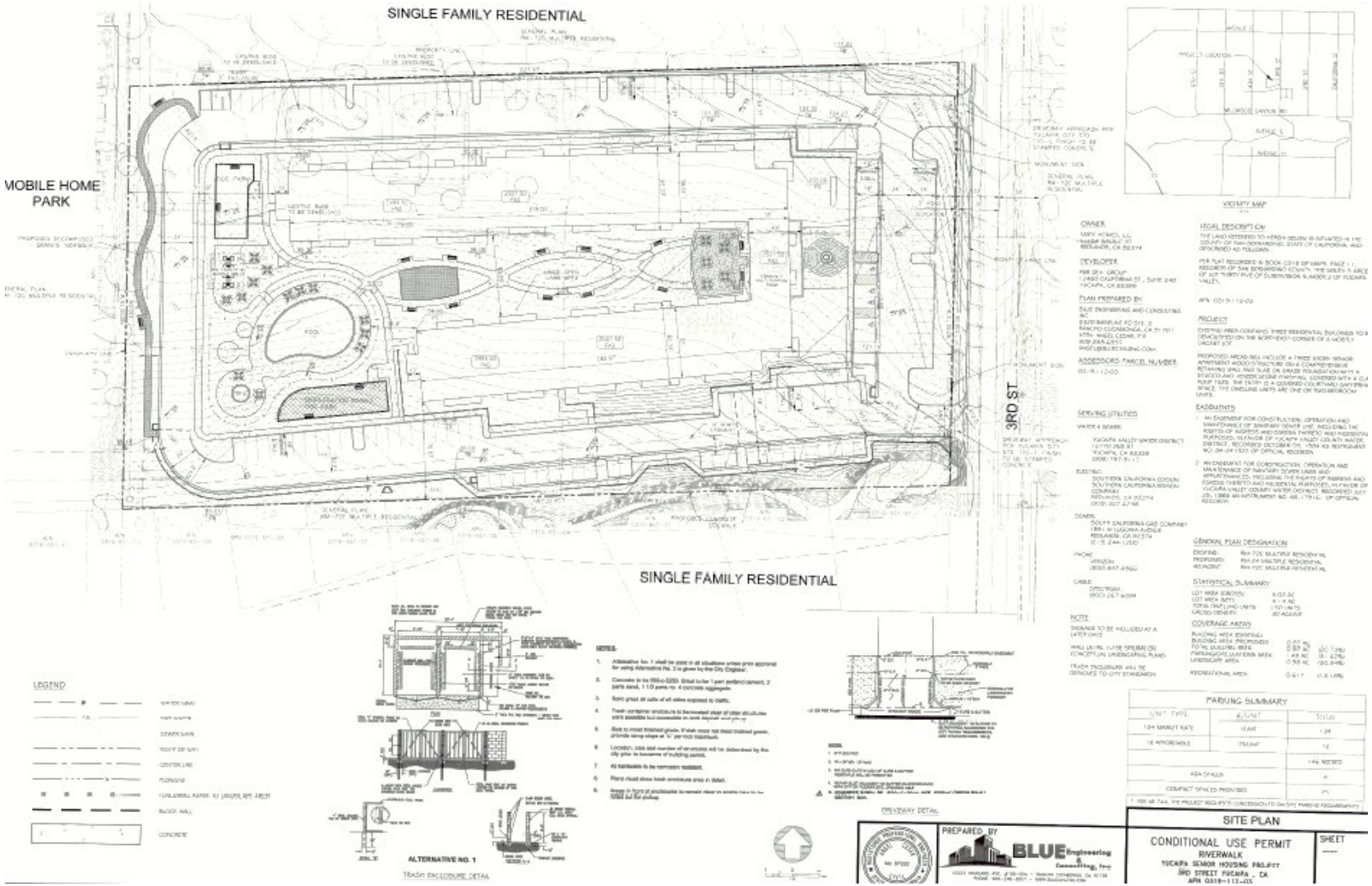
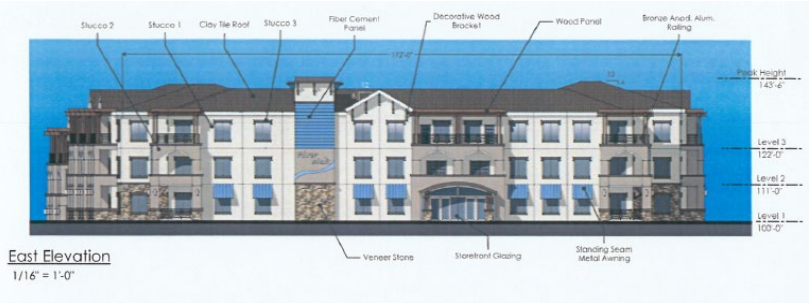
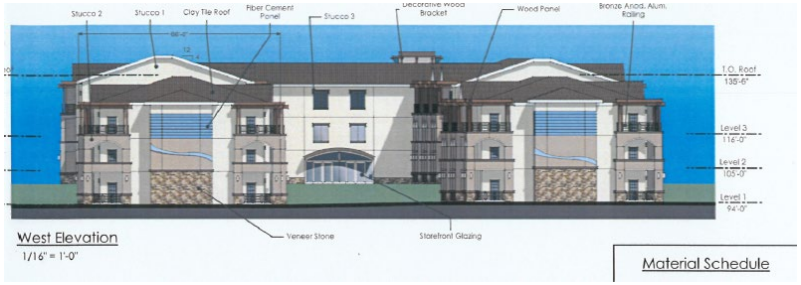


Figure 4 – Architectural Review Elevations





ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	
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.	X
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	
I find that the proposed project MAY have a "potential 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.	
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed 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.	

June 9, 2022

Signature Date

Madeline Jordan

Printed Name For

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

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

3) Must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less 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 Section 17, "Earlier Analysis," may be cross-referenced).

5) Earlier analysis 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) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The analysis of each issue should identify: (a) the significance criteria or threshold used to evaluate each question; and (b) the mitigation measure identified, if any, to reduce the impact to less than significance.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

1. **AESTHETICS.** Would the project:				
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c) In nonurbanized 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?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

a) Less Than Significant Impact

Policy PR-4.7, Scenic Resources, of the City's 2016 General Plan states that the City will "Protect Yucaipa's scenic resources, including scenic corridors along roads and views of the hillsides, prominent ridgelines, canyons, and other significant natural features, to the extent practical." Resources identified in the General Plan include the City's designated Scenic Corridors (Bryant Street, Yucaipa Boulevard, Wildwood Canyon Road, and Oak Glen Road) and the prominent hillsides, ridgelines, and open space areas that surround the City, including Crafton Hills and the San Bernardino National Forest. The Project site is relatively flat, with the exception of an arroyo wash located adjacent to the Project's southern property line. The Project is not located adjacent to the City's scenic corridors or to any unique open space features such as a prominent hillside or ridgeline. In addition, the existing development pattern within the vicinity of the proposed Project site features a mixture of single-family residential homes, mobilehome residences and an institutional use (Yucaipa-Calimesa Joint Unified School District- district office).

The proposed Project consists of a GPA to allow high density multiple-family development that would meet the requirements of the RM-24 Land Use District. The setbacks and building separation requirements listed in the Development Code have been designed to ensure a compatible development pattern within the residential areas within the City, and to ensure that the mass and prominence of future residential projects are minimized along corridors. Specifically, the RM-24 Land Use District requires a minimum front yard setback of 35 feet (40 feet average) and a side yard setback of 20 feet, which exceeds those listed in the existing RM Land Use District designation. In addition, the Project area will feature maintained landscaping with the installation of sidewalks adjacent to the public right-of-way on 3rd Street. As such, the proposed Project would have a less than significant effect on scenic vistas.

b) Less Than Significant Impact.

According to Caltrans Scenic Highway Program, there are no official state designated scenic highways that exist within the City of Yucaipa. A portion of State Route 38 passes through the City of Yucaipa and is an eligible state scenic highway that has not been officially designated; however, this section of roadway is located more than four miles north from the proposed Project site. While the City of Yucaipa has designated Bryant Street, Yucaipa Boulevard, Wildwood Canyon Road, and Oak Glen Road as scenic corridors within the City, this Project's adjacent roadway (3rd street) is not designated as a scenic corridor. Standard Conditions of Approval are required for frontage improvements that include public right-of-way landscaping, and the utilization of architectural features consistent with the Citywide Design Guidelines that would ensure compatibility with other surrounding developments. With implementation of the Standard Conditions, and the Project not being located adjacent to a designated scenic corridor roadways, a less than significant impact would occur.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

c) Less Than Significant Impact

The Project will involve the demolition of three (3) vacant residential structures, including one (1) residence and two (2) accessory structures that are all in various stages of dilapidation, which will be replaced with an age-restricted senior housing apartment complex. No protected trees or other notable resources are located on the Project site. As part of the City's review process, the architecture design and conceptual landscaping for any proposed entitlement development is required to be reviewed and approved by the Planning Commission prior to any construction, which helps to ensure that the design would be compatible and consistent with the character in the area. The Land Use Compliance Review site plan and the Architectural Review submittal for the Project entitlement provides for setbacks that are consistent with the requirements of the proposed RM-24 Land Use District, and the architectural design that has been submitted provides a modern craftsman aesthetic with gabled roofs and stone veneer accents intended to compliment the design of other Craftsman-inspired designs within the City of Yucaipa. Therefore, with the Project's adherence to these requirements, development of the proposed Project would have a less than significant impact in regard to the visual character and quality of the site and its surroundings.

d) Less Than Significant Impact

Additional lighting will occur due to the development of residences and the installation of ornamental lighting and parking lot lights. The proposed Project would permit the construction of 150 new dwelling units in the area, which will result in new sources of nighttime lighting, including, but not limited to: street lighting, building-mounted lights on the proposed new apartments, and ornamental landscaping and pathway lights. However, the amount of lighting will be similar to other nearby residential land uses and will be required to comply with the City's Development Code, which contains property development and general design standards that ensure new developments and expansions of existing developments will not have a negative impact upon surrounding land uses. This includes the requirement that any lighting to be added to the Project shall be shielded to minimize light spillage onto adjacent properties. Substantiated through the Architectural Review process, the perimeter of the Project area would also be developed with drought-tolerant trees that would also assist in minimizing light spillage onto neighboring areas. Pursuant to Section 88.01325(a)(12) of the High-Density Multiple Residential Design Guidelines, the applicant would be required to plant at least fifty (50) tree per gross acre that are specifically concentrated at the exterior streetscapes and entry nodes of the Project site. The planting of these trees would be added as a Condition of Approval and would further ensure that impacts related to light and glare are less than significant.

2. **AGRICULTURE 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. Would the project?				
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
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))?				X

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest lane to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				X

a-d) No Impact

According to the State Dept. of Conservation Important Farmland Map, San Bernardino County 2014, Sheet 2 of 2, the proposed Project site is designated "Urban and Built-up Land" and does not contain any prime, unique, or important farmland. Historic aerials of the site indicate that ranching activity may have previously occurred on the site. However, there are no active Williamson Act contracts within the City of Yucaipa, and additionally vegetation within the Project area currently consists of annual grasses and weeds. The City of Yucaipa utilizes a "one map system" in which the General Plan Land Use Designations and Zoning Categories are the same and combined onto one map. The property is currently designated as Multiple Residential and is proposed to be High Density Multiple Residential, neither of which are agricultural or forest land designations. There are three (3) residential structures on the Project site, however; no agricultural activities are occurring associated with them. The proposed GPA and the proposed housing Project within the GPA area would not conflict with zoning for an agricultural use or a Williamson Act contract, and would not convert farmland to a non-agricultural use. Further, no forest land or timberland is located within the Project site.

e) No Impact

As noted in items a-d above, the area is designated "Urban and Built-up Land" and no portions of the area are currently farmed nor subject to Williamson Act contracts. In addition, no portion of the area is located within a forest area. As such, the proposed Project would not affect these resources.

3. **AIR QUALITY:** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
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?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

a, c) Less Than Significant Impact

Air quality plans describe air pollution control strategies to be implemented by a city, county, or regional air district. The primary purpose of the air quality plans is to bring an area that does not attain federal and state air quality standards into compliance with those standards pursuant to the requirements of the Clean Air Act and California Clean Air Act. A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the applicable air quality plan.

The proposed Project is within the South Coast Air Basin (Basin), and the South Coast Air Quality Management District (SCAQMD) is the agency principally responsible for comprehensive air pollution control in the Basin. SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources, and responded to this requirement by preparing the 2016 Air Quality Management Plan (AQMP), an air quality management plan covering all portions of the Basin.

The regional emissions inventory for the South Coast Air Basin was compiled by SCAQMD, the San Bernardino Association of Governments (SANBAG), and the Southern California Association of Governments (SCAG), and is used for the AQMP. Regional population, housing, and employment projections are based, in part, on the City's General Plan land use designations. The proposed GPA would result in a land use change on approximately 5 acres from the City's Multiple Residential (RM-72C) Land Use Designation to High Density Multiple Residential (RM-24).

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." A proposed 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 or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

(2) Whether the project will exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

Based on the air quality modeling analysis that has been completed (Appendx A), neither the short-term construction nor the long-term operation of the proposed Project will result in significant impacts based on SCAQMD regional and local thresholds of significance (See Table 1, *Construction - Maximum Daily Emissions* and Table 2, *Operation - Maximum Daily Emissions*). The proposed Project is not projected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for the first criterion.

Furthermore, the proposed Project is not anticipated to substantially exceed the AQMP assumptions for the Project site and is consistent with the AQMP for the second criterion because the Project site currently has a residential General Plan designation, and the change of the General Plan Land Use Designation from Multiple Residential (RM-72C) to High Density Multiple Residential (RM-24) will not substantially change the overall intensity of the designation. While the proposed RM-24 Land Use Designation could allow for the development of a maximum of 120 non-age restricted units, the current proposed Land Use Compliance Review entitlement would result in a net increase of 149 senior apartment dwelling units (upon demolition and removal of one (1) single family residence and two (2) accessory structures). The General Plan Amendment would not result in a substantial change of the built-out projection for the City because the current Multiple Residential (RM-72C) Land Use Designation permits 8.7 units per acre, and 17.4 senior units per acre (87 units) with a Density Bonus Request. The Project would represent a fractional change to the entire SCAB area and will not result in an inconsistency with the SCAQMD AQMP. Therefore, the Project will not conflict with or obstruct the implementation of the 2016 AQMP, and a less than significant impact will occur

b-c) Less Than Significant Impact

The proposed Project would change the General Plan Land Use Designation to RM-24, which could allow for the development of a maximum of 120 non-age restricted units, or 150 senior units which are currently proposed as a part of the Land Use Compliance Review application on the 5-acre property. To quantify project-related impacts, the proposed Project was evaluated utilizing the CalEEMod version 2020.4.0 air quality modeling program for this MND, using very conservative parameters for its assessment. The results of air quality modeling analysis for construction and operational emissions are as follows:

Construction - Maximum Daily Emissions

Activity		Pollutant Emissions (pounds/day)					
		ROG	NOx	CO	SO_2	PM10	PM2.5
Demolition	On-Site[1]	2.44	23.94	17.34	0.03	1.18	1.08
	Off-Site[2]	0.06	0.07	0.54	0.00	0.15	0.04
	Subtotal	2.49	24.02	17.88	0.04	1.33	1.12
Grading	On-Site[1]	1.95	20.86	15.27	0.03	3.72	2.20
	Off-Site[2]	0.22	6.00	2.10	0.03	0.96	0.30
	Subtotal	2.17	26.86	17.37	0.06	4.68	2.51
Building Construction	On-Site[1]	1.71	15.62	16.36	0.03	0.81	0.76
	Off-Site[2]	0.85	2.59	8.26	0.03	2.37	0.66
	Subtotal	2.56	18.20	24.63	0.05	3.18	1.42
Paving	On-Site[1]	1.18	10.19	14.58	0.02	0.51	0.47
	Off-Site[2]	0.06	0.04	0.57	0.00	0.17	0.05
	Subtotal	1.24	10.23	15.15	0.02	0.68	0.51
Architectural Coating	On-Site[1]	38.75	1.30	1.81	0.03	0.07	0.07
	Off-Site[2]	0.14	0.09	1.15	0.00	0.42	0.11
	Subtotal	38.90	1.39	2.96	0.03	0.49	0.18
Total for overlapping phases[3]		42.70	29.82	42.73	0.11	4.34	2.12
SCAQMD Thresholds		75	100	550	150	150	55
Exceeds Thresholds?		No	No	No	No	No	No

Notes:
Source: CalEEMod Version 2020.4.0
(1) On-site emissions from equipment operated on-site that is not operated on public roads. Demolition and on-site grading PM-10 and PM-2.5 emissions show mitigated values for fugitive dust for compliance with SCAQMD Rule 403.
(2) Off-site emissions from equipment operated on public roads.
(3) Construction, painting and paving phases may overlap.

Operation - Maximum Daily Emissions

Activity	Pollutant Emissions (pounds/day)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Area Sources[1]	3.72	2.38	13.35	0.02	0.25	0.25
Energy Usage[2]	0.06	0.54	0.23	0.04	0.04	0.04
Mobile Sources[3]	1.92	2.66	18.93	0.04	4.04	1.10
Total Emissions	5.71	5.58	32.50	0.10	4.33	1.39
SCAQMD Thresholds	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes:
Source: CalEEMod Version 2020.4.0; the higher of either summer or winter emissions.
(1) Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.
(2) Energy usage consists of emissions from generation of electricity and on-site natural gas usage.
(3) Mobile sources consist of emissions from vehicles and road dust.

Construction related impacts would be reduced by the appropriate dust control measures implemented during each phase of development, as required by SCAQMD Rule 403 - Fugitive Dust. The requirements for Rule 403 include, but are not

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the lots, and maintaining effective cover over exposed areas. Engineering Department specific Conditions of Approval for any future development proposals would include provisions for Rule 403 that will apply during grading and building activities to minimize fugitive dust. Other SCAQMD rules would also apply, such as Rule 1113 for low VOC paints and materials. Operational impacts would be minimized by adherence to the Building Code and Title 24 requirements. Other SCAQMD rules, such as Rule 445 prohibiting the use of wood-burning fireplaces, would also apply and reduce operational impacts. As such, impacts would be less than significant.

d) Less Than Significant Impact

The nearest sensitive receptors to the Project site are within the mobilehome park located to the west, and the single-family residential land uses located approximately 60 feet north and 85 feet south of the Project site. During site improvement and construction activities associated with the future residential development, there may be some level of odor exposure resulting from asphalt paving and roadway improvements activities. However, the limited duration and area involved in paving activities would not result in significant levels of odors affecting a substantial number of people, as there are a relatively limited number of residences in the direct vicinity of the site. In addition, the operations of residential projects do not include materials or uses that create substantial odors. As such, impacts would be less than significant.

4. **BIOLOGICAL RESOURCES**. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?		X		
b) Have a substantially adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U. S. Wildlife Service?		X		
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or state habitat conservation plan?				X

a) Less Than Significant With Mitigation

A Biological Assessment (Appendix B) was prepared by Hernandez Environmental Services, for the Project to document the presence/absence of sensitive resources that may be present on the site and to document existing habitats, and generally address biological elements that may be needed for Project approval. The Biological Assessment conducted a literature review from the California Natural Diversity Database (CNDDB), the United States Fish and Wildlife Service (USFWS) County Endangered Species Lists, the California Native Plant Society (CNPS) list of rare plant lists in order to obtain species information for the Project area. The Assessment also included review of aerial photographs and topographic maps of the Project location and surrounding areas.

A field survey was conducted on the Project Site on November 9, 2021, to document the existing habitat conditions, obtain plant and animal species information, view the surrounding uses, assess the potential for state and federal waters, assess the potential for wildlife movement corridors, and assess for the presence of critical habitat constituent elements.

Seven habitat types were observed within the approximately 5-acre Project site, including 3.40 acres of disturbed non-native vegetation, 1.20 acres of disturbed residential, 0.05 of disturbed non-native grassland, 0.03 ornamental vegetation, 0.27 disturbed non-vegetated, 0.04 Fremont cottonwood series vegetation, and 0.01 acres of California buckwheat series vegetation.

A total of 83 sensitive species of plants and 64 sensitive species of animals have the potential to occur on or within the vicinity of the Project location. These include those species listed or candidates for listing by USFWS, California Department of Fish and Wildlife (CDFW), CNPS and Bureau of Land Management (BLM). The following describes of the types of sensitive species encountered as a result of the investigation:

Special-Status Plant Species.

No special-status plant species were observed in the study area during the field survey.

Special-Status Wildlife Species.

The Project contains an existing resident home and barn structure located onsite that will be demolished. Both structures have the potential for suitable habitat for the Pallid Bat (sp. *Antrozous pallidus*), the Western Mastiff Bat (sp. *Eumops perotis californicus*), and the Pocketed Free-tailed Bat (sp. *Nyctinomops femorosaccus*), which are listed as California Species of Special Concern. Implementation of Mitigation Measure BIO-1 in requiring focused surveys, safe removal and relocation of species (if found), to be conducted by a certified biologist, prior to demolition and therefore would ensure that impacts to these species are reduced to less than significant.

United States Fish and Wildlife Service (USFWS) Critical Habitat.

The project site is not located within designated federal critical habitat. No impacts to critical habitat would occur.

Nesting Birds.

The Project site contains trees and shrubs that would be removed and thus could have a potential impact on nesting birds if present on the Project site at the time of demolition, grading and construction. Implementation of Mitigation Measure BIO-2, which requires a preconstruction nesting bird clearance survey to determine the presence/absence, location, and status of any active nests on or adjacent to the project site, would reduce potential impacts to nesting and migratory birds to less than significant by limiting the removal of trees, shrubs, or any other potential nesting habitat to outside the avian nesting season, which generally extends from February 1 through August 31. If the nesting bird clearance survey indicates the presence of nesting birds, Mitigation Measure BIO-2 requires buffers to ensure that any nesting birds are protected pursuant to the MBTA. Impacts for both sensitive wildlife species and migratory birds would be less than significant with mitigation incorporated.

b-c) Less Than Significant With Mitigation

Riparian habitats are those occurring along the banks of rivers and streams. Sensitive natural communities are natural communities that are considered rare in the region by regulatory agencies, known to provide habitat for sensitive animal or plant species, or known to be important wildlife corridors.

There are three key agencies that regulate activities within streams, wetlands, and riparian areas in California. The Army Corps of Engineers (Corps) Regulatory Branch regulates activities pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. The California Department of Fish and Wildlife (CDFW) regulates activities under the Fish and Game Code Section 1600-1616, and the Santa Ana Regional Water Quality Control Board (Regional Board) regulates project activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Because the southern Project boundary borders an existing blue-lined stream, a Jurisdictional Delineation report (Appendix D) was prepared in order to, 1) Determine if any state or federal jurisdictional waters are present within the Project site boundaries; 2) Quantify any impacts to jurisdictional waters due to the proposed Project, if possible; 3) Determine if the Project will require state or federal permits for impacts to jurisdictional waters; and, 4) Recommend mitigation measures to offset impacts to state or federal jurisdictional waters.

The Jurisdictional Delineation included a literature review in determining the potential for permanent, intermittent, or ephemeral drainages, wetlands and riparian vegetation. Project background documents, topographic maps, satellite imaging, USDA Soil Survey soils maps, and land use maps were examined to establish an accurate Project site location, Project description, potential for onsite drainages and wetlands, records of on-site vegetation, watershed, soils, and surrounding land uses.

The results of the investigation revealed that the Project site contains a small 0.04-acre riparian area of Fremont cottonwood series vegetation. This small area is located on the southeastern corner of the Project property and is created by the hydrology associated with an unnamed tributary to Yucaipa Creek. This vegetative series is dominated by Fremont cottonwood (sp. *Populus fremontii*). Other associated species are mulefat (sp. *Baccharis salicifolia*), arroyo willow (sp. *Salix lasiolepsis*), and red willow (sp. *Salix laevigata*).

California Department of Fish and Wildlife

The property contains approximately 0.04 acre of an unnamed ephemeral drainage which is under the jurisdiction of the CDFW. The 0.04 acre of ephemeral drainage is dominated by Fremont cottonwood series vegetation. The jurisdiction for the CDFW extends out to the outside drip-lines of the riparian vegetation and includes the banks. The proposed Project area of grading and construction does not include this jurisdictional area. Work activities will occur within 10 feet of the CDFW jurisdictional area (See Figure 3 of Appendix D). However, CDFW jurisdiction only extends outside drip-lines of the riparian vegetation and grading and construction would not affect drainage or riparian vegetation.

Waters of the United States

The property contains approximately 0.01 acres of waters of the United States (Figure 4 of Appendix D). The waters of the United States (WOUS) are located in the unnamed ephemeral drainage located in the south-east corner of the property. The WOUS were delineated by identifying the OHWM, which was visible as a line established by fluctuations of water along the ephemeral drainage banks. The ephemeral drainage is a non-relatively permanent water, that has a significant nexus with a traditional navigable water (TNW) to the Pacific Ocean. The ephemeral drainage, by conveying water to Yucaipa Creek, which flows to San Timoteo Creek, which flows to the Santa Ana River, which is a major tributary to the Pacific Ocean, has a biological, physical, and chemical connection to a TNW. The proposed Project does not include an encroachment to this jurisdictional area and all work will be done outside the 10-foot buffer from waters of the United States; therefore, no impacts will occur.

Regional Water Quality Control Board

The property contains approximately 0.02 acres of jurisdictional waters under the RWQCB (Figure 5 of Appendix D). The RWQCB jurisdictional waters are located in the unnamed ephemeral drainage located in the south-east corner of the property. These RWQCB are under the jurisdiction of the Santa Ana Regional Water Quality Control Board and the beneficial uses of these waters are regulated under the Santa Ana River Basin Plan. The proposed Project does not include an encroachment to this jurisdictional area and all work will be done outside the 10-foot buffer from RWQCB; therefore, no impacts will occur.

CDFW and RWQCB jurisdictional waters are regulated by state and local governments under a no-net-loss policy, and all impacts are considered significant and should be avoided to the greatest extent possible. Impacts to jurisdictional waters and associated riparian vegetation require mitigation through habitat creation, restoration, or enhancement, or the purchase of credits at an established conservation bank. These specific mitigation obligations are be determined by consultation with the regulatory agencies during the permitting process. If the Project property is determined to be jurisdictional by the RWQCB and CDFW, the following regulatory approvals would be required prior to Project implementation: RWQCB Report of Waste Discharge and CDFW Section 1602 Streambed Alteration Agreement. Compliance with the required regulatory approvals as detailed in Mitigation Measure BIO-3 would ensure Project impacts are less than significant. However, the Project has been designed as to avoid these areas and will be further validated during final engineering along with the provisions of BIO-3.

d) No Impact

Project implementation would not increase human encroachment on established wildlife movement corridors within the project vicinity, and is not located within a potential local wildlife linkage as identified by Figure PR-5 of the Yucaipa General Plan. The Project is surrounded by residential areas and would not interfere substantially with the movement of any native resident or migratory wildlife species, with established native resident or migratory wildlife corridors, or impede the use of a native wildlife nursery site. As such, no impacts would occur in this regard.

e) Less Than Significant With Mitigation

Refer to Discussion 4(a) above.

f) No Impact

The Project site is not located within an adopted Habitat Conservation Plan or Natural Community Conservation Plan. Thus, Project implementation would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan. Additionally, the Project would not conflict with the strategic goals of the USDA Land Management Plan. No impacts would occur in this regard.

Mitigation Measures:

BIO-1: Prior to demolition of the existing resident home and barn structure, a focused surveys for the western yellow bat, western mastiff bat, pallid bat, and pocketed free-tailed bat shall be conducted by a certified biologist to determine the presence or absence of the species on the Project site. If any of the species are discovered, a relocation plan shall be prepared by the certified biologist to address for the safe removal and relocation of species to a similar area of protected habitat and shall also be conducted by the certified biologist.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

BIO-2: Prior to release of grading permits and removal of trees and shrubs, the Applicant shall contract with a qualified biologist to conduct a preconstruction general nesting bird survey within all areas of breeding/nesting habitat within and adjacent to the Project site prior to initiation of Project activities that would remove vegetation or otherwise disturb nesting activity (for instance, mobilization of heavy equipment). Surveys shall be conducted no more than 3 days prior to initiation of construction.

BIO-3 : Prior to issuance of any grading permits for permanent impacts in jurisdictional features, the Project Applicant shall provide to the City of Yucaipa Planning Division documentation from the USACE, RWQCB and CDFW of the lack of federal and state jurisdictional waters on the Project site, or documentation that a Federal Clean Water Act Section 404 permit, a Report of Waste Discharge certification from the Regional Water Quality Control Board (RWQCB); and/or a Streambed Alteration Agreement under Section 1602 of the California Fish and Game Code from the California Department of Fish and Wildlife (CDFW) have been obtained. Note: the type, amount, and location of any required mitigation (including payment of fees or purchase of credits) shall be established by each regulatory agency during the review of any required permit.

5. **CULTURAL RESOURCES**. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?			X	
b) Cause a substantial adverse change in the significance of an archaeological resources pursuant to Section 15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

a) No Impact

The Project site includes three (3) vacant residential structures, including one (1) single-family residence and two (2) accessory structures in various stages of dilapidation that are proposed to be demolished and removed as a part of the Project. The existing one-story ranch-style residence was constructed in the late 1940s of conventional wood-style construction with stucco siding and is on a concrete foundation. The two (2) additional accessory buildings are also of wood-style construction. Architecturally, there is no evidence that the residence or accessory structure were designed by a prominent architect of that time period nor is it an exceptional example of ranch-style. Further, as described in the Cultural/Paleontological Resource Assessment (Appendix C) and Form 532B (Appendix E), the residence and other structures do not demonstrate a unique, important, or close association with the pattern of historical events to be eligible for listing in the California Register of Historical Resources or the National Register of Historic Places (NRHP). As a result, no adverse change to the significance of a historical resource is expected to occur.

b) Less Than Significant Impact With Mitigation

Figure PR-6 of the City's General Plan identifies that the subject site is not located within a Cultural Sensitivity Area. The proposed Project consists of a GPA that would permit residential development consistent with the proposed RM-24 land use designation. A DBA and LUCR application have also been submitted for the development of 150 age-restricted senior residential dwelling units. The Cultural/Paleontological Resource Assessment prepared for the Project included preliminary cultural resources review survey in which the applicant initiated their own consultation efforts to compile background research prior to the preparation of the CEQA document. The Cultural/Paleontological Resource Assessment provides recommendations for mitigation measures based on this consultation and are intended to address the process

should there be any inadvertent discovery of resources. Incorporation of the mitigation measures will ensure a less than significant impact.

Additionally, consultation with local tribes, pursuant to SB 18 and AB 52, is required for the proposed Project, and additional details are included within the Tribal resources section of this MND. In accordance with AB 52 and SB 18 requirements, the City sent invitation letters to representatives of the Native American contacts on October 5, 2021, formally inviting tribes to consult with the City on the GPA and the Project characteristics. The intent of consultation is to provide an opportunity for interested Native American contacts to work together with the City during the Project planning process to identify and protect tribal cultural resources. A response letter was received from Agua Caliente Band of Cahuilla Indians requesting cultural resources documents, which were emailed to the tribe on January 26, 2022. There was no further communication. Based on the findings of the Cultural/Paleontological Resource Assessment, mitigation measures CUL-1 – CUL-3 are provided to address any inadvertent discoveries, including human remains, should they occur during Project construction.

c) Less Than Significant Impact

Figure PR-6 of the City's General Plan identifies that the subject site is located within a Paleontological Resource Sensitivity Area. As such, there may be a potential for new resources to be discovered. As such, the Project would implement the City's Standard Condition of Approval which states:

> "Prior to grading, arrangements acceptable to the County Museum shall be made to have present during grading a qualified vertebrate paleontologist to monitor in the event paleontologic resources are encountered during rough grading. The monitor shall have the authority to temporarily suspend grading operations in the vicinity of such resources until they have been evaluated and appropriate data recovery measures implemented. The results of the monitoring shall be documented in writing and submitted to the County Museum for review prior to issuance of building permits. For more information, contact the County Museum at 909-307-2669."

d) Less Than Significant Impact With Mitigation

There are no known human remains on the site. A review of historic aerial photos and maps at Netronline.com was conducted and did not identify possible cemeteries in the area, and therefore a low likelihood exists that human remains could be uncovered during ground-disturbing activities. However, there is always a possibility that unidentified human remains could be discovered during Project construction. Consistent with State law, if at any time during grading human remains are found, the Project is to be conditioned to halt work and contact made with the San Bernardino County Coroner's Office. Standard Conditions of Approval are included pertaining to State Health and Safety Code Section 7050.5. In addition, any discoveries of remains would also be assessed to determine if they are of Native American origin, which is further discussed within the tribal resources section of this MND. The Cultural/Paleontological Resource Assessment, includes mitigation measures to reduce impacts to a less than significant level.

Mitigation Measures:

CUL-1: Archaeological monitoring during all ground-disturbance activities, such as site preparation, demolition of historic structures, and grading up to three feet below surface, in order to quickly assess any discoveries of cultural resources during Project implementation.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

CUL-2: Development of an inadvertent discovery plan in place to expediently address archaeological and / or tribal cultural resource discoveries should these be encountered during any phase of development associated with the Project. In the event that these resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).

CUL-3: Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e). According to the provisions in CEQA, should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The San Bernardino County Coroner shall be immediately notified and must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will in turn, notify the person they identify as the Most-Likely-Descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

6. **Energy**. Would the Project?				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?				X
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

a) No Impact

This impact analysis focuses on the three sources of energy that are relevant to the proposed Project: electricity, natural gas, and transportation fuel for vehicle trips associated with Project operations as well as the fuel necessary for Project construction. The analysis of electricity/natural gas usage is based on the CalEEMod modeling within the Air Quality Study, which quantifies energy use for occupancy. The Project's estimated electricity and natural gas consumption is based primarily on CalEEMod's default settings for San Bernardino County, and consumption factors provided by Southern California Edison (SCE) and Southern California Gas Company, the electricity and natural gas provider for the Project site, respectively.

Project Construction Energy Consumption

During construction there would be a temporary consumption of energy resources required for the movement of equipment and materials. Compliance with local, state, and federal regulations would reduce short-term energy demand during the Project's construction to the extent feasible and Project construction would not result in a wasteful or inefficient use of energy. As summarized in the Table 15 of the Energy Impact Analysis (Appendix A), Project construction electrical usage would total approximately 653,149 kilowatt hours (kWh).

As shown in Tables 16 thru 19 of the Energy Impact Analysis, Project fuel consumption for construction equipment would amount to approximately 53,481 gallons of fuel, approximately 31,241 gallons for construction workers trips, approximately 13,446 gallons for construction vendors trips, and approximately 21,087 gallons for construction hauling trips. With respect to estimated vehicle miles traveled (VMT), the vendor and hauling trips would generate an estimated 214,274 VMT. Data regarding Project related construction worker trips were based on CalEEMod 2020.4.0 model defaults.

Construction equipment used over the approximately eighteen-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. There are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the Project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

The Project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with these measures would result in a more efficient use of construction-related energy and would minimize or eliminate wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption

Project Operational Energy Consumption

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Fuel Consumption

Using the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 3 of Appendix A), it is assumed that an average trip for autos and light trucks was assumed to be 8.7 miles and 3- 4-axle trucks were assumed to travel an average of 14.7 miles. The Project includes the development of the site with senior apartments; therefore, in order to present a worst-case scenario, it was assumed that vehicles would operate 365 days per year. Table 20 of the Energy Analysis shows the estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks would be estimated at approximately 79,377 gallons of fuel throughout the operation of the Project. Furthermore, the state of California consumed approximately 4.2 billion gallons of diesel and 15.1 billion gallons of gasoline in 2015. Therefore, the increase in fuel consumption from the proposed Project is insignificant in comparison to the State's demand. Therefore, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Electrical and Gas Consumption

Building operation and site maintenance (including landscape maintenance) would result in the consumption of electricity (provided by Southern California Edison) and natural gas (provided by Southern California Gas Company).

As shown in Table 21 of the Energy Analysis, the estimated electricity demand for the proposed Project is approximately 614,442 kWh per year. In 2019, the residential sector of the County of San Bernardino consumed approximately 5,054 million kWh of electricity. In addition, the estimated natural gas consumption for the proposed Project is approximately 2,157,330 kBTU per year. In 2019, the residential sector of the County of San Bernardino consumed approximately 275

million therms of gas. Therefore, the increase in both electricity and natural gas demand from the proposed Project is insignificant compared to the County's 2019 residential sector demand.

b) No Impact

The proposed Project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the proposed Project will be required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by Southern California Edison and Southern California Gas Company.

Regarding Pavley (AB 1493) regulations, an individual Project does not have the ability to comply or conflict with these regulations because they are intended for agencies and their adoption of procedures and protocols for reporting and certifying GHG emission reductions from mobile sources. However, the vehicles associated with the proposed Project would be required to comply with federal and state fuel efficiency standards.

Regarding the State's Renewable Energy Portfolio Standards, the Project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CALGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. Therefore, impacts in regard to the Project in conflicting with or obstructing a state or local plan for renewable energy would be less than significant.

7. **GEOLOGY AND SOILS**. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:				
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
(ii) Strong seismic ground shaking?			X	
(iii) Seismic-related ground failure, including liquefaction?			X	
(iv) Landslides?			X	
(b) Result in substantial soil erosion or the loss of topsoil?				X
(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?				X
(d) Be located on expansive soil, as defined in Table 18-a-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
(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?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

a) No Impact

i-iv. The site does not lie within the boundaries of an Earthquake Fault Zone as defined by the State of California Alquist-Priolo Earthquake Fault Zoning Act. However, Southern California is a seismically active area. As such, seismic shaking may occur, and seismic ground shaking and ground rupture due to movement of a fault is a potential hazard in Yucaipa.

The Project will be required to comply with the Yucaipa Municipal Code and the Building Code, which is designed to mitigate earthquake hazards. The Uniform Building Code (UBC) has identified groundwater within 50 feet of the surface as a potential problem for seismic-related ground failure, including liquefaction. According to the Yucaipa General Plan ground water can vary within the City from depths lower than 300 feet below surface elevation to as close as 40 feet. Based upon nearby groundwater well information provided by the US Geological Survey (USGS) [1] the current depth-to-groundwater is at approximately 320 feet and therefore exceeds the 50-foot threshold for seismic-related ground failure. Due to the depth of groundwater, the potential for liquefaction near the subject area is considered minimal. The Project site is also located on and surrounded by relatively flat land and is therefore not susceptible to seismically induced landslides.

b) No Impact

Although the Project site is not traversed by any USGS identified drainage courses, it does border a blue-lined designated stream immediately adjacent to and along the southern boundary of the Project[2]. Subsequent projects permitted with the new residential land use designation would be required to prepare and implement all National Pollutant Discharge Elimination System (NPDES) permit requirements and appropriate BMPs (Best Management Practices) through a Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP). These plans are a standard condition for projects over one (1) acre in size and are intended to minimize soil erosion and prevent the off-site discharge of pollutants. Compliance with these provisions would ensure less than significant impacts for any future residential project. Additional details regarding the stream is identified in the Biological Resources section of this MND.

c) No Impact

See above items 7 (a) and (b). Due to the depth of groundwater and relatively flat terrain of where the proposed use is located, the potential for liquefaction or landslide is minimal.

d) No Impact

The Project area is not identified as being within the City's Geologic Hazard Overlay as shown on General Plan Exhibit S-1, and is not expected to be susceptible to landslides and related phenomenon. The site is relatively flat, and is not located adjacent to any unstable areas, such as steep hillsides. As such, the proposed Project would not impact a geologic unit or soil that is unstable, and would not cause such an area to become unstable as a result of the Project.

e) No Impact

The proposed Project is located adjacent to an existing Yucaipa Valley Water District (YVWD) sewer line on 3rd Street. The Project will be conditioned to connect to the YVWD's existing sewer line and therefore will not utilize any septic tanks.

f) Less Than Significant Impact

Figure 5.5-1 (*Paleontological Sensitivity Map*) of the General Plan EIR identifies that the subject site is located within a Paleontological Resource Sensitivity Area. According to the General Plan EIR, any development that proposes grading to occur five feet below current elevation and in areas of moderate to high sensitivity or unknown paleontological sensitivity,

[1] US Geological Survey, *GAMA-Priority Basin Project Groundwater-Quality Results: Assessment and Trends* interactive webmap. https://ca.water.usgs.gov/projects/gama/water-quality-results/

[2] US Fish and Wildlife Service, *National Wetlands Inventory Mapper*, https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

to prepare a technical paleontological assessment by a qualified paleontologist in assessing/reporting the sensitivity of a project site for buried paleontological resources to the City of Yucaipa prior to issuance of grading permits. Implementation of Mitigation Measure MM GEO 1 and MM PAL 1-5 would ensure that that potential impacts to paleontological resources are reduced to less than significant.

Mitigation Measure:

GEO-1: Applicants for future development projects in undeveloped and developed areas where grading is proposed five feet below current elevation and in areas of moderate to high sensitivity or unknown paleontological sensitivity to prepare a technical paleontological assessment prepared by a qualified paleontologist in assessing/reporting the sensitivity of a Project site for buried paleontological resources to the City of Yucaipa prior to issuance of grading permits. Fossils include large and small vertebrate and invertebrate fossils; the latter recovered by screen washing of bulk samples.

If resources are known or reasonably anticipated, the assessment shall provide a detailed mitigation plan, including a monitoring program and recovery and/or in situ preservation plan, based on the recommendations of a qualified paleontologist. The mitigation plan shall include the following requirements:

PAL-1: A trained and qualified paleontological monitor should perform monitoring of any excavations on the Project that have the potential to impact paleontological resources. The monitor will have the ability to redirect construction activities to ensure avoidance of adverse impacts to paleontological resources.

PAL-2: The Project paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from Lead Agency and Client representatives.

PAL-3: Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and SVP professional standards.

PAL-4: Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

PAL-5: A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, will be prepared and submitted to the appropriate personnel.

- A paleontologist shall be retained for the Project and shall be on call during grading and other significant ground-disturbing activities.
- Should any potentially significant fossil resources be discovered, no further grading shall occur in the area of the discovery until the City concurs in writing that adequate provisions are in place to protect these resources.
- Unanticipated discoveries shall be evaluated for significance by a San Bernardino Certified Professional Paleontologist. If significance criteria are met, then the Project shall be required to collect and catalogue the fossils per San Bernardino County Museum guidelines and adequately curate fossils in an institution with appropriate staff and facilities for their scientific information potential to be preserved. A report of findings with an itemized accession inventory shall be prepared as evidence that monitoring has been successfully completed and shall be submitted and approved prior to the granting of occupancy permits.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

8. **GREENHOUSE GAS EMISSIONS.** Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?				X
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

a) No Impact

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO2), methane (CH4), ozone, water vapor, nitrous oxide (N2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change.

To determine whether if the Project's GHG emissions are significant, the Global Climate Change Analysis (Appendix A) utilized the SCAQMD draft screening threshold of 3,000 MTCO2e per year for all land uses. CalEEMod Version 2020.4.0 was used to calculate the GHG emissions from the proposed Project. Each source of GHG emissions is described in greater detail below.

Area Sources
Area sources include emissions from consumer products, landscape equipment and architectural coatings. No changes were made to the default area source emissions.

Energy Usage
Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

Mobile Sources
Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed Project have been analyzed by inputting the project-generated vehicular trips from the TIA into the CalEEMod Model. The program then applies the emission factors for each trip which is provided by the EMFAC2017 model to determine the vehicular traffic pollutant emissions.

Waste
Waste includes the GHG emissions generated from the processing of waste from the proposed Project as well as the GHG emissions from the waste once it is interred into a landfill. AB 341 requires that 75 percent of waste be diverted from landfills by 2020, reductions for this are shown in the mitigated CalEEMod output values. No other changes were made to the default waste parameters, including any improvements that would occur through implementation of AB 1826 that governs the recycling of organic waste to further reduce GHG emissions.

Water
Water includes the water used for the interior of the building as well as for landscaping and is based on the GHG emissions associated with the energy used to transport and filter the water. No changes were made to the default water usage parameters.

Construction

The construction related GHG emissions were also included in the analysis and were based on a 30 year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009. The construction related GHG emissions were calculated by CalEEMod.

The GHG emissions were calculated based on the above-described parameters. The following table summarizes the Project's total emissions (without credit for any reductions from sustainable design and/or regulatory requirements or removal of existing uses) to be at 1,072.28 MTCO2e per year for the proposed Project, and 1,047.47 MTCO2e per year for a non-age-restricted Project that provides up to 120 units that is also consistent with the development that would be permitted ministerially with the proposed RM-24 Land Use Designation. According to the thresholds of significance established above, a cumulative global climate change impact would occur if the GHG emissions created from the on-going operations of the proposed Project would exceed the SCAQMD draft threshold of 3,000 MTCO2e per year for all land uses. Therefore, operation of the Project would not create a significant cumulative impact to global climate change. No mitigation is required.

Project -Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year)					
	Bio-CO2	NonBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Area Sources[1]	0.00	34.95	34.95	0.00	0.00	35.20
Energy Usage[2]	0.00	224.09	224.09	0.01	0.00	225.34
Mobile Sources[3]	0.00	656.07	656.07	0.04	0.03	666.89
Waste[4]	27.79	0.00	27.79	1.64	0.00	68.84
Water[5]	3.10	34.71	37.81	0.32	0.01	48.19
Construction[6]	0.00	27.45	27.45	0.00	0.00	27.82
Total Emissions	30.89	977.27	1,008.15	2.02	0.05	1,072.28
SCAQMD Draft Screening Threshold						3,000
Exceeds Threshold?						No

Notes:
Source: CalEEMod Version 2020.4.0 for Opening Year 2023.
(1) Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.
(2) Energy usage consist of GHG emissions from electricity and natural gas usage.
(3) Mobile sources consist of GHG emissions from vehicles.
(4) Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.
(5) Water includes GHG emissions from electricity used for transport of water and processing of wastewater.
(6) Construction GHG emissions CO2e based on a 30 year amortization rate.

b) Less Than Significant

The proposed Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. The City adopted the *City of Yucaipa Climate Action Plan* (CAP) in September 2015. The CAP presents the greenhouse gas (GHG) inventories, identifies the effectiveness of California initiatives to reduce GHG emissions, and identifies local measures that were selected by the City to reduce GHG emissions under the City's jurisdictional control to achieve the City's identified GHG reduction target. The City of Yucaipa participated in the *San Bernardino County Regional Greenhouse Gas Reduction Plan* which presents the collective results

of all local efforts to reduce GHG emissions consistent with statewide GHG targets expressed in Assembly Bill (AB) 32, the "Global Warming Solutions Act of 2006" and Senate Bill (SB) 375. The City has selected a goal to reduce their community GHG emissions by 15% below 2008 baseline levels by the year 2020.

Because the City's CAP thresholds are currently based on the year 2020, and that the proposed Project is to be operational in 2023, a comparison analysis was required to determine consistency between the City's CAP as well as the as well as the CARB Scoping Plan. The procedures for evaluating GHG impacts and determining significance for CEQA purposes are streamlined by (1) applying an emissions level that is determined to be less than significant for small projects, and (2) utilizing Screening Tables to mitigate Project GHG emissions that exceed the threshold level. That CAP states that a threshold level of 3,000 MTCO2e per year will be used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate Project emissions.

At a level of 1,072.78 MTCO2e per year, the project's GHG emissions do not exceed the SCAQMD threshold 3,000 MTCO2e per year for all land uses and would be in compliance with the reduction goals of the City's CAP, CARB Scoping Plan, AB-32, SB-32 and, does not need to accrue points through the CAP's Screening Tables. Furthermore, the Project will comply with applicable Green Building Standards and City of Yucaipa's policies regarding sustainability (as dictated by the City's General Plan). Therefore, impacts are less than significant.

9. **HAZARDS AND HAZARDOUS MATERIALS.** Would the project?				
a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?				X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
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?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

a) Less Than Significant Impact

The GPA would permit residential development consistent with the proposed RM-24 land use designation. A DBA and LUCR application have also been submitted for the development of 150 age-restricted senior residential dwelling units. It is not anticipated that a residential project would directly involve the routine transport of hazardous materials; however, equipment used at the site during construction activities could utilize substances considered by regulatory bodies as hazardous, such as diesel fuel and gasoline from typical construction equipment, and would therefore have the potential to discharge hazardous materials during construction. These types of materials are not acutely hazardous, and all storage, handling, use, and disposal of these materials are regulated by federal and state requirements, which the Project

construction activities are required to strictly adhere to. These regulations include: the federal Occupational Safety and Health Act and Hazardous Materials Transportation Act; Title 8 of the California Code of Regulations (CalOSHA), and the state Unified Hazardous Waste and Hazardous Materials Management Regulatory Program. The amount of hazardous material discharge during construction is expected to be less than significant, and the Project would be required to comply with applicable laws, ordinances and procedures. Through compliance with the aforementioned laws and requirements, and also through the implementation of a SWPPP and the WQMP requirements to prevent the off-site discharge of pollutants during construction and operation of the Project, impacts would be less than significant

During operation of the Project, potential hazardous materials would be limited to routine elements associated with residential development, including the use of yard fertilizers, and house cleaners and solvents, as well as chlorine for the pool amenity, which would not represent a significant hazard.

b-d) No Impact

No hazardous materials will be transported to or from the site during Project construction or operation. The site is also not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, nor is it within one-quarter mile of an existing or proposed school.

e) No Impact

The Project site is not within two miles of a public or private use airport. The nearest airport is Redlands Municipal Airport (REI), which is located about 6.7 miles northwest from the Project site. In addition, the Project is not within the Redlands Airport Land Use Compatibility Plan. No impacts would occur with the Project.

f) No Impact

The proposed Project site is located on the west side of 3rd Street, which is an existing paved roadway. The development of the Project site would not impact access to users traveling along the public right-of-way. Access to the site will be provided by two (2) new 24-foot-wide driveways off of 3rd Street. Further, Figure S-5 of the Yucaipa General Plan does not designate 3rd Street as a primary evacuation route. As such, no unsafe roadway design elements are proposed, and no land uses are proposed where large equipment would be entering or exiting the roadway as the proposed Project will serve residents. Therefore, the Project will not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

g) Less Than Significant Impact

The Project site is within an urbanized area and adjacent to existing residential development, including a mobilehome park which abuts the Project to the west, and single-family residences with deep lots that accommodate a blue line stream and drainage channel directly to the south of the site. Additionally, there is a large undeveloped property to the east. The Project site is not within a special Fire Safety Review Area according to Figure S-3 of the City General Plan, nor adjacent to wildland areas. However, risks to future development from fire hazards are addressed through adherence to the City's Standard Conditions of Approval as required by the City Fire Department, which include provisions for adequate fire access that is provided by the Project's internal circulation layout, sprinkler water systems within habitable living spaces, and placement of new fire hydrants at applicable intervals that meet the water flow requirements of the Fire Code.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

10. **HYDROLOGY AND WATER QUALITY**. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality		X		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
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 a substantial erosion or siltation on- or off-site;			X	
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			X	
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			X	
iv) impede or redirect flood flows?		X		
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?		X		
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

a) Less Than Significant Impact With Mitigation

The proposed Project has the potential to release water pollutants during the construction and operation phases, which would have the potential to violate water quality standards.

Construction:

Three general sources of potential short-term, construction-related stormwater pollution associated with the proposed Project include: 1) the handling, storage, and disposal of construction materials containing pollutants; 2) the maintenance and operation of construction equipment; and 3) earthmoving activities which, when not controlled, may generate soil erosion via storm runoff or mechanical equipment.

The proposed Project would disturb approximately 5 acres of land and therefore would be subject to the NPDES permit requirements during construction activities. Prior to issuance of building permits, the Project would be required to comply with all applicable NPDES requirements through adoption and implementation of a submitted SWPPP and WQMP during the construction and operational phases of the Project. The SWPPP shall identify erosion control BMPs to minimize pollutant discharges during construction activities, and would include stabilized construction entrances, sand bagging, designated concrete washout, tire wash racks, silt fencing, and curb cut/inlet protection. The structural and nonstructural BMPs, and other measures included in the SWPPP and WQMP, would address water quality and waste discharge concerns associated with the Project. Compliance with these requirements is included as standard Conditions of Approval for the Project. As part of the review process for these documents, the City also verifies that there is a financial mechanism in place to ensure the continued maintenance of the measures proposed as part of the WQMP. Further, documentation will be provided to ensure all construction-related plans are consistent with each other. Impacts with regard to construction would be less than significant with implementation of existing regulations.

Operation:

The development of the Project would increase the amount of impervious areas onsite by replacing the vacant property with hardscape areas for the residential development, the internal street network within the site, the parking lot area, and the open space and yard improvements. To address water quality issues, an on-site drainage detention basin is proposed along the southwestern edge of the site, and a large open lawn area to collect water will be centrally located. Both the basin and lawn area will receive and filtrate the runoff generated from the impervious surfaces developed as a result of the Project. Compliance with existing federal, State, and local regulations related to water quality, implementation of BMPs included in the Project construction SWPPP, and design recommendations in the WQMP, would result in less than significant impacts.

Wastewater treatment for the Project area is provided by YVWD, and the proposed Project would be required to connect to the YVWD sewer collection and treatment system. The proposed Project would not generate hazardous wastewater that would require any special waste discharge permits. Impacts would be less than significant with implementation of existing regulations.

b) Less Than Significant Impact

The proposed Project will use potable water provided by YVWD, and a Preliminary Service Evaluation letter has been provided by the agency indicating that they will be able to serve the Project. No hazardous materials or other materials will be injected into groundwater supplies and no wells are proposed for the Project which would have the potential to draw from the groundwater table. Further, the Project would not impact any existing groundwater recharge areas, or substantially reduce runoff to which recharge facilities would no longer be able to operate. Impacts would be less than significant.

c) Less Than Significant Impact

The Project site is relatively flat, sloping towards the south and west, and includes a blue line stream along the southern property line that is depicted on the Yucaipa, CA U.S.G.S. Map. Approximately 35,000 square feet of Project site area that borders this blue-line stream is also located within a 100-year floodplain. The construction and operation of the proposed Project would result in the increase of the net area of impermeable surfaces on the site, and the Project is conditioned to ensure the amount of historical runoff through the property as a Standard Condition applied to all development projects. Further, the potential erosion from the Project would be controlled through measures incorporated as part of the adopted SWPPP and WQMP for the proposed Project. The SWPPP and WQMP will be required to utilize various structural and non-structural best management practices (BMPs) per the requirements of the Santa Ana Regional Water Quality Control Board. To meet the Conditions of Approval pertaining to storm water runoff, the Project design features an on-site drainage detention basin along the southwestern edge of the site and a large open lawn area which is centrally located. The basin is designed to capture the storm runoff within the property before infiltrating the blue-line stream, and would prevent substantial erosion or siltation on- or off-site, or any increase in the rate or amount of surface runoff that would create flood-related hazards. Implementation of the various structural and non-structural BMPs from the SWPPP and WQMP would also ensure that runoff water does not exceed the capacity of existing or planned stormwater drainage systems or result in significant pollution, and that the blue-line stream is not further inundated.

d) Less Than Significant Impact

Based on review of the 2016 General Plan and recent aerial photo maps a portion of the proposed Project site is within a 100-year flood plain. A Condition of Approval has been provided, “Future building pads shall be elevated adequately above the base flood elevation as reflected on the FEMA maps to reduce damage from flooding” to mitigate impacts from flooding, and the site plan additionally reflects that the proposed buildings for the 150-unit senior apartment complex are

outside of the floodplain limits. Further, the proposed structures would not impede or redirect flood flow. The proposed Project is not subject to the potential effects of a seiche, tsunami, or mudflows caused by such due to lack of upstream water bodies. The City of Yucaipa is located along Interstate 10 and is over 55 miles east of the Pacific Ocean. As such, the City is not under threat of a tsunami, otherwise known as a seismic sea wave. Similarly, the potential for a seiche to occur is remote, given the limited number of large water bodies within Yucaipa and its sphere of influence. Therefore, a less than significant impact with mitigation is expected.

e) Less Than Significant Impact

On May 22, 2017, the City Council, adopted Resolution 2017-18, approving a Memorandum of Agreement (MOA) to form the Yucaipa Sub-Basin Groundwater Sustainability Agency (YGSA) with the Cities of Calimesa and Redlands; the South Mesa Water Company; the South Mountain Water Company; the Western Heights Water Company; the Yucaipa Valley Water District; the San Bernardino Valley Municipal Water District; and the San Gorgonio Pass Water Agency. The MOA was formally adopted by all agencies party to the Agreement, and was submitted to the State Department of Water Resources by the San Bernardino Valley Municipal Water District.

The Sustainable Groundwater Management Act (SGMA) provides the YSGA broad powers in the implementation of the YGSP and collaborative management of the Yucaipa Groundwater Sub-Basin. This includes the adoption of rules, regulations, ordinances and resolutions as may be necessary to manage and protect the basin. One of the many goals of the YSGA is the development of groundwater recharge projects. The City, in cooperation with the San Bernardino County Flood Control District, San Bernardino Valley Municipal Water District, and other partners and stakeholders have developed and constructed projects that capture and recharge storm flows for replenishment of the Yucaipa Basin. Future projects will also be developed to allow for active groundwater recharge opportunities. The proposed Project would not conflict with or obstruct implementation of the efforts of the YGSA.

The City is a municipal separate storm sewer system (MS4) stormwater permittee and participates with 20 other municipal agencies in the San Bernardino Valley region to establish Best Management Practices (BMPs) for residents, businesses, students, and governments in preventing and reducing stormwater pollution. Keeping pollutants out of stormwater is an integral component of a sustainable groundwater management program. Under the MS4 permit, the City requires new development to design and implement WQMPs that meet the San Bernardino County Technical Guideline threshold. For the development of the site, the applicant will be required to show implementation of the various structural and non-structural BMPs where applicable, nd would therefore not conflict with or obstruct implementation of a water quality control plan.

11. **LAND USE AND PLANNING**. Would the project:				
a) Physically divide an established community?				X
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?			X	

a) No Impact

Dividing an established community typically involves creating a physical barrier that changes the connectivity between areas of the community. As indicated in the Cultural and Paleontological Assessment (Appendix C), the Project site is located on a property that historically was likely used as a single-family ranch. There are three (3) residential structures, including one (1) single-family residence and two (2) accessory structures on-site that are proposed to be demolished to allow for the development of a 150-unit Senior Housing Project. Currently, the existing RM-72C Land Use Designation allows for the continued use of the single-family residence and its accessory structures, and also permits the demolition of

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

these structures to accommodate the development of new residential units, including multiple family residences with a maximum density of 8.7 du/acre through the Conditional Use Permit review process. The proposed GPA for the 5-acre parcel would continue to permit multiple family development, and further meets the minimum district size of 5 (gross) acres as required by the RM-24 Land Use District standards. Furthermore, the Project would not bisect any portion of the surrounding residential land use designations with a non-residential land use designation (i.e., commercial, industrial) nor would it create a physical barrier as the proposed Project is contained entirely within an existing parcel. As such, no new structures developed under the proposed GPA would have the potential to physically divide a community, and the Project does not propose any other action that would physically divide an established community.

b) Less Than Significant Impact

The proposed GPA would change the City's General Plan/Land Use Map to allow for High Density Multiple Residential (RM-24) development; which would permit a base density of 20-24 dwelling units per acre, and up to 30 dwelling units per acre with the proposed Density Bonus Request provided as part of the LUCR. Under the existing Land Use District provisions (RM-72C), the site would permit development with a base density of permits 8.7 units per acre, and would permit 17.4 dwelling units per acre with a similar Density Bonus Request that results in an age-restricted development. The Project is located on a site that is five (5) gross acres, which meets the minimum district size required to establish the RM-24 Land Use District. While surrounding development includes some single-family residences to the south; the site meets the minimum district size for the GPA, and all adjacent properties, other than two (2) parcels owned by the Yucaipa Calimesa Joint Unified School District (YCJUSD) located to the northeast that are designated as Institutional (IN), have a land use designation for multi-family development.

Development under the proposed GPA would also be subject to Land Use Compliance Review and Architectural Review, and the Project includes a current land use application to permit the proposed 150-unit age-restricted senior housing Project. However, it should be noted that under the RM-24 designation, a maximum of 120 non-age restricted units could be developed through the same application procedures. Any of the multiple family projects that could be developed onsite, either under the existing land use designation or the proposed GPA, would require improvements to the site consistent with adopted development standards and good planning practices. Grading and building improvements would be undertaken consistent with appropriate City standards and drainage design criteria. The Project would provide housing intended to meet the City's Regional Housing Needs Assessment requirements for the 6th Housing Cycle, and no policies or plans exist for avoiding or mitigating an environmental effect that have not been taken into consideration.

12. **MINERAL RESOURCES.** Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
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?				X

a-b) No Impact

The City General Plan indicates the entire City is within an MRZ-3 (Mineral Resource Zone 3) classification, in which the significance of mineral deposit cannot be evaluated. No mining activities currently occur in the area, and no significant mineral resources are known to exist within the City of Yucaipa. Due to the proximity to residential uses, the site is unlikely to be considered a viable site for mineral extraction.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
13. **NOISE.** Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
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?				X

a-b) Less than Significant With Mitigation

The Project site is adjacent to residential land uses, which are considered noise sensitive land uses in the City General Plan. The General Plan and Municipal Code identify noise levels for various types of land uses, certain activities, and how noise levels are to be measured.

Project Construction Noise: Construction noise sources are regulated within the City of Yucaipa Municipal Code Section 87.0905(b) which limits construction activities to between the hours of 7:00 AM and 7:00 PM weekdays and Saturdays with no construction allowed on Sundays or Federal holidays. The City of Yucaipa does not include a numerical noise standard associated with construction noise.

A comparison of existing noise levels and existing plus Project construction noise levels from Table 7 of the Noise Impact Analysis (Appendix G) are presented below. Several monitoring sites were identified to assess the Project: NM1 was chosen to represent noise levels at the property lines of the single-family residential receptors to the north and east, NM2 and NM3 were chosen to represent noise levels at the property lines of the multi-family (mobilehome) park to and west, and NM4 was chosen to represent the single-family residential receptors to the south of the Project site. As shown in Table 7, modeled unmitigated construction noise levels ranged between 55.8 and 83.5 dBA Leq at the closest sensitive receptor property lines to the Project site.

Project impacts related to construction noise will be minimized with adherence to Municipal Code Section 87.0905(b) and implementation of Mitigation Measures NOI-1 through NOI-7.

Groundborne vibration and noise: There are several types of construction equipment that can cause vibration levels high enough to annoy persons in the vicinity and/or result in architectural or structural damage to nearby structures and improvements. For example, a vibratory roller could generate up to 0.21 Peak Particle Velocity (PPV) at a distance of 25 feet; and operation of a large bulldozer (0.089 PPV) at a distance of 25 feet (two of the most vibratory pieces of construction equipment). Groundborne vibration at sensitive receptors associated with this equipment would drop off as the equipment moves away. For example, as the vibratory roller moves further than 100 feet from the sensitive receptors, the vibration associated with it would drop below 0.0026 PPV. Table 4 of the Noise Impact Analysis identifies a PPV level of 0.25 as the threshold at which there is a risk to "architectural" damage to historic and some old buildings, and a PPV level of 0.1 as the threshold at which vibration becomes "strongly perceptible" and can be considered annoying to individuals.

Structures associated with surrounding residential land uses are located approximately 8 feet west., 60-133 feet north, and 81 feet south of the Project site. At the closest receptor (within 8 feet), groundborne vibration associated with construction a vibratory roller may reach up to 1.16 in/sec and a bulldozer would be expected to generate a PPV of 0.492 in/sec. While these are considered temporary construction activities and are permissible pursuant to the Yucaipa Municipal Code within the designated construction hours, the vibration could be considered as an annoyance to the surrounding residences. Further, implementation of Mitigation Measure NOI-9 would reduce potential impacts related to an annoyance that is related to vibration impacts to a level that is less than significant.

Project Operational Noise (permanent): On-site operational noise is usually only evaluated for commercial and industrial projects. Quantitative analysis of on-site operational noise is typically not conducted for residential projects as they usually do not include stationary noise sources that could result in substantial increases in ambient noise levels resulting in violation of established standards. Therefore, the evaluation of Project operational noise in this study is limited to the potential impacts associated with Project generated vehicular traffic (off-site noise). Depending upon how many units are proposed and the existing noise environment, project generated vehicle trips could result in substantial increases in noise levels. Based on previous noise studies prepared for projects located in the City, project generated vehicle traffic is considered significant if project-related traffic increases noise levels at nearby sensitive receptors by 5 dB. The Noise Impact Analysis revealed an increase of 0.10 dBA CNEL, which would not be perceptible. Therefore, a permanent increase in noise caused by traffic would be less than significant.

Finally, the operation of future residential development within the GPA/Project area would be similar to other types of single and multiple-family housing within the City limits, and constructed units may feature HVAC and other electromechanical equipment that would produce noise when operating. SoundPLAN acoustical modeling software was utilized to model noise from parking lots, mechanical equipment (HVAC units), the pool and barbeque area, and dog parks, assuming full operation all the time. This is a conservative measurement as several of the noise sources would not be constantly in use or always operating at the same degree. Figures 6 and 7 of the Noise Impact Analysis indicate that Project operation Noise is expected to range between 44 and 55 dBA Leq at nearby receptors and is not expected to exceed the City's exterior maximum noise level of 65 dBA. Ultimately, noise levels would be expected to be compliant with local regulations where received by existing residential land uses, and as a result, operational impacts would be less than significant.

c) No Impact

The Project site is not within two miles of an airport of any type. The nearest airport is Redlands Municipal Airport (REI), which is located 6.7 miles northwest from the Project site. In addition, the Project is not within the Redlands Airport Land Use Compatibility Plan. No impacts would occur with development of the Project.

Mitigation Measures:

NOI-1: During all Project site excavation and grading on-site, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturer standards.

NOI-2: The contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the Project site.

NOI-3: Construction equipment shall be shut off and not left to idle when not in use.

NOI-4: The contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the Project site during all Project construction.

NOI-5: Jackhammers, pneumatic equipment and all other portable stationary noise sources used for construction shall be shielded and noise shall be directed away from sensitive receptors.

NOI-6: The Project proponent shall mandate that the construction contractor prohibit the use of music or sound amplification on the Project site during construction.

NOI-7: The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

NOI-8: Install a temporary sound barrier eight feet in height along the northern project boundary during the demolition phase of construction.

NOI-9: The Project applicant shall require that all construction contractors will prohibit the use of vibratory rollers, or other similar vibratory equipment within 20 feet and large bulldozers within 12 feet of any existing residential dwelling unit to the west of the Project site. Construction activity that must occur within the distances specified within this measure would need to be performed with smaller equipment types that do not exceed the vibratory threshold identified herein.

14. **POPULATION AND HOUSING.** Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing housing or housing, necessitating the construction of replacement housing elsewhere?				X

a) Less Than Significant Impact

The proposed Project site is located within an area generally developed with single-family residences and a vacant parcel is directly across the street to the east. The Project includes the development of a 150-unit age-restricted senior housing apartment units, which would result in an population increase of approximately 300 people should there be two residents in each senior unit. This increase represents a nominal difference in the City's expected build-out population of over 79,000 people. Additionally, the proposed Project will provide housing opportunities for seniors who have accounted for more than half of the City's population growth since 2010 (Table 2-1 from the 2021 – 2029 Draft Housing Element). Existing infrastructure on 3rd Street (sewer, water, electrical, gas) is adequate to accommodate the proposed Project, and as such impacts are expected to be less than significant.

b) No Impact

There are three (3) existing residential structures on the subject site, which consists of a single-family residence and two accessory structures, that are proposed to be demolished. The residence is currently occupied by a tenant who is in the process of moving with plans to relocate out of the State. The proposed GPA will offset the loss of the existing residential structure on the Project site but resulting in an net increase of 149 dwelling units. Therefore, this Project would have a less than significant impact on the displacement of existing houses occupied by residents of the City.

15. **PUBLIC SERVICES**. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?			X	
b) Police protection?			X	
c) Schools?			X	
d) Parks?			X	
e) Other public facilities?			X	

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

a) Less Than Significant Impact

The City of Yucaipa is currently served by the California Department of Forestry (CAL FIRE). The Project site is accessible from an existing improved street and new on-site streets will be designed consistent with existing City Engineering and Fire Department standards, and would not require unique or altered fire protection services. As a standard Condition of Approval, developers are required to pay development impact fees for fire facilities that are assessed from the details of proposed Project. The proposed Project would have a less than significant impact on fire protection services, and would not affect Fire Department service ratios or response times, nor would it require the construction of any new fire facilities.

b) Less Than Significant Impact

The San Bernardino County Sheriff's Department currently serves the Project site and surrounding area. As a standard Condition of Approval, developers are required to pay development impact fees for Public facilities based upon the size of the Project site. The proposed Project would not require unique police protection services, since the site has been and will continue to be accessible from surrounding streets and the payment of development impact fees would off-set potential demands for increased facilities.

c) Less Than Significant Impact

The Yucaipa-Calimesa School District would serve future development in the area. As a standard Condition of Approval, developers are required to pay development impact fees to the District for school facilities prior to issuance of building permits. Further, the Land Use Compliance Review and Density Bonus Agreement that has been submitted for the Project-specific development consists of an age-restricted senior housing Project, which would not add students to school facilities. Under State law impacts to school facilities are addressed by the State of California through specific procedures, such as development impact fees and the issuance of bonds.

d) Less Than Significant Impact

The proposed Project will involve new residential development and, therefore, potentially increase the number of potential park users or affect existing park facilities. The City of Yucaipa has adopted development impact fees to off-set the potential impact of new users caused by new development, and any future residences will be required to pay these development impact fees. In addition, the Project will provide its own recreational amenities including a pool and spa, a barbecue facility, community multipurpose room, two (2) dog parks, and large open lawn area.

e) Less Than Significant Impact

The proposed Project would not require new or altered public facilities or services. The City requires future development to pay development impact fees for a variety of public facilities, including drainage improvements, traffic, and civic center facilities. In addition, the Project will complete street improvements and onsite drainage improvements to meet state and local requirements, and impacts have been addressed as part of this MND. Other necessary improvements, such as water and sewer facilities, would be provided by other agencies that have the ability to require necessary facilities be installed by the developer and/or require payment of fees to provide for that service.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

16. **RECREATION.**				
a) Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
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?				X

a-b) No Impact

See response to 15d. The Project incorporates open space and recreation facilities provided for use by residents including a pool and spa, a barbecue facility, a community multipurpose room, two (2) dog parks, and a large open lawn area. The property management would assume maintenance responsibilities for the proposed recreation facilities, and be conditioned to maintain them in good condition.

17. **TRANSPORTATION/TRAFFIC.** Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?				X
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?				X
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
d) Result in inadequate emergency access?				X

a) No Impact

The proposed Project is located within an existing developed portion of the City, along a local roadway (3rd Street), which is also part of a Class III Bike Route. Class III Bike Routes are on-street signed or marked (or pavement striping where appropriate) bicycle routes along or adjacent to roads shared by bicyclists and vehicles. Standard Conditions of Approval for road improvements will be required of the Project. Pedestrian pathways and sidewalks will be provided internally to achieve greater connectivity between the individual units, and also within the public-right-of-way to connect the Project to surrounding residential neighborhoods that are already developed. The Project would not modify the existing circulation system for the City, and would complete improvements as required by the General Plan.

b) Less Than Significant Impact

Section 15064.3 of the CEQA Guidelines, "describes specific considerations for evaluating a project's transportation impacts" and considers "vehicle miles traveled is the most appropriate measure of transportation impacts," consistent with the requirements of SB-743. Vehicle miles traveled (VMT) refers to the amount and distance of automobile travel attributable to a project, and focuses on the efficiency of the roadway system and land uses to reduce the distance people need to travel to support their daily needs. The proposed Project would change the Land Use Designation of the site from RM-72C to RM-24 and permit a 150-unit senior housing Project. As indicated in the Screening Analysis (Appendix F, *Screening Analysis*), the proposed senior housing Project is expected to generate approximately 555 daily vehicle trips per day, including 31 vehicle trips during the a.m. peak hour and 39 vehicle trips during the p.m. peak hour. Pursuant to the City's Traffic Impact Analysis Guidelines, proposed senior housing Project is expected to generate fewer than 50 a.m. or p.m. peak hour trips and is therefore exempt from a Level of Service Traffic Analysis. Additionally, the Traffic Impact Analysis Guidelines also screens age-restricted development for VMT impacts.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

However, to provide for a conservative assessment of the GPA and the residential projects that could be permitted on the Project site, an analysis was also completed to evaluate the potential traffic impacts of a non-age restricted high-density residential development. As indicated in the Screening Analysis (Appendix F, *Screening Analysis*), a non-age restricted Project would generate approximately 809 daily vehicle trips, including 48 vehicle trips during the a.m. peak hour and 62 vehicle trips during the p.m. peak hour. Further, because the proposed GPA (RM-24) land use with a non-age restricted Project is forecast to generate fewer than 100 a.m. or p.m. peak hour trips from the proposed development, and once these trips are distributed onto 3rd Street, north to Avenue E, and south to Wildwood Canyon Road, potential projects developed consistent with the proposed GPA land use would add fewer than 51 or more trips to any intersection during either the AM or PM peak hours, which also satisfies the City-established exemption criteria for preparation of a traffic analysis with Level of Service analysis pursuant to the City's Traffic Impact Analysis Guidelines.

Using the San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool, the proposed senior Project and a non-age restricted project, which would be permitted ministerially with the GPA, were analyzed and deemed to have no impact on VMT as the site is located within a low VMT Traffic Analysis Zone (TAZ). The Project is located within a TAZ with a VMT of 24.9 per service population, while the jurisdictional VMT for the City of Yucaipa is 32.9. Therefore, because the Project site VMT is less than the City's average total daily Origin/Destination VMT per service population, it can be deemed to have "low" VMT and is screened-out from additional review pursuant to the City's Traffic Impact Analysis Guidelines. The proposed senior Project, or the development of a non-age restricted housing Project consistent with the GPA, would not result in an increase in VMT.

c) No Impact

The proposed Project would not result in the construction of new roadways and would provide ingress and egress via two (2) 24-foot driveways off of 3rd Street. These drive approaches will be designed consistent with the City of Yucaipa's Engineering standards. As such, no unsafe roadway design elements are proposed, and no land uses are proposed where large equipment would be entering or exiting the roadway.

d) No Impact

The proposed Project is located off of 3rd Street, which has adequate fire access. Ingress and egress would be provided to the site via two (2) paved 24-foot driveways that connect to 3rd Street. These driveways and internal drive aisles have been designed to be consistent with the City's Engineering and Fire Department standards, and include adequate drive aisle widths, off street parking areas, and ingress and egress for fire vehicles.

18. **TRIBAL RESOURCES.** Would the project:				
a) 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:				
i. 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			X	
ii. 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 Resource Code Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

a) Less than Significant Impact With Mitigation

i-ii. The Project site includes three (3) vacant residential structures in various stages of dilapidation that are proposed to be demolished and removed as a part of the Project. The existing one-story ranch-style residence was constructed in the late 1940s of conventional wood-style construction with stucco siding and is on a concrete foundation. The two (2) additional accessory buildings are also of wood-style construction. As described in the Cultural/Paleontological Resource Assessment (Appendix B) and Form 532B (Appendix C), the residences have all been painted and are on Second Street have all been painted and do not demonstrate a unique, important, or close association with the pattern of historical events to be eligible for listing in the California Register of Historical Resources or the National Register of Historic Places (NRHP). As a result, no adverse change to the significance of a historical resource is expected to occur.

Conducting consultation early in the CEQA process allows tribal governments, public lead agencies, and Project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process.

In accordance with AB 52 and SB 18 requirements, the City sent invitation letters to representatives of the Native American contacts provided by the NAHC on October 5, 2021, formally inviting tribes to consult with the City on the GPA. The intent of the consultations is to provide an opportunity for interested Native American contacts to work together with the City during the project planning process to identify and protect tribal cultural resources. A response letter was received from Agua Caliente Band of Cahuilla Indians requesting cultural resources documents, which were emailed to the tribe on January 26, 2022. There was no further consultation requests.

Given that archaeological research indicates that the Project area appears to have been inhabited by the Mountain Serrano, but is also within the boundaries of traditional Cahuilla territory, which lies within the geographic center of Southern California and the Cocopa-Maricopa Trail, the Cultural and Paleontological Assessment (Appendix C) recommends the following mitigation measures:

Mitigation Measures:

CUL-1: In the event that cultural resources are discovered during Project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the Project outside of the buffered area may continue during this assessment period.

CUL-2: If cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan. The archaeologist shall monitor the remainder of the Project and implement the Plan accordingly, and proof of Tribal monitor obtainment (i.e. monitoring agreement, proof of hire, etc.) shall then be provided to the City prior to recommencement of ground disturbing activities.

CUL-3: If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains. The following procedures as set forth in the California Environmental Quality Act (CEQA), Section 15064.5(e), the California Public Resources Code (PRC) (Section 5097.98), and the State Health and Safety Code (Section 7050.5) shall then be undertaken:

The archaeological monitor will halt work within the immediate area and any nearby area reasonably suspected to overlie adjacent remains, establish an ESA boundary to protect the find from impact, and immediately notify the City. Project

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

work outside the established ESA may continue. In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be notified within 24 hours of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, s/he shall notify the NAHC in Sacramento within 48 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

19. **UTILITIES AND SERVICE SYSTEMS.** Would the project:				
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?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the waste water 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?			X	
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?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				X

a-c) Less Than Significant Impact

The Yucaipa Valley Water District (YVWD) would provide water and wastewater treatment facilities for the Project site. However, infrastructure improvements have been developed to increase their storage capabilities to meet the demand of future residents and businesses based on the buildout of the City's General Plan. This includes several recharge facilities to increase water supply for potable water purposes, which have been developed by the City of Yucaipa. As part of the Project application, the City of Yucaipa had obtained a Preliminary Service Evaluation letter from YVWD noting that they would be able to accommodate the required water and sewer needs of the proposed Project. The Project would not require the expansion of their facilities. As such, impacts will be less than significant.

The proposed Project will result in an incremental increase in the amount of storm water runoff from the property. The proposed development will require new storm water drainage facilities to capture the additional runoff that is generated, which will be provided for by an on-site drainage detention basin along the southwestern edge of the site and a large open lawn area which is centrally located that would receive and filtrate the runoff generated from the impervious surfaces developed as a result of the Project. As a condition of Project approval and prior to the issuance of grading permits, the Project is required to submit a SWPPP and WQMP that describes BMPs and site design measures that will be implemented to minimize site runoff that is created. Therefore, Project impacts in regard to sufficient storm water drainage infrastructure would be less than significant.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Other utilities, including electric power, natural gas, or telecommunications facilities, are provided along 3rd Street and no substantive changes are necessary to connect to those utilities.

d) Less Than Significant Impact

Per Title 8, Chapter 8.28 of the Yucaipa Municipal Code, all property within the City is required to subscribe to refuse collection and handling services. The program is designed to collect trash, recyclables, and green waste and to assist the City in meeting mandated AB 939 diversion goals established by the State of California. Solid waste services in the City of Yucaipa are provided through a contract with Burrtec and are disposed of within the San Timoteo Sanitary Landfill. As a part of the contract, the disposal service company is required to comply with all appropriate regulations. According to information from the CalRecycle website, operated by the State of California, this landfill has an average annual capacity of 500,000 to 749,999 tons per year, and has a remaining capacity of over 12 million cubic yards and the daily landfill capacity is 2,000 tons per day[3].

Information on the CalRecycle website provides solid waste characterization databases by types of use, referenced from various environmental documents. The agency's waste generation rates for multi-family development range from 4 to 8.6 pounds per day per dwelling unit[4][5]. With this range provided, and in providing the upper threshold estimate (8.6 pounds per day), it is estimated that the Project at full occupancy would generate approximately 1,720 pounds of solid waste daily and that the San Timoteo Landfill would have sufficient capacity to receive the project's generated solid waste. This is an especially conservative estimate given the proposed Project is intended to serve senior citizens who typically have smaller households and more modest lifestyles.

e) No Impact

Per Title 8, Chapter 8.28 of the Municipal Code, all property within the City is required to subscribe to refuse collection and handling services. The program is designed to collect trash, recyclables, and green waste and to assist the City in meeting mandated AB 939 diversion goals established by the State of California. Solid waste collection and recycling services pursuant to Chapter 8.28 are a mandatory requirement for new development in the City of Yucaipa. The Project will be required to be served by the City-approved waste disposal service. The City of Yucaipa is currently served by a contract through Burrtec Wastes Industries, Inc. for waste collection. With the project's adherence to Chapter 8.28 guidelines, Project impacts in regard to compliance with federal, state and local management regulations will be reduced to less than significant.

20. **WILDFIRE.** If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
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?			X	
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?			X	

[3] CalRecycle. n.d. SWIS Facility Detail, San Timoteo Landfill. Accessed June 02, 2022. https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details

[4] CalRecycle Residential Sector Generation Rates. Accessed May 31, 2022. https://www2.calrecycle.ca.gov/wastecharacterization/general/rates

[5] Although the State does not officially endorse this information, it does provide some point of reference.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			X	

a) No Impact

The proposed Project site is located on the west side of 3rd Street, which is a 2-way, local collector paved roadway, and that development of the site would not impact access to users traveling along the public right-of-way. However, the Project would be conditioned to make improvements to the adjacent roadway, and would be widened pursuant to the requirements of the General Plan. Figure S-5 of the Yucaipa General Plan does not designate 3rd Street as a local evacuation route, and therefore the Project will not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

b-d) Less Than Significant Impact

The Project site is within an urbanized area, adjacent to other existing residential developments, and is not adjacent to wildland areas. The Project site is also not located within a Fire Safety Review Area according to the City General Plan, (Figure S-3), but would be subject to the standard Fire Department conditions of approval to reduce fire related risks. In addition, the City has also adopted the most recent version of the California Building and Fire Codes, which includes sections on fire-resistant construction material requirements based on building use and occupancy. The construction requirements are a function of building size, purpose, type, materials, location, proximity to other structures, and the type of fire suppression systems installed. Many of these requirements are also included as part of the Project's Conditions of Approval as a uniformly applicable development policy, which includes provisions for adequate fire access, sprinkler water systems within indoor spaces, and placement of new fire hydrants at applicable intervals that meet the water flow requirements of the Fire Code. Through these standard requirements, impacts from fire-related hazards would be less than significant. There are no other factors onsite that would exacerbate wildfire risks, or slopes that would pose significant risks, such as post-fire slope instability, or downstream flooding or landslides.

21. **MANDATORY FINDINGS OF SIGNIFICANCE.**				
a) Does the project have the potential to 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, 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?		X		
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 the past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

a) Less Than Significant Impact With Mitigation

The proposed Project will not result in significant impacts that have the potential to degrade the quality of the environment. No sensitive plant or animal species or habitats are expected to be significantly impacted by the Project site. In addition, no significant earth moving activities are proposed which could impact cultural or tribal resources. The proposed Project consists of a GPA that would facilitate high density multiple-family residential development in lieu of multiple residential development. As part of the Project, a 150-unit senior apartment complex is proposed. As noted within this MND, the proposed Project development that could occur under facilitation of the GPA, would have less than significant impacts with mitigation measures incorporated to ensure that resources such as the blue-line stream along the southern property line are protected.

b) Less Than Significant Impact

The proposed Project consists of a GPA that would change the land use from multiple-family residential to high-density multiple-family residential, and would permit the development proposed as part the LUCR and DBA that was submitted for the site.

Given the analysis contained herein related to the potential development that could occur, the cumulative effects of this Project are not expected to result in significant impacts. The evaluation of the proposed Project utilized topical sections related to agriculture, biology, cultural, air quality, geology/soils, greenhouse gases, hydrology, land use, noise, land use, mineral resources, population and housing, recreation, traffic, utilities and services and did not identify potential significant or cumulative impacts that could not be mitigated to a level that is less than significant.

c) Less Than Significant Impact

Future development that could occur as a result of the GPA will involve site improvements that are to be constructed consistent with existing City regulations, standards, and processes, and those of other agencies. The topical issues discussed within this document did not identify the potential for adverse effects due, in part, to the incorporation of mitigation measures and standard Conditions of Approval that be applied to any future development would address potential impacts or adverse effects on human beings.

SUPPORTING INFORMATION SOURCES:

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2. City of Yucaipa General Plan EIR, 2016

3. City of Yucaipa Draft 2021-2029 Housing Element, May 2022

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7. California Department of Finance. E-5 Population and Housing Estimates for Cities, Counties, and the State. Accessed May 09, 2022. https://dof.ca.gov/forecasting/demographics/estimates/

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9. CalRecycle Residential Sector Generation Rates. Accessed May 09, 2022. https://www2.calrecycle.ca.gov/wastecharacterization/general/rates

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12. Form 523B. Department of Parks and Recreation. 12836 3rd Street, City of Yucaipa, San Bernardino County, California, December 14, 2021.

13. Ganddini Group Inc. Riverwalk Yucaipa Senior Housing Project Air Quality, Global Climate Change, and Energy Impact Analysis, September 22, 2021 (Revised April 29, 2022).

14. Ganddini Group Inc. Riverwalk Yucaipa Senior Housing Project Noise Impact Analysis, November 9, 2021.

15. Ganddini Group Inc. Riverwalk Yucaipa Senior Housing Project Traffic Impact Analysis and VMT Screening, September 22, 2021 (Revised April 29, 2022). May 6, 2022.

16. Hernandez Environmental Services. General Biological Assessment for Riverwalk Senior Apartments, Case No. 21-045/GPA/LUCR, City of Yucaipa San Bernardino County, California, March 2022.

17. Hernandez Environmental Services. Jurisdictional Delineation for Riverwalk Senior Apartments, Case No. 21-045/GPA/LUCR, City of Yucaipa San Bernardino County, California, March 2022.

18. Material Culture Consulting. Cultural and Paleontological Resources Assessment, 3rd Street Residential Project, City of Yucaipa San Bernardino County, California, June 2021.

19. State Water Resources Control Board. Accessed March 2, 2022. https://www.waterboards.ca.gov/

20. US Fish and Wildlife Service National Wetlands Inventory Mapper. Accessed February 15, 2022. https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

21. US Geological Survey, GAMA-Priority Basin Project Groundwater-Quality Results: Assessment and Trends interactive web map. https://ca.water.usgs.gov/projects/gama/water-quality-results/. Accessed April 25, 2022.

22. Yucaipa Valley Water District. Accessed March 02, 2022. https://www.yvwd.us/

23. Yucaipa, CA U.S.G.S. Map

RIVERWALK YUCAIPA SENIOR HOUSING PROJECT AIR QUALITY, GLOBAL CLIMATE CHANGE, AND ENERGY IMPACT ANALYSIS

City of Yucaipa

September 22, 2021 (Revised April 29, 2022)

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

RIVERWALK YUCAIPA SENIOR HOUSING PROJECT
AIR QUALITY, GLOBAL CLIMATE CHANGE, AND ENERGY IMPACT ANALYSIS

City of Yucaipa

September 22, 2021 (Revised April 29, 2022)

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Project No.19421

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EXECUTIVE SUMMARY

The purpose of this air quality, global climate change, and energy impact analysis is to provide an assessment of the impacts resulting from development of the proposed Riverwalk Yucaipa Senior Housing project and to identify measures that may be necessary to reduce potentially significant impacts.

Construction-Source Emissions

Project construction-source emissions would not exceed applicable regional thresholds of significance established by the South Coast Air Quality Management District (SCAQMD). For localized emissions, the project will not exceed applicable Localized Significance Thresholds (LSTs) established by the SCAQMD.

Project construction-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). As discussed herein, the project will comply with all applicable SCAQMD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

Given the temporary and short-term construction schedule, the project would not result in a long-term (i.e., lifetime or 30-year) exposure to TACs as a result of project construction. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds. Therefore, impacts from TACs during construction would be less than significant.

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less than significant.

Operational-Source Emissions

Project operational-sourced emissions would not exceed applicable regional thresholds of significance established by the SCAQMD. Project operational-source emissions would not result in or cause a significant localized air quality or toxic air contaminant (TAC) impacts as discussed in the Operations-Related Local Air Quality Impacts section of this report. Additionally, project-related trips will not cause or result in CO concentrations exceeding applicable state and/or federal standards (CO "hotspots). Project operational-source emissions would therefore not adversely affect sensitive receptors within the vicinity of the project.

Project operational-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). The project's emissions meet SCAQMD regional thresholds and will not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less than significant.

Greenhouse Gases

Project-related GHG emissions would not exceed the SCAQMD draft screening threshold of 3,000 MTCO2e per year for all land uses.

Furthermore, the project's GHG emissions would not exceed the SCAQMD screening threshold (based on EO S-3-05). The project would not conflict with the goals of the City of Yucaipa CAP, AB-32, SB-32, or the CARB Scoping Plan; therefore, the project would not conflict with an applicable plan, policy or regulation of

an agency adopted for the purpose of reducing the emissions of greenhouse gases and impacts are considered to be less than significant.

Energy

For new development such as that proposed by the Riverwalk Yucaipa Senior Housing project, compliance with California Building Standards Code Title 24 energy efficiency requirements (CalGreen), are considered demonstrable evidence of efficient use of energy. As discussed below, the project would provide for, and promote, energy efficiencies required under other applicable federal and State of California standards and regulations, and in so doing would meet or exceed all California Building Standards Code Title 24 standards. Moreover, energy consumed by the project's operation is calculated to be comparable to, or less than, energy consumed by other senior housing uses of similar scale and intensity that are constructed and operating in California. On this basis, the project would not result in the inefficient, wasteful, or unnecessary consumption of energy. Impacts are considered to be less than significant.

1. INTRODUCTION

This section describes the purpose of this air quality, global climate change, and energy impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

This study was performed to address the possibility of regional/local air quality impacts and global climate change impacts, from project related air emissions. The objectives of the study include:

- documentation of the atmospheric setting
- discussion of criteria pollutants and greenhouse gases
- discussion of the air quality and global climate change regulatory framework
- analysis of the construction related air quality and greenhouse gas emissions
- analysis of the operations related air quality and greenhouse gas emissions
- analysis of the conformity of the proposed project with the SCAQMD AQMP
- analysis of the project's energy use during construction and operation
- recommendations for mitigation measures

The City of Yucaipa is the lead agency for this air quality and greenhouse gas analysis, in accordance with the California Environmental Quality Act authorizing legislation. Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with terms unique to air quality and global climate change, a definition of terms has been provided in Appendix A.

PROJECT LOCATION

The 5.02-acre project site is located at the southwest corner of 3rd Street and Mission Way in the City of Yucaipa, California. The project site is currently occupied by one single-family detached residential dwelling unit. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The proposed project involves construction of a 150-dwelling unit senior housing – attached development. The construction activities for the proposed project are anticipated to include the demolition of one existing single-family residential dwelling unit and associated barn structure totaling approximately 1,500 square feet. Vehicular access is proposed for full access at 3rd Street via two project driveways. The project proposes a General Plan Amendment (GPA) to up-zone the existing land use of the property from an RM-72C (Multiple Residential) designation to an RM-24 (High Density Multiple Residential) designation in order to facilitate for the development of a 150-unit, three story, age-restricted senior housing apartment complex for individuals 55 years and older. Additionally, the proposed GPA, under the RM-24 designation, could also allow for the property to develop up to a maximum of 120 units of non-age restricted use. The proposed project is anticipated to be constructed and fully operational by year 2023. Figure 2 illustrates the proposed site plan.

PHASING AND TIMING

The proposed project is anticipated for opening in 2023. The project is anticipated to be built in one phase with project construction anticipated to start no sooner than the beginning of February 2022 and being completed by the beginning of August 2023. Even if construction was to occur any time after the respective

dates, the analysis represents "worst-case" since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[1]

Sensitive Receptors in Project Vicinity

Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. For purposes of CEQA, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities (South Coast Air Quality Management District 2008). Commercial and industrial facilities are not included in the definition because employees do not typically remain on-site for 24 hours.

The nearest sensitive receptors to the project site include the mobile home park property line located adjacent to the west; the single-family residential property lines located approximately 20 feet north, 35 feet northeast, 75 feet south, and 102 feet southeast; and the multi-family residential property lines located approximately 115 feet northeast and 330 feet southwest of the project site.

[1] As shown in the California Emissions Estimator Model (CalEEMod) User's Guide Version 2020.4.0, Section 4.3.2 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

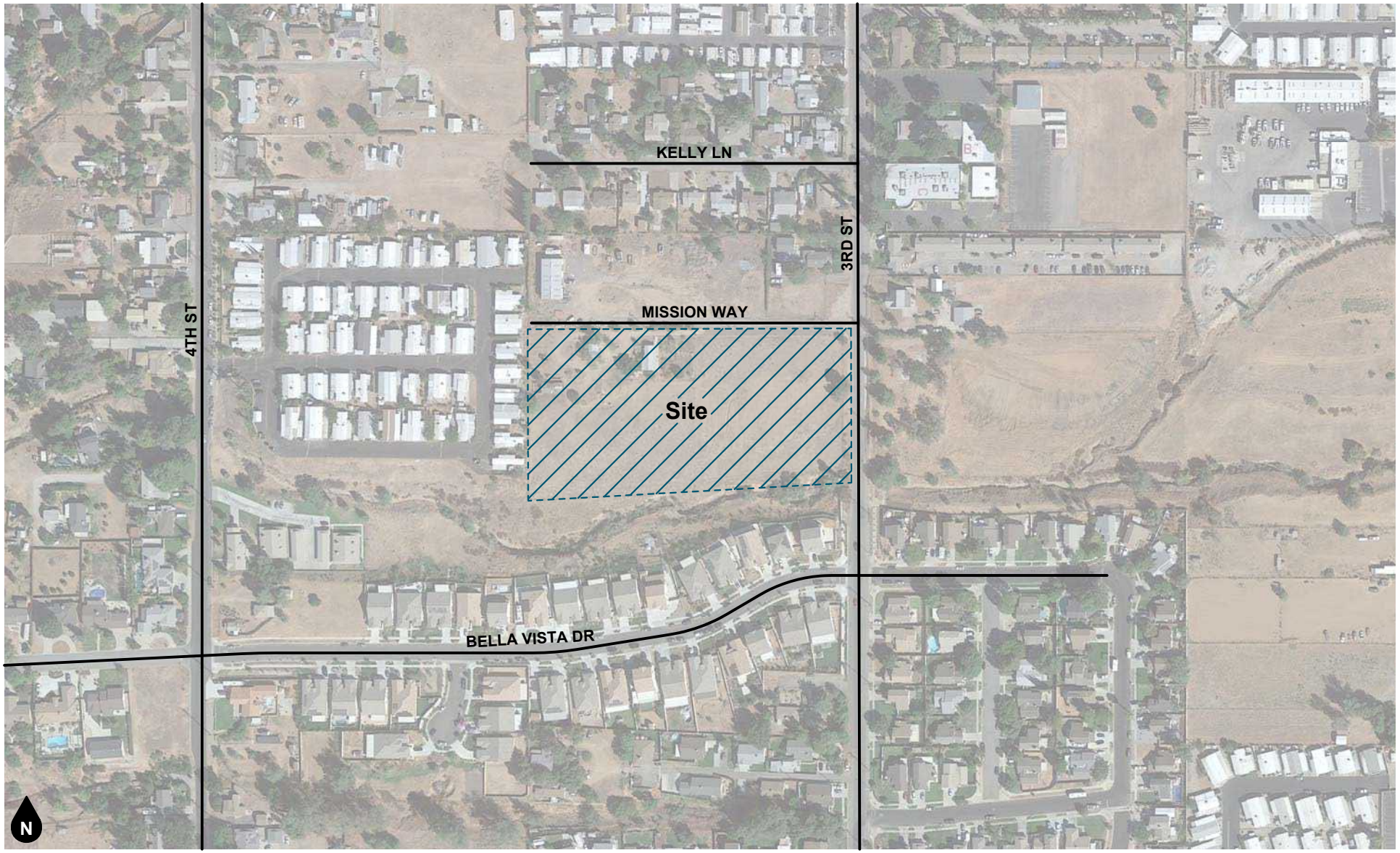

Figure 1
Project Location Map

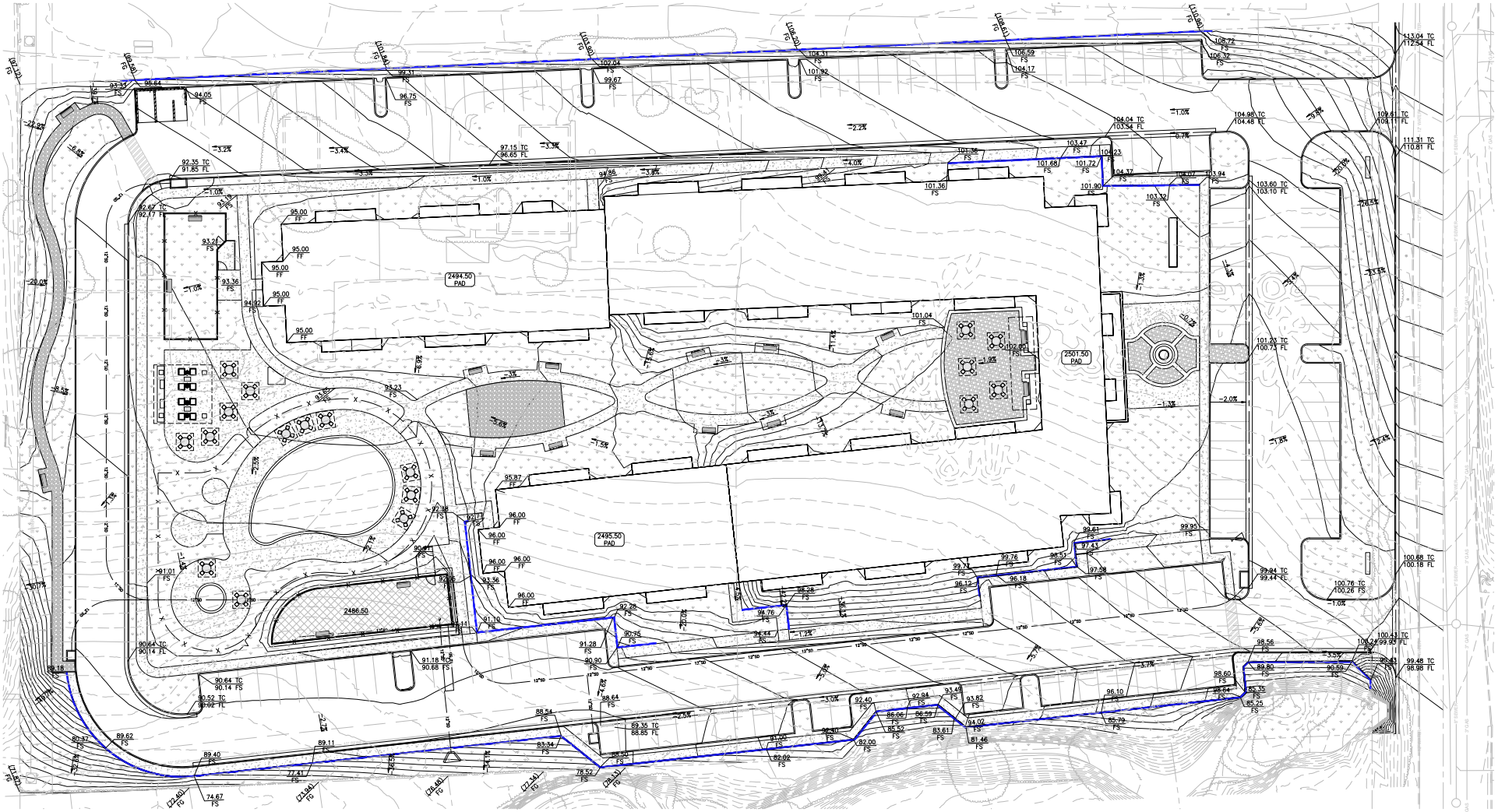

Figure 2
Site Plan

2. AIR QUALITY ANALYSIS

EXISTING AIR QUALITY CONDITIONS

Local Air Quality

The project site is located in the City of Yucaipa in San Bernardino County, which is part of the South Coast Air Basin (Basin) that includes all of Orange County as well as the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The South Coast Air Basin is located on a coastal plain with connecting broad valleys and low hills to the east. Regionally, the South Coast Air Basin is bounded by the Pacific Ocean to the southwest and high mountains to the east forming the inland perimeter. The project site is located toward the northeast portion of the South Coast Air Basin near the foot of the San Bernardino Mountains, which define the eastern boundary of the South Coast Air Basin.

The climate of San Bernardino County, technically called an interior valley sub climate of the Southern California's Mediterranean-type climate, is characterized by hot dry summers, mild moist winters with infrequent rainfall, moderate afternoon breezes, and generally fair weather. Occasional periods of strong Santa Ana winds and winter storms interrupt the otherwise mild weather pattern. The clouds and fog that form along the area's coastline rarely extend as far inland as western Riverside County. When morning clouds and fog form, they typically burn off quickly after sunrise. The most important weather pattern from an air quality perspective is associated with the warm season airflow across the populated areas of the Los Angeles Basin. This airflow brings polluted air into western Riverside County late in the afternoon. This transport pattern creates unhealthful air quality that may extend to the project site particularly during the summer months.

Winds are an important parameter in characterizing the air quality environment of a project site because they both determine the regional pattern of air pollution transport and control the rate of dispersion near a source. Daytime winds in western Riverside County are usually light breezes from off the coast as air moves regionally onshore from the cool Pacific Ocean to the warm Mojave Desert interior of Southern California. These winds allow for good local mixing, but as discussed above, these coastal winds carry significant amounts of industrial and automobile air pollutants from the densely urbanized western portion of the South Coast Air Basin into the interior valleys which become trapped by the mountains that border the eastern edge of the South Coast Air Basin.

In the summer, strong temperature inversions may occur that limit the vertical depth through which air pollution can be dispersed. Air pollutants concentrate because they cannot rise through the inversion layer and disperse. These inversions are more common and persistent during the summer months. Over time, sunlight produces photochemical reactions within this inversion layer that creates ozone, a particularly harmful air pollutant. Occasionally, strong thermal convections occur which allows the air pollutants to rise high enough to pass over the mountains and ultimately dilute the smog cloud.

In the winter, light nocturnal winds result mainly from the drainage of cool air off of the mountains toward the valley floor while the air aloft over the valley remains warm. This forms a type of inversion known as a radiation inversion. Such winds are characterized by stagnation and poor local mixing and trap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution "hot spots" in heavily developed coastal areas of the basin, there is not enough vehicular volumes in inland valleys to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the project vicinity.

The temperature and precipitation levels for the Redlands area, closest monitoring site with data, are shown below in Table 1. Table 1 shows that August is typically the warmest month and December is typically the coolest month. Rainfall in the project area varies considerably in both time and space. Almost all the annual

rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Table 1
Local Monthly Climate Data

Descriptor	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. Max. Temperature	66.9	67.5	71	75.7	81	88.1	94.7	95.6	91.3	82.4	71.4	66.9
Avg. Min. Temperature	41.1	43	45.3	48.4	53.2	57.3	62.1	62.8	59.6	53.1	44.1	40.9
Avg. Total Precipitation (in.)	2.66	2.88	2.1	0.99	0.35	0.11	0.07	0.16	0.23	0.62	1.01	2.14

Source: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5790
Data from the Redlands, CA station (047306).

Pollutants

Pollutants are generally classified as either criteria pollutants or non-criteria pollutants. Federal ambient air quality standards have been established for criteria pollutants, whereas no ambient standards have been established for non-criteria pollutants. For some criteria pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). A summary of federal and state ambient air quality standards is provided in the Regulatory Framework section.

Criteria Pollutants

The criteria pollutants consist of: ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, and particulate matter. These pollutants can harm your health and the environment, and cause property damage. The Environmental Protection Agency (EPA) calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria for setting permissible levels. The following provides descriptions of each of the criteria pollutants.

Nitrogen Dioxides

Nitrogen Oxides (NOx) is the generic term for a group of highly reactive gases which contain nitrogen and oxygen. While most NOx are colorless and odorless, concentrations of nitrogen dioxide (NO_2) can often be seen as a reddish-brown layer over many urban areas. NOx form when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NOx are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuel. NOx reacts with other pollutants to form, ground-level ozone, nitrate particles, acid aerosols, as well as NO_2, which cause respiratory problems. NOx and the pollutants formed from NOx can be transported over long distances, following the patterns of prevailing winds. Therefore, controlling NOx is often most effective if done from a regional perspective, rather than focusing on the nearest sources.

Ozone

Ozone (O_3) is not usually emitted directly into the air but at ground-level is created by a chemical reaction between NOx and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents as well as natural sources emit NOx and VOC that help form ozone. Ground-level ozone is the primary constituent of smog. Sunlight and hot weather cause ground-level ozone to form with the greatest concentrations usually occurring downwind from urban areas. Ozone is subsequently considered a regional pollutant. Ground-level ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Because NOx and VOC are ozone precursors, the health effects associated with ozone are also indirect health effects associated with significant levels of NOx and VOC emissions.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, and natural sources such as forest fires. Woodstoves, gas stoves, cigarette smoke, and unvented gas and kerosene space heaters are indoor sources of CO. The highest levels of CO in the outside air typically occur during the colder months of the year when inversion conditions are more frequent. The air pollution becomes trapped near the ground beneath a layer of warm air. CO is described as having only a local influence because it dissipates quickly. Since CO concentrations are strongly associated with motor vehicle emissions, high CO concentrations generally occur in the immediate vicinity of

roadways with high traffic volumes and traffic congestion, active parking lots, and in automobile tunnels. Areas adjacent to heavily traveled and congested intersections are particularly susceptible to high CO concentrations.

CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. The health threat from lower levels of CO is most serious for those who suffer from heart disease such as angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

Sulfur Dioxide

Sulfur Oxide (SOx) gases (including sulfur dioxide [SO2]) are formed when fuel containing sulfur, such as coal and oil is burned, and from the refining of gasoline. SOx dissolves easily in water vapor to form acid and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and the environment.

Lead

Lead (Pb) is a metal found naturally in the environment as well as manufactured products. The major sources of lead emissions have historically been motor vehicles and industrial sources. Due to the phase out of leaded gasoline, metal processing is now the primary source of lead emissions to the air. High levels of lead in the air are typically only found near lead smelters, waste incinerators, utilities, and lead-acid battery manufacturers. Exposure of fetuses, infants and children to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Particulate Matter

Particulate matter (PM) is the term for a mixture of solid particles and liquid droplets found in the air. Particulate matter is made up of a number of components including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. Particles that are less than 10 micrometers in diameter (PM10) are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Particles that are less than 2.5 micrometers in diameter (PM2.5) have been designated as a subset of PM10 due to their increased negative health impacts and its ability to remain suspended in the air longer and travel further.

Reactive Organic Gases (ROG)

Although not a criteria pollutant, reactive organic gases (ROGs), or volatile organic compounds (VOCs), are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROGs and VOCs, the two terms are often used interchangeably. Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM10 and lower visibility.

Other Pollutants of Concern

Toxic Air Contaminants

In addition to the above-listed criteria pollutants, toxic air contaminants (TACs) are another group of pollutants of concern. Sources of toxic air contaminants include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least forty different toxic air contaminants. The most important of these toxic air contaminants, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to toxic air contaminants can result from emissions from normal operations as well as from accidental releases. Health effects of toxic air contaminants include cancer, birth defects, neurological damage, and death.

Toxic air contaminants are less pervasive in the urban atmosphere than criteria air pollutants, however they are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are hundreds of different types of toxic air contaminants with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust.

According to the 2013 California Almanac of Emissions and Air Quality, the majority of the estimated health risk from toxic air contaminants can be attributed to relatively few compounds, the most important of which is diesel particulate matter (DPM). Diesel particulate matter is a subset of PM2.5 because the size of diesel particles are typically 2.5 microns and smaller. The identification of diesel particulate matter as a toxic air contaminant in 1998 led the California Air Resources Board (CARB) to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles in September 2000. The plan's goals are a 75-percent reduction in diesel particulate matter by 2010 and an 85-percent reduction by 2020 from the 2000 baseline. Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter or PM, which includes carbon particles or "soot". Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances. California's identification of diesel particulate matter as a toxic air contaminant was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to diesel particulate matter is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's potential airborne cancer risk from combustion sources.

Asbestos

Asbestos is listed as a TAC by the ARB and as a Hazardous Air Pollutant by the EPA. Asbestos occurs naturally in mineral formations and crushing or breaking these rocks, through construction or other means, can release asbestiform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. Naturally occurring asbestos is not present in San Bernardino County. The nearest likely locations of naturally occurring asbestos, as identified in the General Location Guide for Ultramafic Rocks in California prepared by the California Division of Mines and Geology, is located in Santa Barbara County. Due to the distance to the nearest natural occurrences of asbestos, the project site is not likely to contain asbestos.

REGULATORY SETTING

The proposed project is addressed through the efforts of various international, federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through

legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality are discussed below.

Federal – United States Environmental Protection Agency

The United States Environmental Protection Agency (EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The National Ambient Air Quality Standards (NAAQS) pollutants were identified using medical evidence and are shown below in Table 2.

The EPA and the California Air Resource Board (CARB) designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the Federal annual PM2.5 standard is met if the three-year average of the annual average PM2.5 concentration is less than or equal to the standard. Attainment status is shown in Table 3.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The State Implementation Plan (SIP) must integrate federal, state, and local components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the State Implementation Plan (SIP).

As indicated below in Table 3, the Basin has been designated by the EPA as a non-attainment area for ozone (O_3) and suspended particulates (PM10 and PM2.5). Currently, the Basin is in attainment with the ambient air quality standards for carbon monoxide (CO), lead, sulfur dioxide (SO_2), suspended particulate matter (PM-2.5), and nitrogen dioxide (NO_2).

State – California Air Resources Board

The California Air Resources Board (CARB), which is a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the State Implementation Plan (SIP). The California Ambient Air Quality Standards (CAAQS) for criteria pollutants are shown in Table 2. In addition, the CARB establishes emission standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. Furthermore, the motor vehicle emission standards established by CARB include compliance with the Safer Affordable Fuel-Efficient Vehicles (SAFE) Rule, issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020). The SAFE Rule sets fuel economy and carbon dioxide standards that increase 1.5 percent in stringency each year from model years 2021 through 2026, and apply to both passenger cars and light trucks. CARB. It also sets fuel specifications to further reduce vehicular emissions.

The South Coast Air Basin has been designated by the CARB as a nonattainment area for ozone, PM10 and PM2.5. Currently, the South Coast Air Basin is in attainment with the ambient air quality standards for CO, lead, SO2, NO2, and sulfates and is unclassified for visibility reducing particles and Hydrogen Sulfide.

On June 20, 2002, the CARB revised the PM10 annual average standard to 20 µg/m3 and established an annual average standard for PM2.5 of 12 µg/m3. These standards were approved by the Office of Administrative Law in June 2003 and are now effective. On September 27, 2007 CARB approved the South Coast Air Basin and the Coachella Valley 2007 Air Quality Management Plan for Attaining the Federal 8-hour Ozone and PM2.5 Standards. The plan projected attainment for the 8-hour Ozone standard by 2024 and the PM2.5 standard by 2015.

On December 12, 2008 the CARB adopted Resolution 08-43, which limits NOx, PM10 and PM2.5 emissions from on-road diesel truck fleets that operate in California. On October 12, 2009 Executive Order R-09-010 was adopted that codified Resolution 08-43 into Section 2025, Title 13 of the California Code of Regulations. This regulation requires that by the year 2023 all commercial diesel trucks that operate in California shall meet model year 2010 (Tier 4) or latter emission standards. In the interim period, this regulation provides annual interim targets for fleet owners to meet. This regulation also provides a few exemptions including a onetime per year 3-day pass for trucks registered outside of California.

The CARB is also responsible for regulations pertaining to toxic air contaminants. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into the South Coast Air Basin. The data is ranked by high, intermediate, and low categories, which are determined by: the potency, toxicity, quantity, volume, and proximity of the facility to nearby receptors.

AB 617 Nonvehicular air pollution: criteria air pollutants and toxic air contaminants

This bill requires the state board to develop a uniform statewide system of annual reporting of emissions of criteria air pollutants and toxic air contaminants for use by certain categories of stationary sources. The bill requires those stationary sources to report their annual emissions of criteria air pollutants and toxic air contaminants, as specified. This bill required the state board, by October 1, 2018, to prepare a monitoring plan regarding technologies for monitoring criteria air pollutants and toxic air contaminants and the need for and benefits of additional community air monitoring systems, as defined. The bill requires the state board to select, based on the monitoring plan, the highest priority locations in the state for the deployment of community air monitoring systems. The bill requires an air district containing a selected location, by July 1, 2019, to deploy a system in the selected location. The bill would authorize the air district to require a stationary source that emits air pollutants in, or that materially affect, the selected location to deploy a fence-line monitoring system, as defined, or other specified real-time, on-site monitoring. The bill authorizes the state board, by January 1, 2020, and annually thereafter, to select additional locations for the deployment of the systems. The bill would require air districts that have deployed a system to provide to the state board air quality data produced by the system. By increasing the duties of air districts, this bill would impose a state-mandated local program. The bill requires the state board to publish the data on its Internet Web site.

Regional

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin. To that end, as a regional agency, the SCAQMD works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments and cooperates actively with all federal and state agencies.

South Coast Air Quality Management District

The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. The SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect

sources. It has responded to this requirement by preparing a sequence of AQMPs. On June 30, 2016, the SCAQMD released its Draft 2016 AQMP. The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air.

Air Quality Management Plan

The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NOx) emissions sufficiently to meet the upcoming ozone standard deadlines. On March 23, 2017 the CARB approved the 2016 AQMP. The primary goal of this Air Quality Management Plan is to meet clean air standards and protect public health, including ensuring benefits to environmental justice and disadvantaged communities. Now that the Plan has been approved by the CARB, it has been forwarded to the U.S. EPA for its review. The Plan was approved by the EPA on June 15, 2017.

South Coast AQMD has initiated the development of the 2022 AQMP to address the attainment of the 2015 8-hour ozone standard (70 ppb) for South Coast Air Basin and Coachella Valley. To support the development of mobile source strategies for the 2022 AQMP, South Coast AQMD, in conjunction with California Air Resources Board, has established Mobile Source Working Groups which are open to all interested parties.

SCAQMD Rules and Regulations

During construction and operation, the project must comply with applicable rules and regulations. The following are rules the project may be required to comply with, either directly, or indirectly:

SCAQMD Rule 402

Prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403

Governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors. Rule 403 measures may include but are not limited to the following:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least three times daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code section 23114.
- Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.
- Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.
- Bumper strips or similar best management practices shall be provided where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
- Replanting disturbed areas as soon as practical.
- During all construction activities, construction contractors shall sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1, Less Polluting Sweepers.

SCAQMD Rule 445

Prohibits permanently installed wood burning devices into any new development. A wood burning device means any fireplace, wood burning heater, or pellet-fueled wood heater, or any similarly enclosed, permanently installed, indoor or outdoor device burning any solid fuel for aesthetic or space-heating purposes, which has a heat input of less than one million British thermal units per hour.

SCAQMD Rule 481

Applies to all spray painting and spray coating operations and equipment. The rule states that a person shall not use or operate any spray painting or spray coating equipment unless one of the following conditions is met:

(1) The spray coating equipment is operated inside a control enclosure, which is approved by the Executive Officer. Any control enclosure for which an application for permit for new construction, alteration, or change of ownership or location is submitted after the date of adoption of this rule shall be exhausted only through filters at a design face velocity not less than 100 feet per minute nor greater than 300 feet per minute, or through a water wash system designed to be equally effective for the purpose of air pollution control.
(2) Coatings are applied with high-volume low-pressure, electrostatic and/or airless spray equipment.
(3) An alternative method of coating application or control is used which has effectiveness equal to or greater than the equipment specified in the rule.

SCAQMD Rule 1108

Governs the sale, use, and manufacturing of asphalt and limits the volatile organic compound (VOC) content in asphalt used in the South Coast Air Basin. This rule would regulate the VOC content of asphalt used during construction. Therefore, all asphalt used during construction of the project must comply with SCAQMD Rule 1108.

SCAQMD Rule 1113

Governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of the project must comply with SCAQMD Rule 1113.

SCAQMD Rule 1143

Governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.

SCAQMD Rule 1186

Limits the presence of fugitive dust on paved and unpaved roads and sets certification protocols and requirements for street sweepers that are under contract to provide sweeping services to any federal, state, county, agency or special district such as water, air, sanitation, transit, or school district.

SCAQMD Rule 1303

Governs the permitting of re-located or new major emission sources, requiring Best Available Control Measures and setting significance limits for PM_{10} among other pollutants.

SCAQMD Rule 1401

New Source Review of Toxic Air Contaminants, specifies limits for maximum individual cancer risk, cancer burden, and non-cancer acute and chronic hazard index from new permit units, relocations, or modifications to existing permit units, which emit toxic air contaminants.

SCAQMD Rule 1403

Asbestos Emissions from Demolition/Renovation Activities, specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM).

SCAQMD Rule 2202

On-Road Motor Vehicle Mitigation Options, is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes, to comply with federal and state Clean Air Act requirements, Health & Safety Code Section 40458, and Section 182(d)(1)(B) of the federal Clean Air Act. It applies to any employer who employs 250 or more employees on a full or part-time basis at a worksite for a consecutive six-month period calculated as a monthly average.

SCAQMD Rule 2305

The Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program aims to reduce nitrogen oxide and diesel emissions associated with warehouses, help meet federal standards and improve public health. The WAIRE Program is an indirect source rule that regulates warehouse facilities to reduce emissions from the goods movement industry. Owners and operators of warehouses that have 100,000 square feet or more of indoor floor space in a single building must comply with the WAIRE Program. WAIRE is a menu-based point system in which warehouse operators are required to earn a specific number of points every year. The yearly number of points required is based on the number of trucks trips made to and from the warehouse each year, with larger trucks such as tractors or tractor-trailers multiplied by 2.5. Warehouse operators may be exempt from parts of the rule if they operate less than 50,000 square feet of warehousing activities, if the number of points required is less than 10, or if the WAIRE menu action chosen under performs due to circumstances beyond the operator's control, such as a manufacturer defect. SCAQMD Rule 316 establishes fees to fund Rule 2305 compliance activities.

Air Quality Guidance Documents

SCAQMD CEQA Handbook

Although the SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate air quality issues associated with plans and new development projects throughout the South Coast Air Basin. Instead, this is controlled through local jurisdictions in accordance with the California Environmental Quality Act (CEQA). In order to assist local jurisdictions with air quality compliance issues the CEQA Air Quality Handbook (SCAQMD CEQA Handbook) prepared by the SCAQMD (1993) with the most current updates found at http://www.aqmd.gov/ceqa/hdbk.html, was developed in accordance with the projections and programs of the AQMP. The purpose of the SCAQMD CEQA Handbook is to assist Lead Agencies, as well as consultants, project proponents, and other interested parties in evaluating a proposed project's potential air quality impacts. Specifically, the SCAQMD CEQA Handbook explains the procedures that the SCAQMD recommends be followed for the environmental review process required by CEQA. The SCAQMD CEQA Handbook provides direction on how to evaluate potential air quality impacts, how to determine whether these impacts are significant, and how to mitigate these impacts. SCAQMD is in the process of developing an "Air Quality Analysis Guidance Handbook" to replace the CEQA Air Quality Handbook approved by the AQMD Governing Board in 1993. The 1993 CEQA Air Quality Handbook is still available but not online. In addition, there are sections of the 1993 Handbook that are obsolete. In order to assist the CEQA practitioner in conducting an air quality analysis while the new Handbook is being prepared, supplemental information regarding: significance thresholds and analysis, emissions factors, cumulative impacts emissions analysis, and other useful subjects, are available at the SCAQMD website.[2] The SCAQMD CEQA Handbook and supplemental information is used in this analysis.

Southern California Association of Governments

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the Federally designated MPO for the majority of the southern California region and is the largest MPO in the nation. With respect to air quality planning, SCAG has prepared the Regional Transportation Plan and Regional Transportation Improvement Plan (RTIP), which addresses regional development and growth forecasts. These plans form the basis for the land use and transportation components of the AQMP, which are utilized in the preparation of air quality forecasts and in the consistency analysis included in the AQMP. The Regional Transportation Plan, Regional Transportation Improvement Plan, and AQMP are based on projections originating within the City and County General Plans.

On April 7, 2016, SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (2016 RTP/SCS or Plan). The Plan is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The Plan charts a course for closely integrating land use and transportation – so that the region can grow smartly and sustainably. It outlines more than $556.5 billion in transportation system investments through 2040. The Plan was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. In June 2016, SCAG received its conformity determination from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 FTIP Consistency Amendment through Amendment 15-12 have been met.

On May 7, 2020, SCAG's Regional Council adopted Connect SoCal (2020 - 2045 Regional Transportation Plan/Sustainable Communities Strategy) for federal transportation conformity purposes only. In light of the

[2] http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

COVID-19 pandemic, the Regional Council will consider approval of Connect SoCal in its entirety and for all other purposes within 120 days from May 7, 2020. Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. Connect SoCal outlines more than $638 billion in transportation system investments through 2045. It was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura.

Local – City of Yucaipa

Local jurisdictions, such as the City of Yucaipa, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City is also responsible for the implementation of transportation control measures as outlined in the 2016 AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

The City relies on the expertise of the SCAQMD and utilizes the SCAQMD CEQA Air Quality Handbook as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

The Public Safety Element of the City of Yucaipa General Plan establishes goals and policies to improve air quality in the City. Applicable goals and policies include:

Goal S-7 Air Quality and Climate Change. Clean and healthful air resources that promotes public health, protects the natural environment, and mitigates local impacts to climate change.

Policy S-7.1 Integrated Planning. Integrate air quality planning with land use, economic development, and transportation-related planning to allow for the control and management of air quality.

Policy S-7.2 Transportation Sources. Encourage the expansion of transit, buildout of the pedestrian and bicycle route network, support of regional ride-share programs, and other efforts to reduce vehicle miles travelled from Yucaipa and associated vehicle emissions.

Policy S-7.3 Sensitive Land Uses. Protect residents from health risks by avoiding the placement of sensitive uses and land uses generating high levels of pollutants within close proximity to one another. Appropriate distances shall be determined based on best available knowledge.

Policy S-7.4 *R*egional Cooperation. Work with the South Coast Air Quality Management District, San Bernardino Association of Governments, local cities, and other agencies and stakeholders in implementing programs that reduce air pollution.

Policy S-7.8 Odor Management. Work with businesses to address odors and associated potential public nuisances from operations; where permissible under state law, require odor management plans where needed to minimize odors resulting from business operations.

Table 2
State and Federal Criteria Pollutant Standards

Air Pollutant	Concentration / Averaging Time		Most Relevant Effects
	California Standards	Federal Primary Standards	
Ozone (O_3)	0.09 ppm/1-hour 0.07 ppm/8-hour	0.070 ppm/8-hour	(a) Decline in pulmonary function and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage.
Carbon Monoxide (CO)	20.0 ppm/1-hour 9.0 ppm/8-hour	35.0 ppm/1-hour 9.0 ppm/8-hour	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses.
Nitrogen Dioxide (NO_2)	0.18 ppm/1-hour 0.03 ppm/annual	100 ppb/1-hour 0.053 ppm/annual	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration.
Sulfur Dioxide (SO_2)	0.25 ppm/1-hour 0.04 ppm/24-hour	75 ppb/1-hour 0.14 ppm/annual	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
Suspended Particulate Matter (PM_{10})	50 µg/m^3/24-hour 20 µg/m^3/annual	150 µg/m^3/24-hour	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; (c) Increased risk of premature death from heart or lung diseases in elderly.
Suspended Particulate Matter ($PM_{2.5}$)	12 µg/m^3 / annual	35 µg/m^3/24-hour 12 µg/m^3/annual	
Sulfates	25 µg/m^3/24-hour	No Federal Standards	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) property damage.
Lead	1.5 µg/m^3/30-day	0.15 µg/m^3/3-month rolling	(a) Learning disabilities; (b) Impairment of blood formation and nerve conduction.
Visibility Reducing Particles	Extinction coefficient of 0.23 per kilometer-visibility of 10 miles or more due to particles when humidity is less than 70 percent.	No Federal Standards	Visibility impairment on days when relative humidity is less than 70 percent.

Source: https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf

Table 3
South Coast Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment (Extreme)
Carbon monoxide	Attainment	Maintenance (Serious)
Nitrogen dioxide	Attainment	Maintenance (Primary)
Sulfur dioxide	Attainment	Attainment/Unclassified
PM10	Nonattainment	Maintenance (Serious)
PM2.5	Nonattainment	Nonattainment (Moderate)

Source: (Federal and State Status): California Air Resources Board (2020) https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations & US EPA (2020) https://www.epa.gov/green-book.

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 Basin provided in the Final 2016 Air Quality Management Plan prepared by SCAQMD (March 2017) indicate that collectively, mobile sources account for 60 percent of the VOC, 90 percent of the NOx emissions, 95 percent of the CO emissions and 34 percent of directly emitted PM2.5, with another 13 percent of PM2.5 from road dust.

The SCAQMD has divided the South Coast Air Basin into 38 air-monitoring areas with a designated ambient air monitoring station representative of each area. The project site is located in the East San Bernardino Valley Air Monitoring Area (Area 35). The nearest air monitoring station to the project site is the Redland - Dearborn Monitoring Station (Redlands Station). The Redlands Station is located approximately 6.13 miles northwest of the project site at 500 N. Dearborn, Redlands. As not all monitoring stations monitor all pollutants, data was also taken from the Banning Airport Monitoring Station (Banning Station) located approximately 12.74 miles southeast of the project site at 200 S. Hathaway Street, Banning was also utilized. However, it should be noted that due to the air monitoring stations distances from the project site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the project site. Table 4 presents the monitored pollutant levels from the Redlands and Banning Stations.

Table 4 summarizes 2018 through 2020 published monitoring data, which is the most recent 3-year period available. The data shows that during the past few years, the project area has exceeded the ozone standards.

Ozone

During the 2018 to 2020 monitoring period, the State 1-hour concentration standard for ozone was exceeded between 53 and 104 days each year at the Redlands Station. The State 8-hour ozone standard has been exceeded between 99 and 145 days each year over the past three years at the Redlands Station. The Federal 8-hour ozone standard was exceeded between 95 and 141 days each year over the past three years at the Redlands Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

Carbon Monoxide

CO is another important pollutant that is due mainly to motor vehicles. The Banning Station did not record an exceedance of the state or federal 8-hour CO standard for the last three years.

Nitrogen Dioxide

The Banning Station did not record an exceedance of the State or Federal NO_2 standards for the last three years.

Particulate Matter

The State 24-hour concentration standards for PM10 were exceeded for two days each year in 2018 and 2020 over the last three years at the Redlands Station. Over the past three years, the Redlands Station did not record an exceedance of the Federal 24-hour standards for PM10.

Over the last three years, there was insufficient data for the Federal 24-hour standard for PM2.5 at the Banning Station.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

Table 4
Air Quality Monitoring Summary

Pollutant (Standard)[1]		Year		
		2018	2019	2020
Ozone:	Maximum 1-Hour Concentration (ppm)	0.136	0.137	0.173
	Days > CAAQS (0.09 ppm)	**53**	**73**	**104**
	Maximum 8-Hour Concentration (ppm)	0.115	0.118	0.137
	Days > NAAQS (0.070 ppm)	**95**	**109**	**141**
	Days > CAAQS (0.070 ppm)	**99**	**111**	**145**
Carbon Monoxide:[2]	Maximum 8-Hour Concentration (ppm)	*	*	*
	Days > CAAQS (9 ppm)	0	0	0
	Days > NAAQS (9 ppm)	0	0	0
Nitrogen Dioxide:[2]	Maximum 1-Hour Concentration (ppm)	0.051	0.056	0.051
	Days > CAAQS (0.18 ppm)	0	0	0
Inhalable Particulates (PM10):	Maximum 24-Hour Concentration (µg/m^3)	74.2	44.9	87.7
	Days > NAAQS (150 µg/m3)	0	0	0
	Days > CAAQS (50 µg/m3)	**2**	0	**2**
	Annual Average (µg/m3)	26.4	21.8	24.7
Ultra-Fine Particulates (PM2.5):[2]	Maximum 24-Hour Concentration (µg/m3)	32.0	23.4	46.7
	Days > NAAQS (35 µg/m3)	*	*	*
	Annual Average (µg/m3)	*	9.5	10.5

Notes:
Source: http://www.arb.ca.gov/adam/topfour/topfour1.php. Data from the Redlands-Dearborn Monitoring Station, unless otherwise noted.

(1) CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million
* Means there was insufficient data available to determine value.

(2) Data taken from the Banning Airport Monitoring Station.

AIR QUALITY STANDARDS

Significance Thresholds

Appendix G of the State CEQA Guidelines

Appendix G of the State CEQA Guidelines states that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make a significance determination. Pursuant to Appendix G, the project would result in a significant impact related to air quality if it would:

- Conflict with or obstruct the implementation of the applicable air quality plan;
- 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;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The CEQA Guidelines Section 15064.7 provides the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance. The potential air quality impacts of the project are, therefore, evaluated according to thresholds developed by SCAQMD in their CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook, and subsequent guidance, which are listed below.[3] Therefore, the project would result in a potentially significant impact to air quality if it would:

AIR-1: Conflict with or obstruct the implementation of the applicable air quality plan;

AIR-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation as a result of:

- Criteria pollutant emissions during construction (direct and indirect) in excess of the SCAQMD's regional significance thresholds,
- Criteria pollutant emissions during operation (direct and indirect) in excess of the SCAQMD's regional significance thresholds.

AIR-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

AIR-4: Expose sensitive receptors to substantial pollutant concentrations that would:

- Exceed SCAQMD's localized significance thresholds,
- Cause or contribute to the formation of CO hotspots.

AIR-5: Create objectionable odors affecting a substantial number of people.

[3] While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, Project construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from residential land use projects such as the Project. As a result, lead emissions are not further evaluated herein.

The SCAQMD is in the process of developing an Air Quality Analysis Guidance Handbook to replace the CEQA Air Quality Handbook. In the interim, supplemental guidance has been adopted by the SCAQMD. The potential air quality impacts of the project are, therefore, evaluated according to numeric indicators developed by the SCAQMD in the CEQA Air Quality Handbook and supplemental guidance from the SCAQMD.[4]

Regional Air Quality

Many air quality impacts that derive from dispersed mobile sources, which are the dominate pollution generators in the basin, often occurs hours later and miles away after photochemical processes have converted primary exhaust pollutants into secondary contaminants such as ozone. The incremental regional air quality impact of an individual project is generally very small and difficult to measure. Therefore, the SCAQMD has developed significance thresholds based on the volume of pollution emitted rather than on actual ambient air quality because the direct air quality impact of a project is not quantifiable on a regional scale. The SCAQMD CEQA Handbook states that any project in the South Coast 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 to this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table 5.

Local Air Quality

Project-related construction air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. In order to assess local air quality impacts the SCAQMD has developed Localized Significant Thresholds (LSTs) to assess the project-related air emissions in the project vicinity. The SCAQMD has also provided Final Localized Significant Threshold Methodology (LST Methodology), June 2003, which details the methodology to analyze local air emission impacts. The Localized Significant Threshold Methodology found that the primary emissions of concern are NO_2, CO, PM10, and PM2.5.

The significance thresholds for the local emissions of NO_2 and CO are determined by subtracting the highest background concentration from the last three years of these pollutants from Table 4 above, from the most restrictive ambient air quality standards for these pollutants that are outlined in the Localized Significant Thresholds. Table 5 shows the ambient air quality standards for NO_2, CO, and PM10 and PM2.5.

Toxic Air Contaminants

Construction

Temporary TAC emissions associated with DPM emissions from heavy construction equipment would occur during the construction phase of the Project. According to the Office of Environmental Health Hazard Assessment (OEHHA)[5] and the SCAQMD *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (August 2003),[6] health effects from TACs are described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person

[4] While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, Project construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from residential land use projects such as the Project. As a result, lead emissions are not further evaluated herein.

[5] Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessment, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[6] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, August 2003, http://www.aqmd.gov/docs/default-source/ceqa/handbook/mobile-source-toxics-analysis.doc?sfvrsn=2.

exposed to concentrations of TACs over a 30-year lifetime will contract cancer based on the use of standard risk-assessment methodology. Additionally, the SCAQMD CEQA guidance does not require a HRA for short-term construction emissions. Construction activities associated with the project would be sporadic, transitory, and short-term in nature (approximately 18 months). Thus, construction of the project would not result in a substantial, long-term (i.e., 30-year) source of TAC emissions. Nonetheless, a qualitative assessment of TAC emissions associated with short-term construction TAC emissions is provided in the analysis section below.

Operation

The project proposes to develop the site with residential senior housing land uses. Therefore, the project is not anticipated be a source of toxic air contaminants and sensitive receptors would not be exposed to toxic sources of air pollution.

Odor Impacts

The SCAQMD CEQA Handbook states that an odor impact would occur if the proposed project creates an odor nuisance pursuant to SCAQMD Rule 402, which states:

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

If the proposed project results in a violation of Rule 402 with regards to odor impacts, then the proposed project would create a significant odor impact.

Table 5
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	Construction (lbs/day)	Operation (lbs/day)
NOx	100	55
VOC	75	55
PM10	150	150
PM2.5	55	55
SOx	150	150
CO	550	550
Lead	3	3

Toxic Air Contaminants, Odor and GHG Thresholds	
TACs	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index > 1.0 (project increment)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
GHG	10,000 MT/yr CO2e for industrial projects

Ambient Air Quality Standards	
Pollutant	SCAQMD Standards
NO2 -1-hour average	0.18 ppm (338 µg/m^3)
PM10 -24-hour average Construction Operations	 10.4 µg/m^3 2.5 ug/m^3
PM2.5 -24-hour average Construction Operations	 10.4 µg/m^3 2.5 µg/m^3
SO2 1-hour average 24-hour average	 0.25 ppm 0.04 ppm
CO 1-hour average 8-hour average	 20 ppm (23,000 µg/m^3) 9 ppm (10,000 µg/m^3)
Lead 30-day average Rolling 3-month average Quarterly average	 1.5 µg/m^3 0.15 µg/m^3 1.5 µg/m^3

Source: http://www.aqmd.gov/ceqa/handbook/signthres.pdf

SHORT-TERM CONSTRUCTION EMISSIONS

Construction activities associated with the proposed project would have the potential to generate air emissions, toxic air contaminant emissions, and odor impacts. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. The construction activities for the proposed project are anticipated to include: demolition of one existing single-family residential dwelling unit and associated barn structure totaling approximately 1,500 square feet; grading of approximately 5.02 acres; construction of a three-story building with 150 senior housing dwelling units totaling up to approximately 140,000 square feet (with a building footprint of approximately 42,253 square feet); paving of a parking lot with 146 parking spaces; and application of architectural coatings. The grading phase is anticipated to have approximately 4,000 cubic yards of import. See Appendix B for more details. As stated in the project description, the proposed GPA, under the RM-24 designation, could also allow for the property to develop up to a maximum of 120 units of non-age restricted use; therefore, an alternative analysis for the project was also analyzed with the buildout of 120 mid-rise apartments. As the alternative will have the same construction footprint but consist of a lower number of dwelling units than the proposed project, the construction emissions will be similar, or lower than those analyzed for the project.

The LOS & VMT Screening Analysis prepared for the proposed project modeled the proposed land use as Senior Adult Housing - Attached (ITE 252); however, CalEEMod does not have ITE 252 in its database. Therefore, the next closest land use to the proposed project, Congregate Care (Assisted Living) (ITE 254), was utilized for modeling purposes.

The proposed project is anticipated to start construction no sooner than the beginning of February 2022 and being completed by beginning of August 2023. The project is anticipated to be operational in 2023.

Methodology

The following provides a discussion of the methodology used to calculate regional construction air emissions and an analysis of the proposed project's short-term construction emissions for the criteria pollutants. The construction-related regional air quality impacts have been analyzed for both criteria pollutants and GHGs.

Emissions are estimated using the CalEEMod (Version 2020.4.0) software, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California and is recommended by the SCAQMD.[7]

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The input values used in this analysis were adjusted to be project-specific for the construction schedule and the equipment used was based on CalEEMod defaults. The CalEEMod program uses the EMFAC2017 computer program to calculate the emission rates specific for the southwestern portion of San Bernardino County for construction-related employee vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy truck 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. Daily truck trips and CalEEMod default trip length data were used to assess roadway

[7] South Coast Air Quality Management District, California Emissions Estimator Model, http://www.aqmd.gov/caleemod/.

emissions from truck exhaust. The maximum daily emissions are estimated values for the worst-case day and do not represent the emissions that would occur for every day of project construction. The maximum daily emissions are compared to the SCAQMD daily regional numeric indicators. Detailed construction equipment lists, construction scheduling, and emission calculations are provided in Appendix B.

The project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of the Project area (approximately 4.75 acres) a Fugitive Dust Control Plan or Large Operation Notification would not be required.

SCAQMD's Rule 403 minimum requirements require that the application of the best available dust control measures is used for all grading operations and include the application of water or other soil stabilizers in sufficient quantity to prevent the generation of visible dust plumes. Compliance with Rule 403 would require the use of water trucks during all phases where earth moving operations would occur. Compliance with Rule 403 has been included in the CalEEMod modeling for the proposed project.

Per SCAQMD Rule 1113 as amended on June 3, 2011, the architectural coatings that would be applied after January 1, 2014 will be limited to an average of 50 grams per liter or less of VOCs for building coatings and 100 grams per liter or less of VOCs for traffic coatings.

The phases of the construction activities which have been analyzed below for each phase are: (1) demolition, (2) grading, (3) building construction, (4) paving, and (5) application of architectural coatings. Details pertaining to the project's construction timing and the type of equipment modeled for each construction phase are available in the CalEEMod output in Appendix B.

Construction-Related Regional Impacts

The construction-related criteria pollutant emissions for each phase are shown below in Table 6. Table 6 shows that none of the project's emissions will exceed regional thresholds. Therefore, a less than significant regional air quality impact would occur from construction of the proposed project.

Construction-Related Local Impacts

Construction-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The proposed project has been analyzed for the potential local air quality impacts created from: construction-related fugitive dust and diesel emissions; from toxic air contaminants; and from construction-related odor impacts.

Local Air Quality Impacts from Construction

The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (South Coast Air Quality Management District 2011b). CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. In order to compare CalEEMod reported emissions against the localized significance threshold lookup tables, the CEQA document should contain the following parameters:

(1) The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.
(2) The maximum number of acres disturbed on the peak day.
(3) Any emission control devices added onto off-road equipment.
(4) Specific dust suppression techniques used on the day of construction activity with maximum emissions.

The CalEEMod output in Appendix B show the equipment used for this analysis.

As shown in Table 7, the maximum number of acres disturbed in a day would be 2.5 acres during grading. The local air quality emissions from construction were analyzed using the SCAQMD's Mass Rate Localized Significant Threshold Look-up Tables and the methodology described in Localized Significance Threshold Methodology prepared by SCAQMD (revised July 2008). The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed project could result in a significant impact to the local air quality. The emission thresholds were calculated based on the East San Bernardino Valley source receptor area (SRA) 35 and a disturbance value of two acres per day, to be conservative. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25-meter thresholds. The nearest sensitive receptors to the project site are the mobile home park located adjacent to the west and the single-family residential uses located approximately 20 feet (~6 meters) north, 35 feet (~11 meters) northeast, 75 feet (~23 meters) south, and 102 feet (~31 meters) southeast of the project site; therefore, the SCAQMD Look-up Tables for 25 meters was used. Table 8 shows the on-site emissions from the CalEEMod model for the different construction phases and the LST emissions thresholds.

The data provided in Table 8 shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, a less than significant local air quality impact would occur from construction of the proposed project.

Construction-Related Human Health Impacts

Regarding health effects related to criteria pollutant emissions, the applicable significance thresholds are established for regional compliance with the state and federal ambient air quality standards, which are intended to protect public health from both acute and long-term health impacts, depending on the potential effects of the pollutant. Because regional and local emissions of criteria pollutants during construction of the project would be below the applicable thresholds, it would not contribute to long-term health impacts related to nonattainment of the ambient air quality standards. Therefore, significant adverse acute health impacts as a result of project construction are not anticipated.

Construction-Related Toxic Air Contaminant Impacts

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. According to the Office of Environmental Health Hazard Assessment (OEHHA)[8] and the SCAQMD *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (August 2003),[9] health effects from TACs are described in terms of individual cancer risk based on a lifetime (i.e., 30-year) resident exposure duration. Given the temporary and short-term construction schedule (approximately 18 months), the project would not result in a long-term (i.e., lifetime or 30-year) exposure as

[8] Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessment, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[9] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, August 2003,http://www.aqmd.gov/docs/default-source/ceqa/handbook/mobile-source-toxics-analysis.doc?sfvrsn=2.

a result of project construction. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds.

The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. The project would also comply with the requirements of SCAQMD Rule 1403 if asbestos is found during the renovation and construction activities. Therefore, impacts from TACs during construction would be less than significant.

Construction-Related Odor Impacts

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected to cease upon the drying or hardening of the odor producing materials. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors.

Table 6
Construction-Related Regional Pollutant Emissions

Activity		Pollutant Emissions (pounds/day)					
		ROG	NOx	CO	SO_2	PM10	PM2.5
Demolition	On-Site[1]	2.44	23.94	17.34	0.03	1.18	1.08
	Off-Site[2]	0.06	0.07	0.54	0.00	0.15	0.04
	Subtotal	2.49	24.02	17.88	0.04	1.33	1.12
Grading	On-Site[1]	1.95	20.86	15.27	0.03	3.72	2.20
	Off-Site[2]	0.22	6.00	2.10	0.03	0.96	0.30
	Subtotal	2.17	26.86	17.37	0.06	4.68	2.51
Building Construction	On-Site[1]	1.71	15.62	16.36	0.03	0.81	0.76
	Off-Site[2]	0.85	2.59	8.26	0.03	2.37	0.66
	Subtotal	2.56	18.20	24.63	0.05	3.18	1.42
Paving	On-Site[1]	1.18	10.19	14.58	0.02	0.51	0.47
	Off-Site[2]	0.06	0.04	0.57	0.00	0.17	0.05
	Subtotal	1.24	10.23	15.15	0.02	0.68	0.51
Architectural Coating	On-Site[1]	38.75	1.30	1.81	0.03	0.07	0.07
	Off-Site[2]	0.14	0.09	1.15	0.00	0.42	0.11
	Subtotal	38.90	1.39	2.96	0.03	0.49	0.18
Total for overlapping phases[3]		42.70	29.82	42.73	0.11	4.34	2.12
SCAQMD Thresholds		75	100	550	150	150	55
Exceeds Thresholds?		No	No	No	No	No	No

Notes:

Source: CalEEMod Version 2020.4.0

(1) On-site emissions from equipment operated on-site that is not operated on public roads. Demolition and on-site grading PM-10 and PM-2.5 emissions show mitigated values for fugitive dust for compliance with SCAQMD Rule 403.

(2) Off-site emissions from equipment operated on public roads.

(3) Construction, painting and paving phases may overlap.

Table 7
Maximum Number of Acres Disturbed Per Day

Activity	Equipment	Number	Acres/8hr-day	Total Acres
Demolition	Rubber Tired Dozers	2	0.5	1
Total for phase		-	-	1
Grading	Rubber Tired Dozers	1	0.5	0.5
	Graders	1	0.5	0.5
	Crawler Tractors[1]	3	0.5	1.5
Total for phase		-	-	2.5

Notes:
Source: South Coast AQMD, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, 2011b.
(1) Tractor/loader/backhoe is a suitable surrogate for a crawler tractor per SCAQMD staff.

Table 8
Local Construction Emissions at the Nearest Receptors

Activity	On-Site Pollutant Emissions (pounds/day)			
	NOx	CO	PM10	PM2.5
Demolition	23.94	17.34	1.18	1.08
Grading	20.86	15.27	3.72	2.20
Building Construction	15.62	16.36	0.81	0.76
Paving	10.19	14.58	0.51	0.47
Architectural Coating	1.30	1.81	0.07	0.07
SCAQMD Thresholds[1]	170	1,174	7	5
Exceeds Threshold?	No	No	No	No

Notes:

Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for 2 acres, to be conservative, at a distance of 25 m in SRA 35 East San Benardino Valley.

(1) The nearest sensitive receptors are the mobile home park located adjacent to the west and the single-family residential uses located approximately 20 feet (~6 meters) north, 35 feet (~11 meters) northeast, 75 feet (~23 meters) south, and 102 feet (~31 meters) southeast of the project site; therefore, the 25 meter threshold was used.

Note: The project will disturb up to a maximum of 2.5 acres a day during grading (see Table 7).

LONG-TERM OPERATIONAL EMISSIONS

The on-going operation of the proposed project would result in a long-term increase in air quality emissions. This increase would be due to emissions from the project-generated vehicle trips and through operational emissions from the on-going use of the proposed project. The following section provides an analysis of potential long-term air quality impacts due to: regional air quality and local air quality impacts with the on-going operations of the proposed project.

Operations-Related Regional Air Quality Impacts

The potential operations-related air emissions have been analyzed below for the criteria pollutants and cumulative impacts. Additionally, the proposed GPA, under the RM-24 designation, could also allow for the property to develop up to a maximum of 120 units of non-age restricted use. Analysis for this project alternative has also been included.

Operations-Related Criteria Pollutants Analysis

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of the CalEEMod model. The operating emissions were based on the year 2023, which is the anticipated opening year per the Riverwalk Yucaipa Senior Housing Project Level of Service & Vehicle Miles Traveled Screening Analysis (LOS & VMT Screening Analysis) prepared by Ganddini Group, Inc. (September 7, 2021) for the proposed project. The operational analysis for the alternative was based on 120 mid-rise apartments. The operations daily emissions printouts from the CalEEMod model for both the project and the alternative are provided in Appendix B. The CalEEMod analyzes operational emissions from area sources, energy usage, and mobile sources, which are discussed below.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips (trip generation rate) from the LOS & VMT Screening Analysis into the CalEEMod Model. The LOS & VMT Screening Analysis found that the proposed project would create approximately 555 vehicle trips per day with a trip generation rate of 3.7 trips per dwelling unit per day. The alternative analysis was based on the CalEEMod default trip generation rates for mid-rise apartments (ITE 221). The program then applies the emission factors for each trip which is provided by the EMFAC2017 model to determine the vehicular traffic pollutant emissions.

Area Sources

Per the CAPCOA Appendix A Calculation Details for CalEEMod, area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment. No changes were made to the default area source parameters.

Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

Project Impacts

The worst-case summer or winter criteria pollutant emissions created from the proposed project's long-term operations have been calculated and are shown below in Table 9. The alternative emissions for the development of 120 mid-rise apartments are shown in Table 9a. The results show that none of the SCAQMD regional thresholds would be exceeded. Therefore, a less than significant regional air quality impact would occur from operation of the proposed project.

Operations-Related Local Air Quality Impacts

Project-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The proposed project has been analyzed for the potential local CO emission impacts from the project-generated vehicular trips and from the potential local air quality impacts from on-site operations. The following analysis analyzes the vehicular CO emissions, local impacts from on-site operations per SCAQMD LST methodology, and odor impacts.

Local CO Emission Impacts from Project-Generated Vehicular Trips

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the State and Federal CO standards which were presented above.

To determine if the proposed project could cause emission levels in excess of the CO standards discussed above, a sensitivity analysis is typically conducted to determine the potential for CO "hot spots" at a number of intersections in the general project vicinity. Because of reduced speeds and vehicle queuing, "hot spots" potentially can occur at high traffic volume intersections with a Level of Service E or worse.

The analysis prepared for CO attainment in the South Coast Air Basin by the SCAQMD can be used to assist in evaluating the potential for CO exceedances in the South Coast Air Basin. CO attainment was thoroughly analyzed as part of the SCAQMD's 2003 Air Quality Management Plan (2003 AQMP) and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan). As discussed in the 1992 CO Plan, peak carbon monoxide concentrations in the South Coast Air Basin are due to unusual meteorological and topographical conditions, and not due to the impact of particular intersections. Considering the region's unique meteorological conditions and the increasingly stringent CO emissions standards, CO modeling was performed as part of 1992 CO Plan and subsequent plan updates and air quality management plans. In the 1992 CO Plan, a CO hot spot analysis was conducted for four busy intersections in Los Angeles at the peak morning and afternoon time periods. The intersections evaluated included: South Long Beach Boulevard and Imperial Highway (Lynwood); Wilshire Boulevard and Veteran Avenue (Westwood); Sunset Boulevard and Highland Avenue (Hollywood); and La Cienega Boulevard and Century Boulevard (Inglewood). These analyses did not predict a violation of CO standards. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the Level of Service in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be Level of Service E during the morning peak hour and Level of Service F during the afternoon peak hour.

The LOS & VMT Screening Analysis showed that the proposed project would generate a maximum of approximately 555 total daily vehicle trips. The 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan) showed that an intersection which has a daily traffic volume of approximately 100,000 vehicles per day would not violate the CO standard. Therefore, as the project is to generate only 555 daily vehicle trips, intersections would fall short of 100,000 vehicles per day, no CO "hot spot" modeling was performed

and no significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed project.

Local Air Quality Impacts from On-Site Operations

Project-related air emissions from on-site sources such as architectural coatings, landscaping equipment, on-site usage of natural gas appliances as well as the operation of vehicles on-site may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin. The nearest sensitive receptors include the mobile home park located adjacent to the west and the single-family residential uses located approximately 20 feet (~6 meters) north, 35 feet (~11 meters) northeast, 75 feet (~23 meters) south, and 102 feet (~31 meters) southeast of the project site

According to SCAQMD LST methodology, LSTs would apply to the operational phase of a project, if the project includes stationary sources, or attracts mobile sources (such as heavy-duty trucks) that may spend long periods queuing and idling at the site; such as industrial warehouse/transfer facilities. The proposed project consists of the development of the site with senior housing and does not include such uses. Therefore, due the lack of stationary source emissions, no long-term localized significance threshold analysis is warranted.

Operations-Related Human Health Impacts

Regarding health effects related to criteria pollutant emissions, the applicable significance thresholds are established for regional compliance with the state and federal ambient air quality standards, which are intended to protect public health from both acute and long-term health impacts, depending on the potential effects of the pollutant. Because regional and local emissions of criteria pollutants during operation of the project would be below the applicable thresholds, it would not contribute to long-term health impacts related to nonattainment of the ambient air quality standards. Therefore, significant adverse acute health impacts as a result of project operation are not anticipated.

Operations-Related Odor Impacts

Potential sources that may emit odors during the on-going operations of the proposed project would include odor emissions from the intermittent diesel delivery truck emissions and trash storage areas. Due to the distance of the nearest receptors from the project site and through compliance with SCAQMD's Rule 402 no significant impact related to odors would occur during the on-going operations of the proposed project.

Table 9
Regional Operational Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Area Sources[1]	3.72	2.38	13.35	0.02	0.25	0.25
Energy Usage[2]	0.06	0.54	0.23	0.04	0.04	0.04
Mobile Sources[3]	1.92	2.66	18.93	0.04	4.04	1.10
Total Emissions	5.71	5.58	32.50	0.10	4.33	1.39
SCAQMD Thresholds	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes:

Source: CalEEMod Version 2020.4.0; the higher of either summer or winter emissions.

(1) Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.

(2) Energy usage consists of emissions from generation of electricity and on-site natural gas usage.

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

Table 9a
Regional Operational Pollutant Emissions for Alternative

Activity	Pollutant Emissions (pounds/day)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Area Sources[1]	3.60	1.91	10.68	0.01	0.20	0.20
Energy Usage[2]	0.05	0.44	0.19	0.00	0.04	0.04
Mobile Sources[3]	2.26	3.12	22.26	0.04	4.75	1.29
Total Emissions	5.91	5.46	33.13	0.06	4.98	1.53
SCAQMD Thresholds	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes:

Source: CalEEMod Version 2020.4.0; the higher of either summer or winter emissions.

(1) Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.

(2) Energy usage consists of emissions from generation of electricity and on-site natural gas usage.

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

CUMULATIVE AIR QUALITY IMPACTS

There are a number of cumulative projects in the project area that have not yet been built or are currently under construction. Since the timing or sequencing of the cumulative projects is unknown, any quantitative analysis to ascertain daily construction emissions that assumes multiple, concurrent construction projects would be speculative. Further, cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered would cover an even larger area. The SCAQMD recommends using two different methodologies: (1) that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality;[10] and (2) that a project's consistency with the current AQMP be used to determine its potential cumulative impacts.

Project Specific Impacts

The project area is out of attainment for ozone, PM10, and PM2.5. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the South Coast Air Basin. The greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic volumes from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant.

Project operations would generate emissions of NOx, ROG, CO, PM10, and PM2.5, which, would not exceed the SCAQMD regional or local thresholds and would not be expected to result in ground level concentrations that exceed the NAAQS or CAAQS. Since the project would not introduce any substantial stationary sources of emissions, CO is the benchmark pollutant for assessing local area air quality impacts from post-construction motor vehicle operations. As indicated earlier, no violations of the state and federal CO standards are projected to occur for the project, based on the magnitude of traffic the project is anticipated to create. Therefore, operation of the project would not result in a cumulatively considerable net increase for non-attainment of criteria pollutants or ozone precursors. As a result, the project would result in a less than significant cumulative impact for operational emissions.

Air Quality Compliance

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project includes the SCAQMD Air Quality Management Plan (AQMP). Therefore, this section discusses any potential inconsistencies of the proposed project with the AQMP.

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 proposed project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-makers determine that the proposed project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

[10] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution White Paper, 1993, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

The SCAQMD CEQA Handbook states that "New or amended General Plan 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 proposed 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 or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
(2) Whether the project will exceed the assumptions in the AQMP in 2016 or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

Criteria 1 – Increase in the Frequency or Severity of Violations

Based on the air quality modeling analysis contained in this Air Analysis, short-term construction impacts will not result in significant impacts based on the SCAQMD regional and local thresholds of significance. This Air Analysis also found that, long-term operations impacts will not result in significant impacts based on the SCAQMD local and regional thresholds of significance.

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

Criteria 2 – Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the proposed project are based on the same forecasts as the AQMP. The 2016-2040 Regional Transportation/Sustainable Communities Strategy prepared by SCAG (2016) includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA. For this project, the City of Yucaipa Land Use Plan defines the assumptions that are represented in the AQMP.

The project site is currently designated as Multiple Residential (RM-72C) in the City of Yucaipa General Plan. The General Plan Community Design and Land Use Element states the RM-72C designation allows for a variety of residential uses (attached, detached, and/or mixed residential development) at 8.7 dwelling units per gross acre as well as nonresidential activities compatible with a multiple-family residential neighborhood. The project proposes to develop the site with 150 senior housing dwelling units on approximately 4.75 acres. Therefore, the proposed project is not currently consistent with the existing land use designation. However, the project includes a General Plan Amendment and Change of Zone from RM-72C to RM-24. Therefore, once the GPA is approved, the project would be consistent with the General Plan Land Use designations. Although the project and GPA may initially result in an inconsistency with the AQMP on paper, the inconsistency would not necessarily constitute a conflict with the AQMP. The SCAQMD acknowledges that strict consistency with all aspects of the AQMP is not required in order to make a finding of no conflict. Rather, a project is considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The project would implement contemporary energy-efficient technologies and regulatory/operational programs required per Title 24, CalGreen and City standards. Generally, compliance with SCAQMD emissions reductions and control requirements also act to reduce project air pollutant emissions. In combination, project emissions-reducing design features and regulatory/operational programs are consistent with and support overarching AQMP air pollution reduction strategies. Project support of these strategies promotes timely attainment of AQMP air quality standards and would bring the project into

conformance with the AQMP. Therefore, the proposed 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 above, the proposed project will not result in an inconsistency with the SCAQMD AQMP. Therefore, a less than significant impact will occur.

3. GLOBAL CLIMATE CHANGE ANALYSIS

EXISTING GREENHOUSE GAS ENVIRONMENT

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone, water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of CO_2 and nitrous oxide (NOx) are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO_2, where CO_2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. The following provides a description of each of the greenhouse gases and their global warming potential.

Water Vapor

Water vapor is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to "hold" more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop". The extent to which this positive feedback loop will continue is unknown as there is also dynamics that put the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

Carbon Dioxide (CO_2)

The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s. Each of these activities has increased in scale and distribution. CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration with the first conclusive measurements being made in the last half of the 20th century. Prior to the industrial revolution, concentrations were fairly stable at 280 parts per million (ppm). The International Panel on Climate Change (IPCC Fifth Assessment Report, 2014) Emissions of CO_2 from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period 2000 to 2010. Globally, economic and population growth continued to be the most important drivers of increases in CO_2 emissions from fossil fuel combustion. The contribution of population growth between 2000 and 2010 remained roughly identical to the previous three decades, while the contribution of economic growth has risen sharply.

Methane (CH_4)

CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO_2. Its lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as CO_2, N_2O, and Chlorofluorocarbons (CFCs). CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N_2O)

Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is also commonly used as an aerosol spray propellant, (i.e., in whipped cream bottles, in potato chip bags to keep chips fresh, and in rocket engines and in race cars).

Chlorofluorocarbons (CFC)

CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source, but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and in 1989 the European Community agreed to ban CFCs by 2000 and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons (HFC)

HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons (PFC)

PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

Sulfur Hexafluoride (SF_6)

SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated; 23,900 times that of CO_2. Concentrations in the 1990s were about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Aerosols

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel containing sulfur is burned. Black carbon (or soot) is emitted during biomass burning due to the incomplete combustion of fossil fuels. Particulate matter regulation has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

Global Warming Potential

The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO_2). The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases. A summary of the atmospheric lifetime and the global warming potential of selected gases are summarized in Table 10. As shown in Table 10, the global warming potential of GHGs ranges from 1 to 22,800.

Table 10
Global Warming Potentials and Atmospheric Lifetimes

Gas	Atmospheric Lifetime	(100 Year Horizon)
Carbon Dioxide (CO_2)	-- [2]	1
Methane (CH_4)	12	28-36
Nitrous Oxide (NO)	114	298
Hydrofluorocarbons (HFCs)	1-270	12-14,800
Perfluorocarbons (PFCs)	2,600-50,000	7,390-12,200
Nitrogen trifluoride (NF_3)	740	17,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Notes:

Source: http://www3.epa.gov/climatechange/ghgemissions/gases.html

(1) Compared to the same quantity of CO_2 emissions.

(2) Carbon dioxide's lifetime is poorly defined because the gas is not destroyed over time, but instead moves among different parts of the ocean–atmosphere–land system. Some of the excess carbon dioxide will be absorbed quickly (for example, by the ocean surface), but some will remain in the atmosphere for thousands of years, due in part to the very slow process by which carbon is

GREENHOUSE GAS STANDARDS AND REGULATION

International

Montreal Protocol

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate the impacts of global climate change and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling GHG emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs.

Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere—CFCs, halons, carbon tetrachloride, and methyl chloroform—were to be phased out, with the first three by the year 2000 and methyl chloroform by 2005.

The Paris Agreement

The Paris Agreement became effective on November 4, 2016. Thirty days after this date at least 55 Parties to the United Nations Framework Convention on Climate Change (Convention), accounting in total for at least an estimated 55 % of the total global greenhouse gas emissions, had deposited their instruments of ratification, acceptance, approval or accession with the Depositary.

The Paris Agreement built upon the Convention and – for the first time – attempted to bring all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework.

Federal

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only did the EPA have authority to regulate greenhouse gases, but the EPA's reasons for not regulating this area did not fit the statutory requirements.

As such, the U.S. Supreme Court ruled that the EPA should be required to regulate CO_2 and other greenhouse gases as pollutants under the federal Clean Air Act (CAA).

In response to the FY2008 Consolidations Appropriations Act (H.R. 2764; Public Law 110-161), EPA proposed a rule on March 10, 2009 that requires mandatory reporting of GHG emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of GHG Rule was signed and published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. This rule requires suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to EPA.

On December 7, 2009, the EPA Administrator signed two distinct findings under section 202(a) of the Clean Air Act. One is an endangerment finding that finds concentrations of the six GHGs in the atmosphere threaten the public health and welfare of current and future generations. The other is a cause or contribute finding, that finds emissions from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare. These actions will not themselves impose any requirements on industry or other entities. However, it is a prerequisite to finalizing the EPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by the EPA and Department of Transportation on September 15, 2009.

Clean Air Act

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), the U.S. Supreme Court held in April of 2007 that the USEPA has statutory authority under Section 202 of the federal Clean Air Act (CAA) to regulate GHGs. The court did not hold that the USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO2, CH4, N2O, HFCs, PFCs, and SF6) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the CAA consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

Energy Independence Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.[11]

Executive Order 13432

In response to the Massachusetts v. Environmental Protection Agency ruling, the President signed Executive Order 13432 on May 14, 2007, directing the USEPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. Executive Order 13432 was codified into law by the 2009 Omnibus Appropriations Law signed on February 17, 2009. The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. Light-Duty Vehicle Greenhouse Gas and Corporate Average Fuel Economy Standards.

On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards (CAFE)[12] and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.[13] In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025.

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. This Rule also excludes CO2- equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.[14]

On May 12, 2021, the National Highway Traffic Safety Administration (NHTSA) published a notice of proposed rulemaking in the Federal Register, proposing to repeal "The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program," published Sept. 27, 2019 (SAFE I Rule), in which NHTSA codified regulatory text and made additional pronouncements regarding the preemption of state and local laws related to fuel economy standards. Specifically, this document proposes to fully repeal the regulatory text and appendices promulgated in the SAFE I Rule. In addition, this document proposes to repeal and withdraw the interpretative statements made by the Agency in the SAFE I Rule preamble, including those

[11] A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

[12] The Corporate Average Fuel Economy standards are regulations in the United States, first enacted by Congress in 1975, to improve the average fuel economy of cars and light trucks. The U.S Department of Transportation has delegated the National Highway Traffic Safety Administration as the regulatory agency for the Corporate Average Fuel Economy standards.

[13] United States Environmental Protection Agency, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, August 2012, https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EZ7C.PDF?Dockey=P100EZ7C.PDF.

[14] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf.

regarding the preemption of particular state Greenhouse Gas (GHG) Emissions standards or Zero Emissions Vehicle (ZEV) mandates. As such, this document proposes to establish a clean slate with respect to NHTSA's regulations and interpretations concerning preemption under the Energy Policy and Conservation Act (EPCA).[15]

State of California

California Air Resources Board

CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards [CAAQS]), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In 2004, the California Air Resources Board (CARB) adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure generally does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

In 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection (h)). CARB has also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation, adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. While these regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing GHG emissions due to improved engine efficiencies.

The State currently has no regulations that establish ambient air quality standards for GHGs. However, the State has passed laws directing CARB to develop actions to reduce GHG emissions, which are listed below.

Assembly Bill 1493

California Assembly Bill 1493 enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for CO_2 and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009. After adopting these initial greenhouse gas standards for passenger vehicles, CARB adopted continuing standards for future model years.

[15] https://www.federalregister.gov/documents/2021/05/12/2021-08758/corporate-average-fuel-economy-cafe-preemption.

Executive Order S-3-05

The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

Assembly Bill 32 (California Health and Safety Code, Division 25.5 – California Global Warming Solutions Act of 2006)

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO2, CH4, N2O, HFCs, PFCs, and SF6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

Senate Bill 32 and Assembly Bill 197

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

Climate Change Scoping Plan (2008)

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (Health and Safety Code section 38561 (h)). CARB developed an AB 32 Scoping Plan that contains strategies to achieve the 2020 emissions cap. The initial Scoping Plan was approved in 2008, and contains a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was originally set at 427 MMTCO2e using the GWP values from the IPCC SAR. CARB also projected the state's 2020 GHG emissions under no-action-taken (NAT) conditions – that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 MMTCO2e (using GWP values from the IPCC SAR).

Therefore, under the original projections, the state must reduce its 2020 NAT emissions by 28.4 percent in order to meet the 1990 target of 427 MMTCO2e.

First Update to the Climate Change Scoping Plan (2014)

The First Update to the Scoping Plan was approved by CARB in May 2014 and builds upon the initial Scoping Plan with new strategies and recommendations. In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined that the 1990 GHG emissions inventory and 2020 GHG emissions limit is 431 MMTCO2e. CARB also updated the State's 2020 NAT emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy. CARB's projected statewide 2020 emissions estimate using the GWP values from the IPCC AR4 is 509.4 MMTCO2e.

2017 Climate Change Scoping Plan

In response to the 2030 GHG reduction target, CARB adopted the 2017 Climate Change Scoping Plan at a public meeting held in December 2017. The 2017 Scoping Plan outlines the strategies the State will implement to achieve the 2030 GHG reduction target of 40 percent below 1990 levels. The 2017 Scoping Plan also addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. The 2017 Scoping Plan considered the Scoping Plan Scenario and four alternatives for achieving the required GHG reductions but ultimately selected the Scoping Plan Scenario.

CARB states that the Scoping Plan Scenario "is the best choice to achieve the State's climate and clean air goals."[16] Under the Scoping Plan Scenario, the majority of the reductions would result from the continuation of the Cap-and-Trade regulation. Additional reductions are achieved from electricity sector standards (i.e., utility providers to supply at least 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. The alternatives were designed to consider various combinations of these programs, as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued. However, in July 2017, the California Legislature voted to extend the Cap-and-Trade regulation to 2030. Implementing this Scoping Plan will ensure that California's climate actions continue to promote innovation, drive the generation of new jobs, and achieve continued reductions of smog and air toxics. The ambitious approach draws on a decade of successful programs that address the major sources of climate-changing gases in every sector of the economy:

- More Clean Cars and Trucks: The plan sets out far-reaching programs to incentivize the sale of millions of zero-emission vehicles, drive the deployment of zero-emission trucks, and shift to a cleaner system of handling freight statewide.
- Increased Renewable Energy: California's electric utilities are ahead of schedule meeting the requirement that 33 percent of electricity come from renewable sources by 2020. The Scoping Plan guides utilities to 50 percent renewables, as required under SB 350.
- Slashing Super-Pollutants: The plan calls for a significant cut in super-pollutants such as methane and HFC refrigerants, which are responsible for as much as 40 percent of global warming.
- Cleaner Industry and Electricity: California's renewed cap-and-trade program extends the declining cap on emissions from utilities and industries and the carbon allowance auctions. The auctions will continue to fund investments in clean energy and efficiency, particularly in disadvantaged communities.
- Cleaner Fuels: The Low Carbon Fuel Standard will drive further development of cleaner, renewable transportation fuels to replace fossil fuels.

[16] California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

- Smart Community Planning: Local communities will continue developing plans which will further link transportation and housing policies to create sustainable communities.
- Improved Agriculture and Forests: The Scoping Plan also outlines innovative programs to account for and reduce emissions from agriculture, as well as forests and other natural lands.

The 2017 Scoping Plan also evaluates reductions of smog-causing pollutants through California's climate programs.

SB 32, Pavley. California Global Warming Solutions Act of 2006

(1) The California Global Warming Solutions Act of 2006 designates the State Air Resources Board as the state agency charged with monitoring and regulating sources of emissions of greenhouse gases. The state board is required to approve a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions level in 1990 to be achieved by 2020 and to adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective greenhouse gas emissions reductions. This bill would require the state board to ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030.
(2) This bill would become operative only if AB 197 of the 2015–16 Regular Session is enacted and becomes effective on or before January 1, 2017. AB 197 requires that the California Air Resources Board, which directs implementation of emission-reduction programs, should target direct reductions at both stationary and mobile sources. AB 197 of the 2015-2016 Regular Session was approved on September 8, 2016.

Executive Order S-1-07

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs the CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard and began implementation on January 1, 2011. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

Senate Bill 97

Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to the CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009, the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided and no specific mitigation measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation".
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

Senate Bill 100

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-

08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 375

Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). The CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. The CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, the targets set by the CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. These reduction targets became effective October 2018.

Senate Bill X7-7

Senate Bill X7-7 (SB X7-7), enacted on November 9, 2009, mandates water conservation targets and efficiency improvements for urban and agricultural water suppliers. SB X7-7 requires the Department of Water Resources (DWR) to develop a task force and technical panel to develop alternative best management practices for the water sector. In addition, SB X7-7 required the DWR to develop criteria for baseline uses for residential, commercial, and industrial uses for both indoor and landscaped area uses. The DWR was also required to develop targets and regulations that achieve a statewide 20 percent reduction in water usage.

Assembly Bill 939 and Senate Bill 1374

Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004, suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

California Code of Regulations (CCR) Title 24, Part 6

CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008, and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. CalEEMod modeling defaults to 2008 standards. 2013 Standards were approved and have been effective since July 1, 2014. 2016 Standards were adopted January 1, 2017. 2019 standards were published July 1,

2019 and became effective January 1, 2020. All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately 7 percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

Per Section 100 Scope, the 2019 Title 24, Part 6 Building Code now requires healthcare facilities, such as assisted living facilities, hospitals, and nursing homes, to meet documentation requirements of Title 24, Part 1 Chapter 7 – Safety Standards for Health Facilities. A healthcare facility is defined as any building or portion thereof licensed pursuant to California Health and Safety Code Division 2, Chapter 1, Section 1204 or Chapter 2, Section 1250.

Section 120.1 Ventilation and Indoor Air Quality included both additions and revisions in the 2019 Code. This section now requires nonresidential and hotel/motel buildings to have air filtration systems that use forced air ducts to supply air to occupiable spaces to have air filters. Further, the air filter efficiency must be either MERV 13 or use a particle size efficiency rating specific in the Energy Code AND be equipped with air filters with a minimum 2-inch depth or minimum 1-inch depth if sized according to the equation 120.1-A. If natural ventilation is to be used the space must also use mechanical unless ventilation openings are either permanently open or controlled to stay open during occupied times. The 2019 version of the Code also completely revised the minimum ventilation requirements including DVC airflow rates within Section 120.1 Table 120.1–A. Table 120.1-A now includes air classification and recirculation limitations, these are based on either the number of occupants or the CFM/ft^2 (cubic feet per minute per square foot), whichever is greater.

Section 120.1 Ventilation and Indoor Air Quality also included additions for high-rise residential buildings. Requirements include that mechanical systems must provide air filters that and that air filters must be MERV 13 or use a particle size efficiency rating specified in the Energy Code. Window operation is no longer a method allowed to meet ventilation requirements, continuous operation of central forced air system handlers used in central fan integrated ventilation system is not a permissible method of providing the dwelling unit ventilation airflow, and central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow to each dwelling unit. In addition, requirements for kitchen range hoods were also provided in the updated Section 120.1.

Per Section 120.1(a) healthcare facilities must be ventilated in accordance with Chapter 4 of the California Mechanical Code and are NOT required to meet the ventilations requirements of Title 24, Part 6.

Section 140.4 Space Conditioning Systems included both additions and revisions within the 2019 Code. The changes provided new requirements for cooling tower efficiency, new chilled water-cooling system requirements, as well as new formulas for calculating allowed fan power. Section 140.4(n) also provide a new exception for mechanical system shut-offs for high-rise multifamily dwelling units, while Section 140.4(o) added new requirements for conditioned supply air being delivered to space with mechanical exhaust.

Section 120.6 Covered Processes added information in regards to adiabatic chiller requirements that included that all condenser fans for air-cooled converseness, evaporative-cooled condensers, adiabatic condensers, gas coolers, air or water fluid coolers or cooling towers must be continuously variable speed, with the speed of all fans serving a common condenser high side controlled in unison. Further, the mid-condensing setpoint must be 70 degrees Fahrenheit for all of the above mentioned systems.

New regulations were also adopted under Section 130.1 Indoor Lighting Controls. These included new exceptions being added for restrooms, the exception for classrooms being removed, as well as exceptions in regard to sunlight provided through skylights and overhangs.

Section 130.2 Outdoor Lighting Controls and Equipment added automatic scheduling controls which included that outdoor lighting power must be reduced by 50 to 90 percent, turn the lighting off during unoccupied times and have at least two scheduling options for each luminaire independent from each other and with a 2-hour override function. Furthermore, motion sensing controls must have the ability to reduce power within 15 minutes of area being vacant and be able to come back on again when occupied. An exception allows for lighting subject to a health or life safety statute, ordinance, or regulation may have a minimum time-out period longer than 15 minutes or a minimum dimming level above 50% when necessary to comply with the applicable law.

California Code of Regulations (CCR) Title 24, Part 11 (California Green Building Standards)

On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011.

2016 CALGreen Code: The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions. During the 2016-2017 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2015 Triennial Code Adoption Cycle.

HCD also increased the required construction waste reduction from 50 percent to 65 percent of the total building site waste. This increase aids in meeting CalRecycle's statewide solid waste recycling goal of 75 percent for 2020 as stated in Chapter 476, Statutes of 2011 (AB 341). HCD adopted new regulations requiring recycling areas for multifamily projects of five or more dwelling units. This regulation requires developers to provide readily accessible areas adequate in size to accommodate containers for depositing, storage and collection of non-hazardous materials (including organic waste) for recycling. This requirement assists businesses that were required as of April 1, 2016, to meet the requirements of Chapter 727, Statutes of 2014 (AB 1826).

HCD adopted new regulations to require information on photovoltaic systems and electric vehicle chargers to be included in operation and maintenance manuals. Currently, CALGreen section 4.410.1 Item 2(a) requires operation and maintenance instructions for equipment and appliances. Photovoltaic systems and electric vehicle chargers are systems that play an important role in many households in California, and their importance is increasing every day. HCD incorporated these two terms in the existing language in order to provide clarity to code users as to additional systems requiring operation and maintenance instructions.

HCD updated the reference to Clean Air Standards of the United States Environmental Protection Agency applicable to woodstoves and pellet stoves. HCD also adopted a new requirement for woodstoves and pellet stoves to have a permanent label indicating they are certified to meet the emission limits. This requirement provides clarity to the code user and is consistent with the United States Environmental Protection Agency's New Source Performance Standards. HCD updated the list of standards which can be used for verification of compliance for exterior grade composite wood products. This list now includes four standards from the Canadian Standards Association (CSA): CSA O121, CSA O151, CSA O153 and CSA O325. HCD updated heating and air-conditioning system design references to the ANSI/ACCA 2 Manual J, ANSI/ACCA 1 Manual D, and ANSI/ACCA 3 Manual S to the most recent versions approved by ANSI. HCD adopted a new elective measure for hot water recirculation systems for water conservation. The United States Department of Energy estimates that 3,600 to 12,000 gallons of water per year can be saved by the typical household (with four points of hot water use) if a hot water recirculation system is installed.

2019 CALGreen Code: During the 2019-2020 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle.

HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the postconstruction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of postconstruction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regard to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through 5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

HCD updated section 5.303.3.3 in regard to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regard to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13. MERV 13 filters are to be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

Executive Order B-29-15

Executive Order B-29-15, mandates a statewide 25 percent reduction in potable water usage. EO B-29-15 signed into law on April 1, 2015.

Executive Order B-37-16

Executive Order B-37-16, continuing the State's adopted water reductions, was signed into law on May 9, 2016. The water reductions build off the mandatory 25 percent reduction called for in EO B-29-15.

Executive Order N-79-20

Executive Order N-79-20 Signed in September 2020, Executive Order N-79-20 establishes as a goal that where feasible, all new passenger cars and trucks, as well as all drayage/cargo trucks and off-road vehicles and equipment, sold in California, will be zero-emission by 2035. The executive order sets a similar goal requiring that all medium and heavy-duty vehicles will be zero-emission by 2045 where feasible. It also directs CARB to develop and propose rulemaking for passenger vehicles and trucks, medium-and heavy-duty fleets where feasible, drayage trucks, and off-road vehicles and equipment "requiring increasing volumes" of new zero emission vehicles (ZEVs) "towards the target of 100 percent." The executive order directs the California Environmental Protection Agency, the California Geologic Energy Management Division (CalGEM), and the California Natural Resources Agency to transition and repurpose oil production facilities with a goal toward meeting carbon neutrality by 2045. Executive Order N-79-20 builds upon the CARB Advanced Clean Trucks regulation, which was adopted by CARB in July 2020.

SBX1 2

Signed into law in April 2011, SBX1 2, requires one-third of the State's electricity to come from renewable sources. The legislation increases California's current 20 percent renewables portfolio standard target in 2010 to a 33 percent renewables portfolio standard by December 31, 2020.

Senate Bill 350

Signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

Energy Sector and CEQA Guidelines Appendix F

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically (typically every three years) to allow for the consideration and inclusion of new energy efficiency technologies and methods. The 2016 update to the Energy Efficiency Standards for Residential and Nonresidential Buildings focuses on several key areas to improve the energy efficiency of renovations and addition to existing buildings as well as newly constructed buildings and renovations and additions to existing buildings. The major efficiency improvements to the residential Standards involve improvements for attics, walls, water heating, and lighting, whereas the major efficiency improvements to the nonresidential Standards include alignment with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2013

national standards. Furthermore, the 2016 update required that enforcement agencies determine compliance with CCR, Title 24, Part 6 before issuing building permits for any construction.[17]

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."[18] As of January 1, 2011, the CALGreen Code is mandatory for all new buildings constructed in the state. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code was most recently updated in 2019 to include new mandatory measures for residential and nonresidential uses; the new measures took effect on January 1, 2020.

Regional – South Coast Air Quality Management District

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

SCAQMD Regulation XXVII, Climate Change

SCAQMD Regulation XXVII currently includes three rules:

- The purpose of Rule 2700 is to define terms and post global warming potentials.
- The purpose of Rule 2701, SoCal Climate Solutions Exchange, is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified greenhouse gas emission reductions in the SCAQMD.
- Rule 2702, Greenhouse Gas Reduction Program, was adopted on February 6, 2009. The purpose of this rule is to create a Greenhouse Gas Reduction Program for greenhouse gas emission reductions in the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

A variety of agencies have developed greenhouse gas emission thresholds and/or have made recommendations for how to identify a threshold. However, the thresholds for projects in the jurisdiction of the SCAQMD remain in flux. The California Air Pollution Control Officers Association explored a variety of threshold approaches but did not recommend one approach (2008). The ARB recommended approaches for setting interim significance thresholds (California Air Resources Board 2008b), in which a draft industrial project threshold suggests that non-transportation related emissions under 7,000 MTCO2e per year would be less than significant; however, the ARB has not approved those thresholds and has not published anything since then. The SCAQMD is in the process of developing thresholds, as discussed below.

SCAQMD Threshold Development

On December 5, 2008, the SCAQMD Governing Board adopted an interim greenhouse gas significance threshold for stationary sources, rules, and plans where the SCAQMD is lead agency (SCAQMD permit threshold). The SCAQMD permit threshold consists of five tiers. However, the SCAQMD is not the lead agency for this project. Therefore, the five permit threshold tiers do not apply to the proposed project.

[17] California Energy Commission, 2016 Building Energy Efficiency Standards, June 2015, http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf.

[18] California Building Standards Commission, 2010 California Green Building Standards Code, (2010).

The SCAQMD is in the process of preparing recommended significance thresholds for greenhouse gases for local lead agency consideration ("SCAQMD draft local agency threshold"); however, the SCAQMD Board has not approved the thresholds as of the date of the Notice of Preparation. The current draft thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:
  - All land use types: 3,000 MTCO2e per year
  - Based on land use type: residential: 3,500 MTCO2e per year; commercial: 1,400 MTCO2e per year; or mixed use: 3,000 MTCO2e per year.
  - Based on land type: Industrial (where SCAQMD is the lead agency), 10,000 MTCO2e per year.
- Tier 4 has the following options:
  - Option 1: Reduce emissions from business as usual (BAU) by a certain percentage; this percentage is currently undefined.
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures.
  - Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 MTCO2e/SP/year for projects and 6.6 MTCO2e/SP/year for plans;
  - Option 3, 2035 target: 3.0 MTCO2e/SP/year for projects and 4.1 MTCO2e/SP/year for plans.
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's draft threshold uses the Executive Order S-3-05 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap carbon dioxide concentrations at 450 ppm, thus stabilizing global climate. Specifically, the Tier 3 screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to a CEQA analysis, including a negative declaration, a mitigated negative declaration, or an environmental impact report, which includes analyzing feasible alternatives and imposing feasible mitigation measures. A GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that staff estimates that these GHG emissions would account for slightly less than one percent of future 2050 statewide GHG emissions target (85 MMTCO2eq/year). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to BACT for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility.

SCAQMD Working Group

Since neither the CARB nor the OPR has developed GHG emissions threshold, the SCAQMD formed a Working Group to develop significance thresholds related to GHG emissions. 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 10,000 MTCO2e for industrial uses.

In order to assist local agencies with direction on GHG emissions, the SCAQMD organized a working group and adopted Rules 2700, 2701, 2702, and 3002 which are described below.

SCAQMD Rules 2700 and 2701

The SCAQMD adopted Rules 2700 and 2701 on December 5, 2008, which establishes the administrative structure for a voluntary program designed to quantify GHG emission reductions. Rule 2700 establishes definitions for the various terms used in Regulation XXVII – Global Climate Change. Rule 2701 provides specific protocols for private parties to follow to generate certified GHG emission reductions for projects within the district. Approved protocols include forest projects, urban tree planting, and manure management. The SCAQMD is currently developing additional protocols for other reduction measures. For a GHG emission reduction project to qualify, it must be verified and certified by the SCAQMD Executive Officer, who has 60 days to approve or deny the Plan to reduce GHG emissions. Upon approval of the Plan, the Executive Officer issues required to issue a certified receipt of the GHG emission reductions within 90 days.

SCAQMD Rule 2702

The SCAQMD adopted Rule 2702 on February 6, 2009, which establishes a voluntary air quality investment program from which SCAQMD can collect funds from parties that desire certified GHG emission reductions, pool those funds, and use them to purchase or fund GHG emission reduction projects within two years, unless extended by the Governing Board. Priority will be given to projects that result in co-benefit emission reductions of GHG emissions and criteria or toxic air pollutants within environmental justice areas. Further, this voluntary program may compete with the cap-and-trade program identified for implementation in CARB's Scoping Plan, or a federal cap and trade program.

SCAQMD Rule 3002

The SCAQMD amended Rule 3002 on November 5, 2010 to include facilities that emit greater than 100,000 tons per year of CO_2e are required to apply for a Title V permit by July 1, 2011. A Title V permit is for facilities that are considered major sources of emissions.

Local – City of Yucaipa

City of Yucaipa Climate Action Plan

The City adopted the City of Yucaipa Climate Action Plan (CAP) in September 2015. The CAP presents the greenhouse gas (GHG) inventories, identifies the effectiveness of California initiatives to reduce GHG emissions, and identifies local measures that were selected by the City to reduce GHG emissions under the City's jurisdictional control to achieve the City's identified GHG reduction target. The City of Yucaipa participated in the San Bernardino County Regional Greenhouse Gas Reduction Plan which presents the collective results of all local efforts to reduce GHG emissions consistent with statewide GHG targets expressed in Assembly Bill (AB) 32, the "Global Warming Solutions Act of 2006" and Senate Bill (SB) 375. Yucaipa used the technical information within the San Bernardino County Regional Greenhouse Gas Reduction Plan in the development of the CAP. The City has selected a goal to reduce their community GHG emissions by 15% below 2008 baseline levels by the year 2020.

That CAP states that a threshold level of 3,000 MTCO2e per year will be used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions.

Appendix C of the CAP includes screening tables to be used by the City for review of development projects in order to ensure that the specific reduction strategies in the CAP are implemented as part of the CEQA process. The Screening Tables provide a menu of options that both ensures implementation of the reduction strategies and flexibility on how development projects will implement the reduction strategies to achieve an overall reduction of emissions, consistent with the reduction target of the CAP. The Screening Tables assigns points for each option incorporated into a project as mitigation or a project design feature (collectively referred to as "feature"). The point values correspond to the minimum emissions reduction expected from each feature. The menu of features allows maximum flexibility and options for how development projects can implement the GHG reduction measures. The point levels are based upon improvements compared to 2008 emission levels of efficiency. Projects that garner at least 100 points will be consistent with the reduction quantities anticipated in the City's CAP. As such, those projects that garner a total of 100 points or greater would not require quantification of project specific GHG emissions. Consistent with CEQA Guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.

City of Yucaipa General Plan

The Public Safety Element of the City of Yucaipa General Plan establishes goals and policies to reduce greenhouse gases in the City. Applicable goals and policies include:

Goal S-7 Air Quality and Climate Change. Clean and healthful air resources that promotes public health, protects the natural environment, and mitigates local impacts to climate change.

Policy S-7.5 Energy Usage. Support the reduction and conservation of energy usage in residential and nonresidential buildings through adoption of building codes, promotion of energy-saving equipment, solar power, and other technology.

Policy S-7.6 Greenhouse Gas Reductions. Reduce communitywide greenhouse gas emissions locally through the implementation of Yucaipa's Climate Action Plan; actively support regional efforts to reduce greenhouse gases throughout the county.

Policy S-7.7 Open Spaces Preservation. Continue to preserve and protect Yucaipa's open natural spaces, maintain a community forest, and plant public landscaping to help filter air pollutants and improve air quality.

SIGNIFICANCE THRESHOLDS

Appendix G of State CEQA Guidelines

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase (or reduce) GHG emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
- The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions.[19]

[19] The Governor's Office of Planning and Research recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Thresholds of Significance for this Project

To determine whether the project's GHG emissions are significant, this analysis uses the SCAQMD draft screening threshold of 3,000 MTCO2e per year for all land uses.

METHODOLOGY

The proposed project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, waste, water, and construction equipment. The following provides the methodology used to calculate the project-related GHG emissions and the project impacts. Additionally, the proposed GPA, under the RM-24 designation, could also allow for the property to develop up to a maximum of 120 units of non-age restricted use. Analysis for this project alternative has also been included.

CalEEMod Version 2020.4.0 was used to calculate the GHG emissions from the proposed project. The CalEEMod Annual Output for year 2023 for both the project and the alternative are available in Appendix C. Each source of GHG emissions is described in greater detail below.

Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. No changes were made to the default area source emissions.

Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips from the LOS & VMT Screening Analysis into the CalEEMod Model. The alternative analysis was based on the CalEEMod default trip generation rates for mid-rise apartments (ITE 221). The program then applies the emission factors for each trip which is provided by the EMFAC2017 model to determine the vehicular traffic pollutant emissions. See Section 2 for details.

Waste

Waste includes the GHG emissions generated from the processing of waste from the proposed project as well as the GHG emissions from the waste once it is interred into a landfill. AB 341 requires that 75 percent of waste be diverted from landfills by 2020, reductions for this are shown in the mitigated CalEEMod output values. No other changes were made to the default waste parameters.

Water

Water includes the water used for the interior of the building as well as for landscaping and is based on the GHG emissions associated with the energy used to transport and filter the water. No changes were made to the default water usage parameters.

Construction

The construction-related GHG emissions were also included in the analysis and were based on a 30-year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009.

The construction-related GHG emissions were calculated by CalEEMod and in the manner detailed above in Section 2.

PROJECT GREENHOUSE GAS EMISSIONS

The GHG emissions have been calculated based on the parameters described above. A summary of the results is shown below in Table 11 and the CalEEMod Model run for the proposed project is provided in Appendix C. Table 11 shows that the total for the proposed project's emissions (without credit for any reductions from sustainable design and/or regulatory requirements) would be 1,072.28 MTCO2e per year. As detailed in Table 11a, the alternative analysis showed that if a maximum of 120 units of non-age restricted were constructed instead, the GHG emissions would be 1,047.47 MTCO2e per year. According to the thresholds of significance established above, a cumulative global climate change impact would occur if the GHG emissions created from the on-going operations of the proposed project would exceed the SCAQMD draft threshold of 3,000 $MTCO_2e$ per year for all land uses. Therefore, operation of the proposed project would not create a significant cumulative impact to global climate change. No mitigation is required.

Table 11
Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year)					
	Bio-CO2	NonBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Area Sources[1]	0.00	34.95	34.95	0.00	0.00	35.20
Energy Usage[2]	0.00	224.09	224.09	0.01	0.00	225.34
Mobile Sources[3]	0.00	656.07	656.07	0.04	0.03	666.89
Waste[4]	27.79	0.00	27.79	1.64	0.00	68.84
Water[5]	3.10	34.71	37.81	0.32	0.01	48.19
Construction[6]	0.00	27.45	27.45	0.00	0.00	27.82
Total Emissions	30.89	977.27	1,008.15	2.02	0.05	1,072.28
SCAQMD Draft Screening Threshold						3,000
Exceeds Threshold?						No

Notes:
Source: CalEEMod Version 2020.4.0 for Opening Year 2023.
(1) Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.
(2) Energy usage consist of GHG emissions from electricity and natural gas usage.
(3) Mobile sources consist of GHG emissions from vehicles.
(4) Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.
(5) Water includes GHG emissions from electricity used for transport of water and processing of wastewater.
(6) Construction GHG emissions CO2e based on a 30 year amortization rate.

Table 11a
Project-Related Greenhouse Gas Emissions for Alternative

Category	Greenhouse Gas Emissions (Metric Tons/Year)					
	Bio-CO2	NonBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Area Sources[1]	0.00	27.96	27.96	0.00	0.00	28.16
Energy Usage[2]	0.00	180.00	180.00	0.01	0.00	181.00
Mobile Sources[3]	0.00	733.59	733.59	0.04	0.04	745.68
Waste[4]	11.21	0.00	11.21	0.66	0.00	27.76
Water[5]	2.48	27.77	30.25	0.26	0.01	38.55
Construction[6]	0.00	25.97	25.97	0.00	0.00	26.32
Total Emissions	13.69	995.28	1,008.96	0.98	0.05	1,047.47
SCAQMD Draft Screening Threshold						3,000
Exceeds Threshold?						No

Notes:

Source: CalEEMod Version 2020.4.0 for Opening Year 2023.

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

(2) Energy usage consist of GHG emissions from electricity and natural gas usage.

(3) Mobile sources consist of GHG emissions from vehicles.

(4) Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.

(5) Water includes GHG emissions from electricity used for transport of water and processing of wastewater.

(6) Construction GHG emissions CO2e based on a 30 year amortization rate.

Consistency With Applicable Greenhouse Gas Reduction Plans and Policies

The proposed project would have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. As stated previously, the applicable plan for the proposed project is the City of Yucaipa CAP; however, the City's CAP thresholds are based on the year 2020 and the proposed project is to be operational in 2023. Therefore, to determine consistency with applicable greenhouse gas plans, the project has been compared to both the City's CAP as well as the CARB Scoping Plan.

City of Yucaipa CAP

As stated in the CAP, the procedures for evaluating GHG impacts and determining significance for CEQA purposes are streamlined by (1) applying an emissions level that is determined to be less than significant for small projects, and (2) utilizing Screening Tables to mitigate project GHG emissions that exceed the threshold level. The CAP uses a threshold level of 3,000 MTCO2e per year to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions.

As shown above in Table 11 the proposed project's emissions would not exceed 3,000 MTCO2e per year. Therefore, the project is consistent with the City of Yucaipa CAP and does not need to accrue points through the CAP's Screening Tables.

Scoping Plan

Emission reductions in California alone would not be able to stabilize the concentration of greenhouse gases in the earth's atmosphere. However, California's actions set an example and drive progress towards a reduction in greenhouse gases elsewhere. If other states and countries were to follow California's emission reduction targets, this could avoid medium or higher ranges of global temperature increases. Thus, severe consequences of climate change could also be avoided.

The ARB Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State's strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan "proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health" (California Air Resources Board 2008). The measures in the Scoping Plan have been in place since 2012.

This Scoping Plan calls for an "ambitious but achievable" reduction in California's greenhouse gas emissions, cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 10 percent from today's levels. On a per-capita basis, that means reducing annual emissions of 14 tons of carbon dioxide for every man, woman and child in California down to about 10 tons per person by 2020.

In May 2014, CARB released its *First Update to the Climate Change Scoping Plan* (CARB 2014). This *Update* identifies the next steps for California's leadership on climate change. While California continues on its path to meet the near-term 2020 greenhouse gas limit, it must also set a clear path toward long-term, deep GHG emission reductions. This report highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050.

In November 2017, CARB release the 2017 Scoping Plan. This Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts and identifies new policies and actions to accomplish the State's climate goals, and includes a description of a suite of specific actions to meet the State's 2030 GHG limit. In addition, Chapter 4 provides a broader description of the many actions and proposals being explored across the sectors, including the natural resources sector, to achieve the State's mid and long-term climate goals.

Guided by legislative direction, the actions identified in the 2017 Scoping Plan reduce overall GHG emissions in California and deliver policy signals that will continue to drive investment and certainty in a low carbon economy. The 2017 Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Plan includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and Trade Program, which constrains and reduces emissions at covered sources.

As the latest, 2017 Scoping Plan builds upon previous versions, project consistency with applicable strategies of both the 2008 and 2017 Plan are assessed in Table 12. As shown in Table 12, the project is consistent with the applicable strategies and would result in a less than significant impact.

At a level of 1,071.52 $MTCO_2e$ per year, the project's GHG emissions do not exceed the SCAQMD threshold of 3,000 MTCO2e per year for all land uses and would be in compliance with the reduction goals of the City's CAP, CARB Scoping Plan, AB-32 and SB-32. Furthermore, the project will comply with applicable Green Building Standards and City of Yucaipa's policies regarding sustainability (as dictated by the City's General Plan). Impacts are considered to be less than significant.

Table 12 (1 of 2)
Project Consistency with CARB Scoping Plan Policies and Measures

2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions	Project Compliance with Measure
California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	Consistent. The project will be compliant with the current Title 24 standards.
Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases.	Consistent. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project that are required to comply with the measures will comply with the strategy.
Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Consistent. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The project will be required to comply with City programs, such as any City recycling and waste reduction programs, which comply, with the 75 percent reduction required by 2020 per AB 341.
Water – Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. The project will comply with all applicable City ordinances and CAL Green requirements.

Table 12 (2 of 2)
Project Consistency with CARB Scoping Plan Policies and Measures

2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	Consistent. The project will be compliant with the current Title 24 standards.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	Consistent. The project will be required to comply with City programs, such as any City recycling and waste reduction programs, which comply, with the 75 percent reduction required by 2020 per AB 341.

Source: CARB Scoping Plan (2008 and 2017)

CUMULATIVE GREENHOUSE GAS IMPACTS

Although the project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. Therefore, in the case of global climate change, the proximity of the project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective."[20] The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

The state has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. Consistent with CEQA Guidelines Section 15064h(3),[21] the City, as lead agency, has determined that the project's contribution to cumulative GHG emissions and global climate change would be less than significant if the project is consistent with the applicable regulatory plans and policies to reduce GHG emissions.

As discussed in the Consistency With Applicable Greenhouse Gas Reduction Plans and Policies section above, the project is consistent with the goals and objectives of the City of Yucaipa CAP and the CARB Scoping Plan.

Thus, given the project's consistency with the City's CAP, CARB Scoping Plan, and SCAQMD's 3,000 MTCO2e per year threshold for all land uses, the project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Given this consistency, it is concluded that the project's incremental contribution to greenhouse gas emissions and their effects on climate change would not be cumulatively considerable.

[20] Source: California Air Pollution Control Officers Association, CEQA & Climate change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, (2008).

[21] The State CEQA Guidelines were amended in response to SB 97. In particular, the State CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction program renders a cumulative impact insignificant. Per State CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions."

4. ENERGY ANALYSIS

EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the project area and region.

Overview

California's estimated annual energy use as of 2019 included:

- Approximately 277,704 gigawatt hours of electricity;[22]
- Approximately 2,154,030 million cubic feet of natural gas per year;[23] and
- Approximately 23.2 billion gallons of transportation fuel (for the year 2015).[24]

As of 2018, the year of most recent data currently available by the United States Energy Information Administration (EIA), energy use in California by demand sector was:

- Approximately 39.1 percent transportation;
- Approximately 23.5 percent industrial;
- Approximately 18.3 percent residential; and
- Approximately 19.2 percent commercial.[25]

California's electricity in-state generation system generates approximately 200,475 gigawatt-hours each year. In 2019, California produced approximately 72 percent of the electricity it uses; the rest was imported from the Pacific Northwest (approximately 9 percent) and the U.S. Southwest (approximately 19 percent). Natural gas is the main source for electricity generation at approximately 42.97 percent of the total in-state electric generation system power as shown in Table 13.

A summary of and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- California was the seventh-largest producer of crude oil among the 50 states in 2018, and, as of January 2019, it ranked third in oil refining capacity.
- California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation's jet fuel consumption in 2018.
- California's total energy consumption is the second-highest in the nation, but, in 2018, the State's per capita energy consumption ranked the fourth-lowest, due in part to its mild climate and its energy efficiency programs.
- In 2018, California ranked first in the nation as a producer of electricity from solar, geothermal, and biomass resources and fourth in the nation in conventional hydroelectric power generation.
- In 2018, large- and small-scale solar PV and solar thermal installations provided 19% of California's net electricity generation.[26]

[22] California Energy Commission. Energy Almanac. Total Electric Generation. [Online] 2020. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation.

[23] Natural Gas Consumption by End Use. U.S. Energy Information Administration. [Online] August 31, 20020. https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm.

[24] California Energy Commission. Revised Transportation Energy Demand Forecast 2018-2030. [Online] April 19, 2018. https://www.energy.ca.gov/assessments/.

[25] U.S. Energy Information Administration. California Energy Consumption by End-Use Sector. California State Profile and Energy Estimates.[Online] January 16, 2020 https://www.eia.gov/state/?sid=CA#tabs-2.

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient. Given the nature of the proposed project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity and natural gas, and transportation fuel for vehicle trips associated with the proposed project.

Electricity

Electricity would be provided to the project by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons, within a service area encompassing approximately 50,000 square miles.[27] SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers.[28]

Table 14 identifies SCE's specific proportional shares of electricity sources in 2019. As shown in Table 14, the 2019 SCE Power Mix has renewable energy at 35 percent of the overall energy resources, of which biomass and waste is at 1 percent, geothermal is at 8 percent, eligible hydroelectric is at 1 percent, solar energy is at 16 percent, and wind power is at 12 percent; other energy sources include large hydroelectric at 8 percent, natural gas at 16 percent, nuclear at 8 percent and unspecified sources at 33 percent.

Natural Gas

Natural gas would be provided to the project by Southern California Gas (SoCalGas). The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (CPUC).

The CPUC regulates natural gas utility service for approximately 11 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller investor-owned natural gas utilities. The CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.

The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.

The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing.

Most of the natural gas used in California comes from out-of-state natural gas basins. In 2017, for example, California utility customers received 38% of their natural gas supply from basins located in the U.S. Southwest, 27% from Canada, 27% from the U.S. Rocky Mountain area, and 8% from production located in California."[29]

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[26] State Profile and Energy Estimates. Independent Statistics and Analysis. [Online] [Cited: January 16, 2020.] http://www.eia.gov/state/?sid=CA#tabs2.

[27] https://www.sce.com/about-us/who-we-are/leadership/our-service-territory.

[28] California Energy Commission. Utility Energy Supply plans from 2015. https://www.energy.ca.gov/almanac/electricity_data/supply_forms.html.

[29] California Public Utilities Commission. Natural Gas and California. http://www.cpuc.ca.gov/natural_gas/.

Transportation Energy Resources

The project would attract additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. Gasoline (and other vehicle fuels) are commercially provided commodities and would be available to the project patrons and employees via commercial outlets.

The most recent data available shows the transportation sector emits 40 percent of the total greenhouse gases in the state and about 84 percent of smog-forming oxides of nitrogen (NOx).[30,31] About 28 percent of total United States energy consumption in 2019 was for transporting people and goods from one place to another. In 2019, petroleum comprised about 91 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels.[32] In 2020, about 123.49 billion gallons (or about 2.94 billion barrels) of finished motor gasoline were consumed in the United States, an average of about 337 million gallons (or about 8.03 million barrels) per day.[33]

Regulatory Background

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the California Energy Commissions (CEC) are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

Federal Regulations

Corporate Average Fuel Economy (CAFE) Standards

First established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.[34]

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012.[35]

[30] CARB. California Greenhouse Gas Emissions Inventory – 2020 Edition. https://www.arb.ca.gov/cc/inventory/data/data.htm

[31] CARB. 2016 SIP Emission Projection Data. https://www.arb.ca.gov/app/emsinv/2017/emseic1_query.php?F_DIV=-4&F_YR=2012&F_SEASON=A&SP=SIP105ADJ&F_AREA=CA

[32] US Energy Information Administration. Use of Energy in the United States Explained: Energy Use for Transportation. https://www.eia.gov/energyexplained/?page=us_energy_transportation

[33] https://www.eia.gov/tools/faqs/faq.php?id=23&t=10

[34] https://www.nhtsa.gov/lawsregulations/corporate-average-fuel-economy.

[35] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/safer-affordable-fuel-efficient-safe-vehicles-final-rule.

Intermodal Surface transportation Efficiency Act of 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of intermodal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

The Transportation Equity Act of the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

State Regulations

Integrated Energy Policy Report (IEPR)

Senate Bill 1389 requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2019 Integrated Energy Policy Report (2019 IEPR) was adopted February 20, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast.[36]

State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

[36] California Energy Commission. Final 2019 Integrated Energy Policy Report. February 20, 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report.

California Building Standards Code (Title 24)

The California Building Standards Code Title 24 was previously discussed in Section 3 of this report.

California Building Energy Efficiency Standards (Title 24, Part 6)

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The current California Building Energy Efficiency Standards (Title 24 standards) are the 2019 Title 24 standards, which became effective on January 1, 2020. The 2019 Title 24 standards include efficiency improvements to the lighting and efficiency improvements to the non-residential standards include alignment with the American Society of Heating and Air-Conditioning Engineers. For example, window operation is no longer a method allowed to meet ventilation requirements, continuous operation of central forced air system handlers used in central fan integrated ventilation system is not a permissible method of providing the dwelling unit ventilation airflow, and central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow to each dwelling unit. In addition, requirements for kitchen range hoods were also provided in the updated Section 120.1. Ventilation and Indoor Air Quality included both additions and revisions in the 2019 Code. This section now requires nonresidential and hotel/motel buildings to have air filtration systems that use forced air ducts to supply air to occupiable spaces to have air filters. Further, the air filter efficiency must be either MERV 13 or use a particle size efficiency rating specific in the Energy Code AND be equipped with air filters with a minimum 2-inch depth or minimum 1-inch depth if sized according to the equation 120.1-A. If natural ventilation is to be used the space must also use mechanical unless ventilation openings are either permanently open or controlled to stay open during occupied times.

New regulations were also adopted under Section 130.1 Indoor Lighting Controls. These included new exceptions being added for restrooms, the exception for classrooms being removed, as well as exceptions in regard to sunlight provided through skylights and overhangs.

All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately 7 percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

California Building Energy Efficiency Standards (Title 24, Part 11)

The 2019 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, went into effect on January 1, 2020. The 2019 CALGreen Code includes mandatory measures for non-residential development related to site development; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality.

As previously discussed in Section 3 of this report, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle. HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the postconstruction requirement detailed in the applicable National Pollutant Discharge Elimination System

(NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of postconstruction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regard to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through 5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

HCD updated section 5.303.3.3 in regard to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regard to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13. MERV 13 filters are to be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

Senate Bill 100

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 350

As previously discussed in Section 3 of this report, Senate Bill 350 (SB 350) was signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their

customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

Assembly Bill 32

As discussed in Section 3 of this report, in 2006 the California State Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012. Emission reductions shall include carbon sequestration projects that would remove carbon from the atmosphere and best management practices that are technologically feasible and cost effective. Please see Section 3 for further detail on AB 32.

Assembly Bill 1493/Pavley Regulations

As discussed in Section 3 of this report, California Assembly Bill 1493 enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for CO_2 and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009.

Executive Order S-1-07/Low Carbon Fuel Standard

As discussed in Section 3 of this report, Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The low carbon fuel standard is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

California Air Resources Board

CARB's Advanced Clean Cars Program

Closely associated with the Pavley regulations, the Advanced Clean Cars emissions control program was approved by CARB in 2012. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles for model years 2015–2025.15 The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.[37]

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

The Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Title 13, California Code of Regulations, Division 3, Chapter 10, Section 2435) was adopted to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles. This section applies to diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. Reducing idling of diesel-fueled commercial motor vehicles reduces the amount of petroleum-based fuel used by the vehicle.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen, and other Criteria Pollutants, form In-Use Heavy-Duty Diesel-Fueled Vehicles

The Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles (Title 13, California Code of Regulations, Division 3, Chapter 1, Section 2025) was adopted to reduce emissions of diesel particulate matter, oxides of nitrogen (NOX) and other criteria pollutants from in-use diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. The newer emission-controlled models would use petroleum-based fuel in a more efficient manner.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or Senate Bill 375 (SB 375), coordinates land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction mandates established in AB 32.

As previously stated in Section 3 of this report, Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

[37] California Air Resources Board, California's Advanced Clean Cars Program, January 18, 2017. www.arb.ca.gov/msprog/acc/acc.htm.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. These reduction targets became effective October 2018.

Local Regulations

City of Yucaipa General Plan

The Public Services and Facilities Element of the City of Yucaipa General Plan establishes goals and policies related to energy conservation in the City. Applicable goals and policies include:

Goal PSF-8 Energy and Conservation. Reliable, adequate, and safe provision of electric, natural gas, telecommunications, and other similar infrastructure for Yucaipa residents and business.

Policy PSF-8.1 Reliable Energy. Work with local utility companies to ensure the reliable provision of electricity and natural gas services for existing and newly developing areas and to minimize rolling shortages and blackouts.

Policy PSF-8.2 Renewable Energy. Encourage the use of renewable energy sources (e.g., solar and other technologies) through demonstration projects at public facilities and development or financial incentives, where feasible.

Project Energy Demands and Energy Efficiency Measures

Evaluation Criteria

In compliance with Appendix G of the State CEQA Guidelines, this report analyzes the project's anticipated energy use to determine if the project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In addition, Appendix F of the State CEQA Guidelines states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

Methodology

Information from the CalEEMod 2020.4.0 Daily and Annual Outputs contained in Appendix B and D, utilized for air quality and greenhouse gas analyses in Sections 2 and 3 of this report, were also utilized for this analysis. The CalEEMod outputs detail project related construction equipment, transportation energy demands, and facility energy demands.

Construction Energy Demands

The construction schedule is anticipated to occur no sooner than the beginning of February 2022 through the end of August 2023 and be completed in one phase. Staging of construction vehicles and equipment will

occur on-site. The approximately eighteen-month schedule is relatively short and the project site is approximately 4.75 acres.

Construction Equipment Electricity Usage Estimates

As stated previously, Electrical service will be provided by Southern California Edison. The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed project. Based on the 2017 National Construction Estimator, Richard Pray (2017),[38] the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.32. The project plans to develop the site with 150 senior housing dwelling units totaling up to approximately 140,000 square feet. Based on Table 15, the total power cost of the on-site electricity usage during the construction of the proposed project is estimated to be approximately $5,846.40. Furthermore, as of May 14, 2021, SCE's general service rate schedule (GS-1) is approximately $0.11 per kWh of electricity.[39] As shown in Table 24, the total electricity usage from project construction related activities is estimated to be approximately 53,149 kWh.

Construction Equipment Fuel Estimates

Fuel consumed by construction equipment would be the primary energy resource expended over the course of project construction. Fuel consumed by construction equipment was evaluated with the following assumptions:

- Construction schedule of 18 months.
- All construction equipment was assumed to run on diesel fuel.
- Typical daily use of 8 hours, with some equipment operating from ~6-7 hours.
- Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/gallon (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).
- Diesel fuel would be the responsibility of the equipment operators/contractors and would be sources within the region.
- Project construction represents a "single-event" for diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources during long term operation.

Using the CalEEMod data input for the air quality and greenhouse gas analyses (Sections 2 and 3 of this report), the project's construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2017 Emissions Factors Tables show that on average, aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal. Table 16 shows the results of the analysis of construction equipment.

As presented in Table 16, project construction activities would consume an estimated 53,481 gallons of diesel fuel. As stated previously, project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

Construction Worker Fuel Estimates

It is assumed that construction worker trips are from light duty autos (LDA), light duty truck 1 (LDT1), and light duty truck 2 9LDT2) at a mix of 50 percent/25 percent/25 percent, respectively, along area

[38] Pray, Richard. 2017 National Construction Estimator. Carlsbad : Craftsman Book Company, 2017.

[39] Southern California Edison (SCE). Rates & Pricing Choices: General Service/Industrial Rates. https://library.sce.com/content/dam/sce-doclib/public/regulatory/tariff/electric/schedules/general-service-&-industrial-rates/ELECTRIC_SCHEDULES_GS-1.pdf.

roadways.[40] With respect to estimated VMT, the construction worker trips would generate an estimated 824,141 VMT. Data regarding project related construction worker trips were based on CalEEMod 2020.4.0 model defaults.

Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analyses (Sections 2 and 3 of this report) using information generated using CARB's 2021 EMFAC model (see Appendix D for details). An aggregate fuel efficiency of 26.38 miles per gallon (mpg) was used to calculate vehicle miles traveled for construction worker trips. Table 17 shows that an estimated 31,241 gallons of fuel would be consumed for construction worker trips.

Construction Vendor/Hauling Fuel Estimates

Table 18 and Table 19 show the estimated fuel consumption for vendor and hauling during building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 214,274 VMT. Data regarding project related construction worker trips were based on CalEEMod 2020.4.0 model defaults.

For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles. Therefore, vendors delivering construction material or hauling debris from the site during grading would use medium to heavy duty vehicles with an average fuel consumption of 7.59 mpg for medium heavy-duty trucks and 5.87 for heavy heavy-duty trucks (see Appendix D for details).[41] Tables 18 and 19 show that an estimated 34,533 gallons of fuel would be consumed for vendor and hauling trips.

Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately eighteen-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

The project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with these measures would result in a more efficient use of construction-related energy and would minimize or eliminate wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additionally, as required by California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby minimizing or eliminating unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by County building officials, and/or in response to citizen complaints.

[40] CalEEMod User's Guide (May 2021) states that the CalEEMod default fleet mix for worker trips includes light duty autos and light duty trucks, LDA, LDT1, LDT2, at a mix of 50%/25%/25%, respectively.

[41] CalEEMod User's Guide (May 2021) states that the CalEEMod default fleet mix for vendor trips includes medium-heavy duty and heavy-heavy duty trucks, MHDT and HHDT, at a mix of 50%/50%.

Operational Energy Demands

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Transportation Fuel Consumption

Using the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 3 of this report), it is assumed that an average trip for autos and light trucks was assumed to be 8.7 miles and 3- 4-axle trucks were assumed to travel an average of 14.7 miles.[42] The project includes the development of the site with senior housing residential uses; therefore, in order to present a worst-case scenario, it was assumed that vehicles would operate 365 days per year. Table 20 shows the estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks.[43]

The proposed project (based on the proposed senior housing use) would generate 555 trips per day. The vehicle fleet mix was used from the CalEEMod output. Table 20 shows that an estimated 79,377 gallons of fuel would be consumed per year for the operation of the proposed project.

Trip generation and VMT generated by the proposed project are consistent with other similar residential uses of similar scale and configuration as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (20th Edition, 2017). That is, the proposed project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. Furthermore, the state of California consumed approximately 4.2 billion gallons of diesel and 15.1 billion gallons of gasoline in 2015.[44,45] Therefore, the increase in fuel consumption from the proposed project is insignificant in comparison to the State's demand. Therefore, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Facility Energy Demands (Electricity and Natural Gas)

Building operation and site maintenance (including landscape maintenance) would result in the consumption of electricity (provided by Southern California Edison) and natural gas (provided by Southern California Gas Company). The annual natural gas and electricity demands were provided per the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 3 of this report) and are provided in Table 21.

As shown in Table 21, the estimated electricity demand for the proposed project (based on the proposed senior housing use) is approximately 614,442 kWh per year. In 2019, the residential sector of the County of San Bernardino consumed approximately 5,054 million kWh of electricity.[46] In addition, the estimated natural gas consumption for the proposed project is approximately 2,157,330 kBTU per year. In 2019, the residential sector of the County of San Bernardino consumed approximately 275million therms of gas.[47] Therefore, the increase in both electricity and natural gas demand from the proposed project is insignificant compared to the County's 2019 residential sector demand.

[42] CalEEMod default distance for H-W (home-work) or C-W (commercial-work) is 14.7 miles; 8.7 miles for H-O (home-other) or C-O (commercial-other).

[43] Average fuel economy based on aggregate mileage calculated in EMFAC 2021 for opening year (2023). See Appendix C for EMFAC output.

[44] https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-gasoline-data-facts-and-statistics.

[45] https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/diesel-fuel-data-facts-and-statistics.

[46] California Energy Commission, Electricity Consumption by County. https://ecdms.energy.ca.gov/elecbycounty.aspx.

[47] California Energy Commission, Gas Consumption by County. http://ecdms.energy.ca.gov/gasbycounty.aspx.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.).

Furthermore, the proposed project energy demands in total would be comparable to other residential projects of similar scale and configuration. Therefore, the project facilities' energy demands and energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Renewable Energy and Energy Efficiency Plan Consistency

Regarding federal transportation regulations, the project site is located in an already developed area. Access to/from the project site is from existing roads. These roads are already in place so the project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by Southern California Edison and Southern California Gas Company.

Regarding Pavley (AB 1493) regulations, an individual project does not have the ability to comply or conflict with these regulations because they are intended for agencies and their adoption of procedures and protocols for reporting and certifying GHG emission reductions from mobile sources. However, the vehicles associated with the proposed project would be required to comply with federal and state fuel efficiency standards.

Regarding the State's Renewable Energy Portfolio Standards, the project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CALGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

As shown in Section 3 above, the proposed project would be consistent with the applicable goals of the City of Yucaipa CAP.

Conclusions

As supported by the preceding analyses, project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy. The proposed project does not include any unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities and is a senior housing residential project that is not proposing any additional features that would require a larger energy demand than other residential projects of similar scale and configuration. The energy demands of the project are anticipated to be accommodated within the context of available resources and energy delivery systems. The project would therefore not cause or result in the need for additional energy producing or transmission facilities. The project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California. Notwithstanding, the project proposes residential uses and will not have any long-term effects on an energy provider's future energy development or future energy conservation strategies.

Table 13
Total Electricity System Power (California 2019)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	Percent of Imports	Total California Energy Mix (GWh)	Total California Power Mix
Coal	248	0.12%	219	7,765	7,985	10.34%	8,233	2.96%
Natural Gas	86,136	42.97%	62	8,859	8,921	11.55%	95,057	34.23%
Nuclear	16,163	8.06%	39	8,743	8,782	11.37%	24,945	8.98%
Oil	36	0.02%	0	0	0	0.00%	36	0.01%
Other (Petroleum Coke/Waste Heat)	411	0.20%	0	11	11	0.01%	422	0.15%
Large Hydro	33,145	16.53%	6,387	1,071	7,458	9.66%	40,603	14.62%
Unspecified Sources of Power	0	0.00%	6,609	13,767	20,376	26.38%	20,376	7.34%
Renewables	64,336	32.09%	10,615	13,081	23,696	30.68%	88,032	31.70%
Biomass	5,851	2.92%	903	33	936	1.21%	6,787	2.44%
Geothermal	10,943	5.46%	99	2,218	2,318	3.00%	13,260	4.77%
Somall Hydro	5,349	2.67%	292	4	296	0.38%	5,646	2.03%
Solar	28,513	14.22%	282	5,295	5,577	7.22%	34,090	12.28%
Wind	13,680	6.82%	9,038	5,531	14,569	18.87%	28,249	10.17%
Total	200,475	100.00%	23,930	53,299	77,229	100.00%	277,704	100.00%

Source: California Energy Commission. 2019 Total System electric Generation. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation

Table 14
SCE 2019 Power Content Mix

Energy Resources	2019 SCE Power Mix
Eligible Renewable	35%
Biomass & Biowaste	1%
Geothermal	6%
Eligible Hydroelectric	1%
Solar	16%
Wind	12%
Coal	0%
Large Hydroelectric	8%
Natural Gas	16%
Nuclear	8%
Other	0%
Unspecified Sources of power*	33%
Total	100%

Notes:

(1) https://www.sce.com/sites/default/files/inline-files/SCE_2019PowerContentLabel.pdf

* Unspecified sources of power means electricity from transactions that are not traceable to specific generation sources.

Table 15
Project Construction Power Cost and Electricity Usage

Power Cost (per 1,000 square foot of building per month of construction)	Total Building Size (1,000 Square Foot)[1]	Construction Duration (months)	Total Project Construction Power Cost
$2.32	140.000	18	$5,846.40

Cost per kWh	Total Project Construction Electricity Usage (kWh)
$0.11	53,149

*Assumes the project will be under the GS-1 General Service rate under SCE.

Table 16
Construction Equipment Fuel Consumption Estimates

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/day	Total Fuel Consumption (gal diesel fuel)[1]
Demolition	27	Concrete/Industrial Saws	1	8	81	0.73	473	690
	27	Excavator	1	8	158	0.38	480	701
	27	Rubber Tired Dozers	2	8	247	0.4	1,581	2,307
Grading	12	Excavator	1	8	158	0.38	480	312
	12	Graders	1	8	187	0.41	613	398
	12	Rubber Tired Dozers	1	8	247	0.4	790	513
	12	Tractors/Loaders/Backhoes	3	8	97	0.37	861	559
Building Construction	305	Cranes	1	7	231	0.29	469	7,731
	305	Forklifts	3	8	89	0.2	427	7,043
	305	Generator Sets	1	8	84	0.74	497	8,198
	305	Tractors/Loaders/Backhoes	3	7	97	0.37	754	12,426
	305	Welders	1	8	46	0.45	166	2,730
Paving	23	Cement and Mortar Mixers	2	6	9	56	6,048	7,519
	23	Pavers	1	8	130	0.42	437	543
	23	Paving Equipment	2	6	132	0.36	570	709
	23	Rollers	2	6	80	0.38	365	454
	23	Tractors/Loaders/Backhoes	1	8	97	0.37	287	357
Architectural Coating	24	Air Compressors	1	6	78	0.48	225	291
CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)								53,481

Notes:

(1) Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp. (Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

Table 17
Construction Worker Fuel Consumption Estimates

Phase	Number of Days	Worker Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition	27	10	14.7	3969	26.38	150
Grading	12	15	14.7	2,646	26.38	100
Building Construction	305	178	14.7	798,063	26.38	30,253
Paving	23	20	14.7	6,762	26.38	256
Architectural Coating	24	36	14.7	12,701	26.38	481
Total Construction Worker Fuel Consumption						31,241

Notes:

(1) Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.

(2) CalEEMod worker vehicle class is based on an LD_Mix, which, per CalEEMod User's Guide (May 2021), inlcudes LDA, LDT1, and LDT2 at a mix of 50%/25%/25%, respectively.

Table 18
Construction Vendor Fuel Consumption Estimates (MHD & HHD Trucks)

Phase	Number of Days	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition	27	0	6.9	0	6.73	0
Grading	12	0	6.9	0	6.73	0
Building Construction	305	43	6.9	90,494	6.73	13,446
Paving	23	0	6.9	0	6.73	0
Architectural Coating	24	0	6.9	0	6.73	0
Total Construction Vendor Fuel Consumption						13,446

Notes:

(1) Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.

(2) CalEEMod vendor vehicle class is based on an HDT_Mix, which, per CalEEMod User's Guide (May 2021), inlcudes HHDT and MHDT at a mix of 50%/50%.

Table 19
Construction Hauling Fuel Consumption Estimates (HHD Trucks)

Phase	Number of Days	Total Hauling Trips	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition	27	7	20	3,780	5.87	644
Grading	12	500	20	120,000	5.87	20,443
Building Construction	305	0	20	0	5.87	0
Paving	23	0	20	0	5.87	0
Architectural Coating	24	0	20	0	5.87	0
Total Construction Hauling Fuel Consumption						21,087

Notes:

(1) Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.

Table 20
Estimated Vehicle Operations Fuel Consumption

Vehicle Type	Vehicle Mix	Number of Vehicles	Average Trip (miles)[1]	Daily VMT	Average Fuel Economy (mpg)	Total Gallons per Day	Total Annual Fuel Consumption (gallons)
Light Auto	Automobile	299	8.7	2601	29.76	87.41	31,904
Light Truck	Automobile	31	8.7	270	28.21	9.56	3,490
Light Truck	Automobile	96	8.7	835	23.05	36.23	13,226
Medium Truck	Automobile	78	8.7	679	19.28	35.20	12,847
Light Heavy Truck	2-Axle Truck	15	8.7	131	14.37	9.08	3,315
Light Heavy Truck 10,000 lbs +	2-Axle Truck	4	8.7	35	17.53	1.99	725
Medium Heavy Truck	3-Axle Truck	7	14.7	103	7.69	13.38	4,884
Heavy Heavy Truck	4-Axle Truck	10	14.7	147	5.97	24.62	8,987
Total		555	--	4,800	-	217.47	--
Total Annual Fuel Consumption							79,377

Notes:

(1) Based on the size of the site, relative location and the proposed land use (senior housing), total trips were assumed to be local rather than regional.

Table 21
Project Annual Operational Energy Demand Summary

Natural Gas Demand	kBTU/year[1]
Congregate Care (Assisted Living)	2,157,330
Total	2,157,330

Electricity Demand	kWh/year
Congregate Care (Assisted Living)	594,002
Parking Lot	20,440
Total	614,442

Notes:

(1) Taken from the CalEEMod 2020.4.0 annual output (Appendix C of this report).

5. EMISSIONS REDUCTION MEASURES

CONSTRUCTION MEASURES

Adherence to SCAQMD Rule 403 is required.

No construction mitigation is required.

OPERATIONAL MEASURES

No operational mitigation is required.

6. REFERENCES

California Air Resources Board

2008 Resolution 08-43.

2008 Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act.

2008 ARB Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk – Frequently Asked Questions.

2008 Climate Change Scoping Plan, a framework for change.

2011 Supplement to the AB 32 Scoping Plan Functional Equivalent Document.

2013 Almanac of Emissions and Air Quality.
Source: https://www.arb.ca.gov/aqd/almanac/almanac13/almanac13.htm.

2014 First Update to the Climate Change Scoping Plan, Building on the Framework Pursuant to AB32, the California Global Warming Solutions Act of 2006. May.

2017 California's 2017 Climate Change Scoping Plan. November.

2021 Historical Air Quality, Top 4 Summary.

City of Yucaipa

2015 City of Yucaipa Climate Action Plan. September.

2016 City of Yucaipa General Plan. April.

Ganddini Group, Inc.

2021 Fallbrook Meadows Residential Project Level of Service & Vehicle Miles Traveled Screening Analysis. September 7.

Governor's Office of Planning and Research

2008 CEQA and Climate: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review.

2018 CEQA Guideline Sections to be Added or Amended.

Intergovernmental Panel on Climate Change (IPCC).

2014 IPCC Fifth Assessment Report, Climate Change 2014: Synthesis Report.

South Coast Air Quality Management District

1993 CEQA Air Quality Handbook.

2005 Rule 403 Fugitive Dust.

2007 2007 Air Quality Management Plan.

2008 Final Localized Significance Threshold Methodology, Revised.

2012 Final 2012 Air Quality Management Plan.

2016 2016 Air Quality Management Plan.

2021 Historical Data by Year. 2013, 2014 and 2015 Air Quality Data Tables.
Source: http://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year.

Southern California Association of Governments

2016 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy.

U.S. Environmental Protection Agency (EPA)

2017 Understanding Global Warming Potentials.
(Source: https://www.epa.gov/ghgemissions/understanding-global-warming-potentials).

U.S. Geological Survey

2011 Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California.

APPENDICES

Appendix A Glossary

Appendix B CalEEMod Model Daily Emissions Printouts

Appendix C CalEEMod Model Annual Emissions Printouts and EMFAC Data

APPENDIX A

GLOSSARY

AQMP	Air Quality Management Plan
BACT	Best Available Control Technologies
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH_4	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	Diesel particulate matter
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse gas
GWP	Global warming potential
HIDPM	Hazard Index Diesel Particulate Matter
HFCs	Hydrofluorocarbons
IPCC	International Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LST	Localized Significant Thresholds
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NOx	Nitrogen Oxides
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
O_3	Ozone
OPR	Governor's Office of Planning and Research
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SANBAG	San Bernardino Association of Governments
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SSAB	Salton Sea Air Basin
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SOx	Sulfur Oxides
TAC	Toxic air contaminants
VOC	Volatile organic compounds

APPENDIX B

CALEEMOD MODEL DAILY EMISSIONS PRINTOUTS

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Summer

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

19421 Riverwalk Yucaipa Senior Housing Project

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	2.74	Acre	2.74	119,354.40	0
Parking Lot	146.00	Space	1.31	58,400.00	0
Congregate Care (Assisted Living)	150.00	Dwelling Unit	0.97	140,000.00	429

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5.02 ac site w/ 150 senior housing attached DUs [3-story bldg w/ ~42,253 sf (or ~0.97 ac footprint) & bldg total is up to ~140TSF], 146 space parking lot, & remainder of site (~2.74ac) hardscape/landscaping/open space.

Construction Phase - Construction anticipated to begin no sooner than February 1, 2022 and be completed by August 1, 2023.

Off-road Equipment - CalEEMod default construction equipment for demolition reduced as only one residential dwelling unit with associated barn to be demolished.

Trips and VMT -

Demolition - ~1,500 sf of demolition for existing single-family dwelling unit/associated barn structure.

Grading - ~4,000 CY Import during grading.

Vehicle Trips - LOS & VMT Anlaysis, 3.7 trips/DU/day.

Woodstoves - SCAQMD Rule 445 prohibits the installation of wood burning devices in new developments.

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Summer

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

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Site is ~0.37 miles east of Omnitrans Rte 309 stop Fifth at Bella Vista & ~0.93 miles SW of downtown portion of Yucaipa. Sidewalks provided on/off-site.

Water Mitigation - ~20% indoor water reduction per CalGreen Standards. Water-efficient irrigation systems.

Waste Mitigation - AB 341 requires each jurisdiction in CA to divert at least 75% of their waste away from landfills by 2020.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	27.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	230.00	305.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	20.00	24.00
tblFireplaces	NumberGas	127.50	135.00
tblFireplaces	NumberWood	7.50	0.00
tblGrading	MaterialImported	0.00	4,000.00
tblLandUse	LandUseSquareFeet	150,000.00	140,000.00
tblLandUse	LotAcreage	9.38	0.97
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblVehicleTrips	ST_TR	2.93	3.70
tblVehicleTrips	SU_TR	3.15	3.70
tblVehicleTrips	WD_TR	2.60	3.70
tblWoodstoves	NumberCatalytic	7.50	0.00
tblWoodstoves	NumberNoncatalytic	7.50	0.00

2.0 Emissions Summary

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.5597	26.5742	24.6254	0.0557	8.0176	1.1579	9.0190	3.6750	1.0773	4.5985	0.0000	5,698.0861	5,698.0861	1.0472	0.4268	5,851.4552
2023	38.8966	16.3951	23.8074	0.0533	2.3338	0.7217	3.0555	0.6255	0.6791	1.3046	0.0000	5,288.4952	5,288.4952	0.7176	0.1715	5,356.4789
Maximum	**38.8966**	**26.5742**	**24.6254**	**0.0557**	**8.0176**	**1.1579**	**9.0190**	**3.6750**	**1.0773**	**4.5985**	**0.0000**	**5,698.0861**	**5,698.0861**	**1.0472**	**0.4268**	**5,851.4552**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.5597	26.5742	24.6254	0.0557	3.6743	1.1579	4.6756	1.5824	1.0773	2.5059	0.0000	5,698.0861	5,698.0861	1.0472	0.4268	5,851.4552
2023	38.8966	16.3951	23.8074	0.0533	2.3338	0.7217	3.0555	0.6255	0.6791	1.3046	0.0000	5,288.4952	5,288.4952	0.7176	0.1715	5,356.4789
Maximum	**38.8966**	**26.5742**	**24.6254**	**0.0557**	**3.6743**	**1.1579**	**4.6756**	**1.5824**	**1.0773**	**2.5059**	**0.0000**	**5,698.0861**	**5,698.0861**	**1.0472**	**0.4268**	**5,851.4552**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	41.96	0.00	35.97	48.66	0.00	35.45	0.00	0.00	0.00	0.00	0.00	0.00

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Summer

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.7249	2.3822	13.3461	0.0150		0.2496	0.2496		0.2496	0.2496	0.0000	2,881.1389	2,881.1389	0.0763	0.0524	2,898.6653
Energy	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
Mobile	1.9201	2.5005	18.9251	0.0410	4.0048	0.0313	4.0360	1.0681	0.0293	1.0974		4,225.5505	4,225.5505	0.2211	0.1930	4,288.5898
Total	**5.7088**	**5.4274**	**32.5030**	**0.0595**	**4.0048**	**0.3249**	**4.3297**	**1.0681**	**0.3229**	**1.3911**	**0.0000**	**7,802.0401**	**7,802.0401**	**0.3107**	**0.2582**	**7,886.7379**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.7249	2.3822	13.3461	0.0150		0.2496	0.2496		0.2496	0.2496	0.0000	2,881.1389	2,881.1389	0.0763	0.0524	2,898.6653
Energy	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
Mobile	1.6787	1.9000	14.0844	0.0291	2.8103	0.0226	2.8329	0.7496	0.0212	0.7707		2,995.4345	2,995.4345	0.1742	0.1462	3,043.3611
Total	**5.4673**	**4.8270**	**27.6622**	**0.0475**	**2.8103**	**0.3163**	**3.1266**	**0.7496**	**0.3148**	**1.0644**	**0.0000**	**6,571.9242**	**6,571.9242**	**0.2639**	**0.2114**	**6,641.5092**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	4.23	11.06	14.89	20.09	29.83	2.66	27.79	29.83	2.51	23.48	0.00	15.77	15.77	15.08	18.12	15.79

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/1/2022	3/9/2022	5	27	
2	Grading	Grading	3/10/2022	3/25/2022	5	12	
3	Building Construction	Building Construction	3/26/2022	5/26/2023	5	305	
4	Paving	Paving	5/27/2023	6/28/2023	5	23	
5	Architectural Coating	Architectural Coating	6/29/2023	8/1/2023	5	24	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 12

Acres of Paving: 4.05

Residential Indoor: 283,500; Residential Outdoor: 94,500; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 10,665 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	2	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

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

Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	500.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	183.00	45.00	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	37.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Summer

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

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0547	0.0000	0.0547	8.2800e-003	0.0000	8.2800e-003			0.0000			0.0000
Off-Road	2.4368	23.9424	17.3389	0.0337		1.1567	1.1567		1.0762	1.0762		3,246.7659	3,246.7659	0.8907		3,269.0339
Total	**2.4368**	**23.9424**	**17.3389**	**0.0337**	**0.0547**	**1.1567**	**1.2114**	**8.2800e-003**	**1.0762**	**1.0845**		**3,246.7659**	**3,246.7659**	**0.8907**		**3,269.0339**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.8000e-004	0.0353	9.2200e-003	1.5000e-004	4.5400e-003	3.7000e-004	4.9100e-003	1.2400e-003	3.6000e-004	1.6000e-003		16.6047	16.6047	7.1000e-004	2.6300e-003	17.4066
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
Worker	0.0551	0.0349	0.5356	1.3400e-003	0.1453	7.6000e-004	0.1461	0.0385	7.0000e-004	0.0392		136.4438	136.4438	3.5500e-003	3.4000e-003	137.5444
Total	**0.0560**	**0.0702**	**0.5448**	**1.4900e-003**	**0.1499**	**1.1300e-003**	**0.1510**	**0.0398**	**1.0600e-003**	**0.0408**		**153.0485**	**153.0485**	**4.2600e-003**	**6.0300e-003**	**154.9509**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Summer

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

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0213	0.0000	0.0213	3.2300e-003	0.0000	3.2300e-003			0.0000			0.0000
Off-Road	2.4368	23.9424	17.3389	0.0337		1.1567	1.1567		1.0762	1.0762	0.0000	3,246.7659	3,246.7659	0.8907		3,269.0339
Total	**2.4368**	**23.9424**	**17.3389**	**0.0337**	**0.0213**	**1.1567**	**1.1781**	**3.2300e-003**	**1.0762**	**1.0794**	**0.0000**	**3,246.7659**	**3,246.7659**	**0.8907**		**3,269.0339**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.8000e-004	0.0353	9.2200e-003	1.5000e-004	4.5400e-003	3.7000e-004	4.9100e-003	1.2400e-003	3.6000e-004	1.6000e-003		16.6047	16.6047	7.1000e-004	2.6300e-003	17.4066
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
Worker	0.0551	0.0349	0.5356	1.3400e-003	0.1453	7.6000e-004	0.1461	0.0385	7.0000e-004	0.0392		136.4438	136.4438	3.5500e-003	3.4000e-003	137.5444
Total	**0.0560**	**0.0702**	**0.5448**	**1.4900e-003**	**0.1499**	**1.1300e-003**	**0.1510**	**0.0398**	**1.0600e-003**	**0.0408**		**153.0485**	**153.0485**	**4.2600e-003**	**6.0300e-003**	**154.9509**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Summer

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

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.1203	0.0000	7.1203	3.4304	0.0000	3.4304			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**7.1203**	**0.9409**	**8.0611**	**3.4304**	**0.8656**	**4.2960**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1576	5.6788	1.4817	0.0245	0.7297	0.0597	0.7893	0.2001	0.0571	0.2572		2,668.6045	2,668.6045	0.1143	0.4229	2,797.4818
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
Worker	0.0635	0.0402	0.6179	1.5500e-003	0.1677	8.8000e-004	0.1685	0.0445	8.1000e-004	0.0453		157.4352	157.4352	4.0900e-003	3.9200e-003	158.7050
Total	**0.2211**	**5.7191**	**2.0996**	**0.0261**	**0.8973**	**0.0605**	**0.9579**	**0.2446**	**0.0579**	**0.3024**		**2,826.0397**	**2,826.0397**	**0.1184**	**0.4268**	**2,956.1869**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Summer

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

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7769	0.0000	2.7769	1.3379	0.0000	1.3379			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**2.7769**	**0.9409**	**3.7178**	**1.3379**	**0.8656**	**2.2035**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1576	5.6788	1.4817	0.0245	0.7297	0.0597	0.7893	0.2001	0.0571	0.2572		2,668.6045	2,668.6045	0.1143	0.4229	2,797.4818
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
Worker	0.0635	0.0402	0.6179	1.5500e-003	0.1677	8.8000e-004	0.1685	0.0445	8.1000e-004	0.0453		157.4352	157.4352	4.0900e-003	3.9200e-003	158.7050
Total	**0.2211**	**5.7191**	**2.0996**	**0.0261**	**0.8973**	**0.0605**	**0.9579**	**0.2446**	**0.0579**	**0.3024**		**2,826.0397**	**2,826.0397**	**0.1184**	**0.4268**	**2,956.1869**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-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

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0784	1.9706	0.7232	8.4000e-003	0.2883	0.0235	0.3118	0.0830	0.0224	0.1055		900.3098	900.3098	0.0243	0.1332	940.6208
Worker	0.7751	0.4909	7.5389	0.0189	2.0455	0.0107	2.0563	0.5425	9.8900e-003	0.5524		1,920.7093	1,920.7093	0.0499	0.0478	1,936.2015
Total	**0.8535**	**2.4614**	**8.2620**	**0.0273**	**2.3338**	**0.0342**	**2.3680**	**0.6255**	**0.0323**	**0.6578**		**2,821.0191**	**2,821.0191**	**0.0743**	**0.1810**	**2,876.8224**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-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 On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0784	1.9706	0.7232	8.4000e-003	0.2883	0.0235	0.3118	0.0830	0.0224	0.1055		900.3098	900.3098	0.0243	0.1332	940.6208
Worker	0.7751	0.4909	7.5389	0.0189	2.0455	0.0107	2.0563	0.5425	9.8900e-003	0.5524		1,920.7093	1,920.7093	0.0499	0.0478	1,936.2015
Total	**0.8535**	**2.4614**	**8.2620**	**0.0273**	**2.3338**	**0.0342**	**2.3680**	**0.6255**	**0.0323**	**0.6578**		**2,821.0191**	**2,821.0191**	**0.0743**	**0.1810**	**2,876.8224**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-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 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.5784	0.6623	8.0500e-003	0.2883	0.0119	0.3002	0.0830	0.0114	0.0944		863.6318	863.6318	0.0226	0.1275	902.2015
Worker	0.7156	0.4318	6.9011	0.0183	2.0455	0.0101	2.0556	0.5425	9.3000e-003	0.5518		1,869.6534	1,869.6534	0.0447	0.0440	1,883.8714
Total	**0.7682**	**2.0102**	**7.5634**	**0.0263**	**2.3338**	**0.0220**	**2.3558**	**0.6255**	**0.0207**	**0.6461**		**2,733.2852**	**2,733.2852**	**0.0672**	**0.1715**	**2,786.0728**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-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 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.5784	0.6623	8.0500e-003	0.2883	0.0119	0.3002	0.0830	0.0114	0.0944		863.6318	863.6318	0.0226	0.1275	902.2015
Worker	0.7156	0.4318	6.9011	0.0183	2.0455	0.0101	2.0556	0.5425	9.3000e-003	0.5518		1,869.6534	1,869.6534	0.0447	0.0440	1,883.8714
Total	**0.7682**	**2.0102**	**7.5634**	**0.0263**	**2.3338**	**0.0220**	**2.3558**	**0.6255**	**0.0207**	**0.6461**		**2,733.2852**	**2,733.2852**	**0.0672**	**0.1715**	**2,786.0728**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-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

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.1492					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1820**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0587	0.0354	0.5657	1.5000e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		153.2503	153.2503	3.6600e-003	3.6000e-003	154.4157
Total	**0.0587**	**0.0354**	**0.5657**	**1.5000e-003**	**0.1677**	**8.3000e-004**	**0.1685**	**0.0445**	**7.6000e-004**	**0.0452**		**153.2503**	**153.2503**	**3.6600e-003**	**3.6000e-003**	**154.4157**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-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 On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.1492					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1820**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0587	0.0354	0.5657	1.5000e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		153.2503	153.2503	3.6600e-003	3.6000e-003	154.4157
Total	**0.0587**	**0.0354**	**0.5657**	**1.5000e-003**	**0.1677**	**8.3000e-004**	**0.1685**	**0.0445**	**7.6000e-004**	**0.0452**		**153.2503**	**153.2503**	**3.6600e-003**	**3.6000e-003**	**154.4157**

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

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	38.5603					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		281.8690
Total	**38.7520**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.1447	0.0873	1.3953	3.6900e-003	0.4136	2.0400e-003	0.4156	0.1097	1.8800e-003	0.1116		378.0174	378.0174	9.0300e-003	8.8900e-003	380.8920
Total	**0.1447**	**0.0873**	**1.3953**	**3.6900e-003**	**0.4136**	**2.0400e-003**	**0.4156**	**0.1097**	**1.8800e-003**	**0.1116**		**378.0174**	**378.0174**	**9.0300e-003**	**8.8900e-003**	**380.8920**

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	38.5603					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	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**38.7520**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.1447	0.0873	1.3953	3.6900e-003	0.4136	2.0400e-003	0.4156	0.1097	1.8800e-003	0.1116		378.0174	378.0174	9.0300e-003	8.8900e-003	380.8920
Total	**0.1447**	**0.0873**	**1.3953**	**3.6900e-003**	**0.4136**	**2.0400e-003**	**0.4156**	**0.1097**	**1.8800e-003**	**0.1116**		**378.0174**	**378.0174**	**9.0300e-003**	**8.8900e-003**	**380.8920**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6787	1.9000	14.0844	0.0291	2.8103	0.0226	2.8329	0.7496	0.0212	0.7707		2,995.4345	2,995.4345	0.1742	0.1462	3,043.3611
Unmitigated	1.9201	2.5005	18.9251	0.0410	4.0048	0.0313	4.0360	1.0681	0.0293	1.0974		4,225.5505	4,225.5505	0.2211	0.1930	4,288.5898

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	555.00	555.00	555.00	1,896,519	1,330,857
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	555.00	555.00	555.00	1,896,519	1,330,857

4.3 Trip Type Information

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

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Congregate Care (Assisted	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Other Non-Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
NaturalGas Unmitigated	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-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

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Congregate Care (Assisted Living)	5910.48	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0637**	**0.5447**	**0.2318**	**3.4800e-003**		**0.0440**	**0.0440**		**0.0440**	**0.0440**		**695.3507**	**695.3507**	**0.0133**	**0.0128**	**699.4828**

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

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Congregate Care (Assisted Living)	5.91048	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0637**	**0.5447**	**0.2318**	**3.4800e-003**		**0.0440**	**0.0440**		**0.0440**	**0.0440**		**695.3507**	**695.3507**	**0.0133**	**0.0128**	**699.4828**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.7249	2.3822	13.3461	0.0150		0.2496	0.2496		0.2496	0.2496	0.0000	2,881.1389	2,881.1389	0.0763	0.0524	2,898.6653
Unmitigated	3.7249	2.3822	13.3461	0.0150		0.2496	0.2496		0.2496	0.2496	0.0000	2,881.1389	2,881.1389	0.0763	0.0524	2,898.6653

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2621	2.2394	0.9529	0.0143		0.1811	0.1811		0.1811	0.1811	0.0000	2,858.8235	2,858.8235	0.0548	0.0524	2,875.8121
Landscaping	0.3743	0.1428	12.3931	6.5000e-004		0.0686	0.0686		0.0686	0.0686		22.3154	22.3154	0.0215		22.8532
Total	**3.7249**	**2.3822**	**13.3461**	**0.0149**		**0.2496**	**0.2496**		**0.2496**	**0.2496**	**0.0000**	**2,881.1389**	**2,881.1389**	**0.0763**	**0.0524**	**2,898.6653**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2621	2.2394	0.9529	0.0143		0.1811	0.1811		0.1811	0.1811	0.0000	2,858.8235	2,858.8235	0.0548	0.0524	2,875.8121
Landscaping	0.3743	0.1428	12.3931	6.5000e-004		0.0686	0.0686		0.0686	0.0686		22.3154	22.3154	0.0215		22.8532
Total	**3.7249**	**2.3822**	**13.3461**	**0.0149**		**0.2496**	**0.2496**		**0.2496**	**0.2496**	**0.0000**	**2,881.1389**	**2,881.1389**	**0.0763**	**0.0524**	**2,898.6653**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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

19421 Riverwalk Yucaipa Senior Housing Project

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	2.74	Acre	2.74	119,354.40	0
Parking Lot	146.00	Space	1.31	58,400.00	0
Congregate Care (Assisted Living)	150.00	Dwelling Unit	0.97	140,000.00	429

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5.02 ac site w/ 150 senior housing attached DUs [3-story bldg w/ ~42,253 sf (or ~0.97 ac footprint) & bldg total is up to ~140TSF], 146 space parking lot, & remainder of site (~2.74ac) hardscape/landscaping/open space.

Construction Phase - Construction anticipated to begin no sooner than February 1, 2022 and be completed by August 1, 2023.

Off-road Equipment - CalEEMod default construction equipment for demolition reduced as only one residential dwelling unit with associated barn to be demolished.

Trips and VMT -

Demolition - ~1,500 sf of demolition for existing single-family dwelling unit/associated barn structure.

Grading - ~4,000 CY Import during grading.

Vehicle Trips - LOS & VMT Anlaysis, 3.7 trips/DU/day.

Woodstoves - SCAQMD Rule 445 prohibits the installation of wood burning devices in new developments.

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Site is ~0.37 miles east of Omnitrans Rte 309 stop Fifth at Bella Vista & ~0.93 miles SW of downtown portion of Yucaipa. Sidewalks provided on/off-site.

Water Mitigation - ~20% indoor water reduction per CalGreen Standards. Water-efficient irrigation systems.

Waste Mitigation - AB 341 requires each jurisdiction in CA to divert at least 75% of their waste away from landfills by 2020.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	27.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	230.00	305.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	20.00	24.00
tblFireplaces	NumberGas	127.50	135.00
tblFireplaces	NumberWood	7.50	0.00
tblGrading	MaterialImported	0.00	4,000.00
tblLandUse	LandUseSquareFeet	150,000.00	140,000.00
tblLandUse	LotAcreage	9.38	0.97
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblVehicleTrips	ST_TR	2.93	3.70
tblVehicleTrips	SU_TR	3.15	3.70
tblVehicleTrips	WD_TR	2.60	3.70
tblWoodstoves	NumberCatalytic	7.50	0.00
tblWoodstoves	NumberNoncatalytic	7.50	0.00

2.0 Emissions Summary

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.5261	26.8600	23.3047	0.0556	8.0176	1.1579	9.0191	3.6750	1.0773	4.5986	0.0000	5,685.2317	5,685.2317	1.0469	0.4272	5,838.7248
2023	38.8913	16.5061	22.6067	0.0516	2.3338	0.7218	3.0556	0.6255	0.6791	1.3046	0.0000	5,114.7946	5,114.7946	0.7176	0.1733	5,183.3145
Maximum	**38.8913**	**26.8600**	**23.3047**	**0.0556**	**8.0176**	**1.1579**	**9.0191**	**3.6750**	**1.0773**	**4.5986**	**0.0000**	**5,685.2317**	**5,685.2317**	**1.0469**	**0.4272**	**5,838.7248**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.5261	26.8600	23.3047	0.0556	3.6743	1.1579	4.6757	1.5824	1.0773	2.5060	0.0000	5,685.2317	5,685.2317	1.0469	0.4272	5,838.7247
2023	38.8913	16.5061	22.6067	0.0516	2.3338	0.7218	3.0556	0.6255	0.6791	1.3046	0.0000	5,114.7946	5,114.7946	0.7176	0.1733	5,183.3145
Maximum	**38.8913**	**26.8600**	**23.3047**	**0.0556**	**3.6743**	**1.1579**	**4.6757**	**1.5824**	**1.0773**	**2.5060**	**0.0000**	**5,685.2317**	**5,685.2317**	**1.0469**	**0.4272**	**5,838.7247**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	41.96	0.00	35.97	48.66	0.00	35.45	0.00	0.00	0.00	0.00	0.00	0.00

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.7249	2.3822	13.3461	0.0150		0.2496	0.2496		0.2496	0.2496	0.0000	2,881.1389	2,881.1389	0.0763	0.0524	2,898.6653
Energy	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
Mobile	1.6747	2.6550	16.8586	0.0381	4.0048	0.0313	4.0361	1.0681	0.0293	1.0974		3,919.7829	3,919.7829	0.2262	0.1979	3,984.4065
Total	**5.4633**	**5.5819**	**30.4365**	**0.0565**	**4.0048**	**0.3249**	**4.3297**	**1.0681**	**0.3229**	**1.3911**	**0.0000**	**7,496.2725**	**7,496.2725**	**0.3159**	**0.2630**	**7,582.5546**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.7249	2.3822	13.3461	0.0150		0.2496	0.2496		0.2496	0.2496	0.0000	2,881.1389	2,881.1389	0.0763	0.0524	2,898.6653
Energy	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
Mobile	1.4378	2.0180	12.7638	0.0270	2.8103	0.0226	2.8329	0.7496	0.0212	0.7707		2,781.3824	2,781.3824	0.1809	0.1501	2,830.6259
Total	**5.2265**	**4.9449**	**26.3417**	**0.0454**	**2.8103**	**0.3163**	**3.1266**	**0.7496**	**0.3148**	**1.0644**	**0.0000**	**6,357.8720**	**6,357.8720**	**0.2705**	**0.2152**	**6,428.7740**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	4.34	11.41	13.45	19.56	29.83	2.66	27.79	29.83	2.51	23.48	0.00	15.19	15.19	14.37	18.18	15.22

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/1/2022	3/9/2022	5	27	
2	Grading	Grading	3/10/2022	3/25/2022	5	12	
3	Building Construction	Building Construction	3/26/2022	5/26/2023	5	305	
4	Paving	Paving	5/27/2023	6/28/2023	5	23	
5	Architectural Coating	Architectural Coating	6/29/2023	8/1/2023	5	24	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 12

Acres of Paving: 4.05

Residential Indoor: 283,500; Residential Outdoor: 94,500; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 10,665 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	2	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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

Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	500.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	183.00	45.00	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	37.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0547	0.0000	0.0547	8.2800e-003	0.0000	8.2800e-003			0.0000			0.0000
Off-Road	2.4368	23.9424	17.3389	0.0337		1.1567	1.1567		1.0762	1.0762		3,246.7659	3,246.7659	0.8907		3,269.0339
Total	**2.4368**	**23.9424**	**17.3389**	**0.0337**	**0.0547**	**1.1567**	**1.2114**	**8.2800e-003**	**1.0762**	**1.0845**		**3,246.7659**	**3,246.7659**	**0.8907**		**3,269.0339**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.4000e-004	0.0371	9.4300e-003	1.5000e-004	4.5400e-003	3.7000e-004	4.9100e-003	1.2400e-003	3.6000e-004	1.6000e-003		16.6171	16.6171	7.1000e-004	2.6300e-003	17.4195
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
Worker	0.0529	0.0367	0.4399	1.2100e-003	0.1453	7.6000e-004	0.1461	0.0385	7.0000e-004	0.0392		123.5766	123.5766	3.5400e-003	3.5100e-003	124.7097
Total	**0.0538**	**0.0738**	**0.4494**	**1.3600e-003**	**0.1499**	**1.1300e-003**	**0.1510**	**0.0398**	**1.0600e-003**	**0.0408**		**140.1936**	**140.1936**	**4.2500e-003**	**6.1400e-003**	**142.1292**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0213	0.0000	0.0213	3.2300e-003	0.0000	3.2300e-003			0.0000			0.0000
Off-Road	2.4368	23.9424	17.3389	0.0337		1.1567	1.1567		1.0762	1.0762	0.0000	3,246.7659	3,246.7659	0.8907		3,269.0339
Total	**2.4368**	**23.9424**	**17.3389**	**0.0337**	**0.0213**	**1.1567**	**1.1781**	**3.2300e-003**	**1.0762**	**1.0794**	**0.0000**	**3,246.7659**	**3,246.7659**	**0.8907**		**3,269.0339**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.4000e-004	0.0371	9.4300e-003	1.5000e-004	4.5400e-003	3.7000e-004	4.9100e-003	1.2400e-003	3.6000e-004	1.6000e-003		16.6171	16.6171	7.1000e-004	2.6300e-003	17.4195
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
Worker	0.0529	0.0367	0.4399	1.2100e-003	0.1453	7.6000e-004	0.1461	0.0385	7.0000e-004	0.0392		123.5766	123.5766	3.5400e-003	3.5100e-003	124.7097
Total	**0.0538**	**0.0738**	**0.4494**	**1.3600e-003**	**0.1499**	**1.1300e-003**	**0.1510**	**0.0398**	**1.0600e-003**	**0.0408**		**140.1936**	**140.1936**	**4.2500e-003**	**6.1400e-003**	**142.1292**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-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 On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.1203	0.0000	7.1203	3.4304	0.0000	3.4304			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**7.1203**	**0.9409**	**8.0611**	**3.4304**	**0.8656**	**4.2960**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1511	5.9625	1.5152	0.0245	0.7297	0.0597	0.7894	0.2001	0.0572	0.2573		2,670.5970	2,670.5970	0.1139	0.4232	2,799.5605
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
Worker	0.0610	0.0423	0.5076	1.4000e-003	0.1677	8.8000e-004	0.1685	0.0445	8.1000e-004	0.0453		142.5884	142.5884	4.0800e-003	4.0400e-003	143.8959
Total	**0.2121**	**6.0048**	**2.0228**	**0.0259**	**0.8973**	**0.0606**	**0.9580**	**0.2446**	**0.0580**	**0.3025**		**2,813.1853**	**2,813.1853**	**0.1180**	**0.4272**	**2,943.4564**

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

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7769	0.0000	2.7769	1.3379	0.0000	1.3379			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**2.7769**	**0.9409**	**3.7178**	**1.3379**	**0.8656**	**2.2035**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1511	5.9625	1.5152	0.0245	0.7297	0.0597	0.7894	0.2001	0.0572	0.2573		2,670.5970	2,670.5970	0.1139	0.4232	2,799.5605
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
Worker	0.0610	0.0423	0.5076	1.4000e-003	0.1677	8.8000e-004	0.1685	0.0445	8.1000e-004	0.0453		142.5884	142.5884	4.0800e-003	4.0400e-003	143.8959
Total	**0.2121**	**6.0048**	**2.0228**	**0.0259**	**0.8973**	**0.0606**	**0.9580**	**0.2446**	**0.0580**	**0.3025**		**2,813.1853**	**2,813.1853**	**0.1180**	**0.4272**	**2,943.4564**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0754	2.0687	0.7486	8.4100e-003	0.2883	0.0235	0.3118	0.0830	0.0225	0.1055		901.3028	901.3028	0.0242	0.1335	941.6790
Worker	0.7445	0.5163	6.1927	0.0171	2.0455	0.0107	2.0563	0.5425	9.8900e-003	0.5524		1,739.5779	1,739.5779	0.0498	0.0494	1,755.5293
Total	**0.8199**	**2.5850**	**6.9413**	**0.0255**	**2.3338**	**0.0343**	**2.3681**	**0.6255**	**0.0324**	**0.6579**		**2,640.8807**	**2,640.8807**	**0.0740**	**0.1828**	**2,697.2084**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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 On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0754	2.0687	0.7486	8.4100e-003	0.2883	0.0235	0.3118	0.0830	0.0225	0.1055		901.3028	901.3028	0.0242	0.1335	941.6790
Worker	0.7445	0.5163	6.1927	0.0171	2.0455	0.0107	2.0563	0.5425	9.8900e-003	0.5524		1,739.5779	1,739.5779	0.0498	0.0494	1,755.5293
Total	**0.8199**	**2.5850**	**6.9413**	**0.0255**	**2.3338**	**0.0343**	**2.3681**	**0.6255**	**0.0324**	**0.6579**		**2,640.8807**	**2,640.8807**	**0.0740**	**0.1828**	**2,697.2084**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0490	1.6672	0.6828	8.0700e-003	0.2883	0.0119	0.3002	0.0830	0.0114	0.0944		865.7262	865.7262	0.0224	0.1279	904.4094
Worker	0.6893	0.4540	5.6800	0.0166	2.0455	0.0101	2.0556	0.5425	9.3000e-003	0.5518		1,693.8585	1,693.8585	0.0447	0.0454	1,708.4990
Total	**0.7383**	**2.1212**	**6.3627**	**0.0246**	**2.3338**	**0.0220**	**2.3558**	**0.6255**	**0.0207**	**0.6462**		**2,559.5847**	**2,559.5847**	**0.0671**	**0.1733**	**2,612.9084**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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 On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0490	1.6672	0.6828	8.0700e-003	0.2883	0.0119	0.3002	0.0830	0.0114	0.0944		865.7262	865.7262	0.0224	0.1279	904.4094
Worker	0.6893	0.4540	5.6800	0.0166	2.0455	0.0101	2.0556	0.5425	9.3000e-003	0.5518		1,693.8585	1,693.8585	0.0447	0.0454	1,708.4990
Total	**0.7383**	**2.1212**	**6.3627**	**0.0246**	**2.3338**	**0.0220**	**2.3558**	**0.6255**	**0.0207**	**0.6462**		**2,559.5847**	**2,559.5847**	**0.0671**	**0.1733**	**2,612.9084**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-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 On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.1492					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1820**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0565	0.0372	0.4656	1.3600e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		138.8409	138.8409	3.6600e-003	3.7200e-003	140.0409
Total	**0.0565**	**0.0372**	**0.4656**	**1.3600e-003**	**0.1677**	**8.3000e-004**	**0.1685**	**0.0445**	**7.6000e-004**	**0.0452**		**138.8409**	**138.8409**	**3.6600e-003**	**3.7200e-003**	**140.0409**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.1492					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1820**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0565	0.0372	0.4656	1.3600e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		138.8409	138.8409	3.6600e-003	3.7200e-003	140.0409
Total	**0.0565**	**0.0372**	**0.4656**	**1.3600e-003**	**0.1677**	**8.3000e-004**	**0.1685**	**0.0445**	**7.6000e-004**	**0.0452**		**138.8409**	**138.8409**	**3.6600e-003**	**3.7200e-003**	**140.0409**

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	38.5603					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		281.8690
Total	**38.7520**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.1394	0.0918	1.1484	3.3500e-003	0.4136	2.0400e-003	0.4156	0.1097	1.8800e-003	0.1116		342.4741	342.4741	9.0400e-003	9.1700e-003	345.4342
Total	**0.1394**	**0.0918**	**1.1484**	**3.3500e-003**	**0.4136**	**2.0400e-003**	**0.4156**	**0.1097**	**1.8800e-003**	**0.1116**		**342.4741**	**342.4741**	**9.0400e-003**	**9.1700e-003**	**345.4342**

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

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	38.5603					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	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**38.7520**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.1394	0.0918	1.1484	3.3500e-003	0.4136	2.0400e-003	0.4156	0.1097	1.8800e-003	0.1116		342.4741	342.4741	9.0400e-003	9.1700e-003	345.4342
Total	**0.1394**	**0.0918**	**1.1484**	**3.3500e-003**	**0.4136**	**2.0400e-003**	**0.4156**	**0.1097**	**1.8800e-003**	**0.1116**		**342.4741**	**342.4741**	**9.0400e-003**	**9.1700e-003**	**345.4342**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.4378	2.0180	12.7638	0.0270	2.8103	0.0226	2.8329	0.7496	0.0212	0.7707		2,781.3824	2,781.3824	0.1809	0.1501	2,830.6259
Unmitigated	1.6747	2.6550	16.8586	0.0381	4.0048	0.0313	4.0361	1.0681	0.0293	1.0974		3,919.7829	3,919.7829	0.2262	0.1979	3,984.4065

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	555.00	555.00	555.00	1,896,519	1,330,857
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	555.00	555.00	555.00	1,896,519	1,330,857

4.3 Trip Type Information

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

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Congregate Care (Assisted	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Other Non-Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
NaturalGas Unmitigated	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828

19421 Riverwalk Yucaipa Senior Housing Project - San Bernardino-South Coast County, Winter

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

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Congregate Care (Assisted Living)	5910.48	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0637**	**0.5447**	**0.2318**	**3.4800e-003**		**0.0440**	**0.0440**		**0.0440**	**0.0440**		**695.3507**	**695.3507**	**0.0133**	**0.0128**	**699.4828**

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

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Congregate Care (Assisted Living)	5.91048	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0637**	**0.5447**	**0.2318**	**3.4800e-003**		**0.0440**	**0.0440**		**0.0440**	**0.0440**		**695.3507**	**695.3507**	**0.0133**	**0.0128**	**699.4828**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.7249	2.3822	13.3461	0.0150		0.2496	0.2496		0.2496	0.2496	0.0000	2,881.1389	2,881.1389	0.0763	0.0524	2,898.6653
Unmitigated	3.7249	2.3822	13.3461	0.0150		0.2496	0.2496		0.2496	0.2496	0.0000	2,881.1389	2,881.1389	0.0763	0.0524	2,898.6653

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2621	2.2394	0.9529	0.0143		0.1811	0.1811		0.1811	0.1811	0.0000	2,858.8235	2,858.8235	0.0548	0.0524	2,875.8121
Landscaping	0.3743	0.1428	12.3931	6.5000e-004		0.0686	0.0686		0.0686	0.0686		22.3154	22.3154	0.0215		22.8532
Total	**3.7249**	**2.3822**	**13.3461**	**0.0149**		**0.2496**	**0.2496**		**0.2496**	**0.2496**	**0.0000**	**2,881.1389**	**2,881.1389**	**0.0763**	**0.0524**	**2,898.6653**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2621	2.2394	0.9529	0.0143		0.1811	0.1811		0.1811	0.1811	0.0000	2,858.8235	2,858.8235	0.0548	0.0524	2,875.8121
Landscaping	0.3743	0.1428	12.3931	6.5000e-004		0.0686	0.0686		0.0686	0.0686		22.3154	22.3154	0.0215		22.8532
Total	**3.7249**	**2.3822**	**13.3461**	**0.0149**		**0.2496**	**0.2496**		**0.2496**	**0.2496**	**0.0000**	**2,881.1389**	**2,881.1389**	**0.0763**	**0.0524**	**2,898.6653**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-South Coast County, Summer

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

19421 Riverwalk Yucaipa Multi-family Alternative

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	2.74	Acre	2.74	119,354.40	0
Parking Lot	146.00	Space	1.31	58,400.00	0
Apartments Mid Rise	120.00	Dwelling Unit	0.97	140,000.00	343

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5.02 ac site w/ 120 apartments [3-story bldg w/ ~42,253 sf (or ~0.97 ac footprint) & bldg total is up to ~140TSF], 146 space parking lot, & remainder of site (~2.74ac) hardscape/landscaping/open space.

Construction Phase - Construction anticipated to begin no sooner than February 1, 2022 and be completed by August 1, 2023.

Off-road Equipment - CalEEMod default construction equipment for demolition reduced as only one residential dwelling unit with associated barn to be demolished.

Trips and VMT -

Demolition - ~1,500 sf of demolition for existing single-family dwelling unit/associated barn structure.

Grading - ~4,000 CY Import during grading.

Vehicle Trips - CalEEMod default trip generation for mid-rise apartments (ITE 221).

Woodstoves - SCAQMD Rule 445 prohibits the installation of wood burning devices in new developments.

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-South Coast County, Summer

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

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Site is ~0.37 miles east of Omnitrans Rte 309 stop Fifth at Bella Vista & ~0.93 miles SW of downtown portion of Yucaipa. Sidewalks provided on/off-site.

Water Mitigation - ~20% indoor water reduction per CalGreen Standards. Water-efficient irrigation systems.

Waste Mitigation - AB 341 requires each jurisdiction in CA to divert at least 75% of their waste away from landfills by 2020.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	27.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	230.00	305.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	20.00	24.00
tblFireplaces	NumberGas	102.00	108.00
tblFireplaces	NumberWood	6.00	0.00
tblGrading	MaterialImported	0.00	4,000.00
tblLandUse	LandUseSquareFeet	120,000.00	140,000.00
tblLandUse	LotAcreage	3.16	0.97
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblWoodstoves	NumberCatalytic	6.00	0.00
tblWoodstoves	NumberNoncatalytic	6.00	0.00

2.0 Emissions Summary

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4613	26.5742	23.6709	0.0557	8.0176	1.0718	9.0190	3.6750	0.9981	4.5985	0.0000	5,698.0861	5,698.0861	1.0472	0.4268	5,851.4552
2023	38.8771	16.2379	22.9336	0.0505	2.0687	0.7197	2.7884	0.5547	0.6772	1.2319	0.0000	5,006.1526	5,006.1526	0.7176	0.1577	5,069.8558
Maximum	**38.8771**	**26.5742**	**23.6709**	**0.0557**	**8.0176**	**1.0718**	**9.0190**	**3.6750**	**0.9981**	**4.5985**	**0.0000**	**5,698.0861**	**5,698.0861**	**1.0472**	**0.4268**	**5,851.4552**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4613	26.5742	23.6709	0.0557	3.6743	1.0718	4.6756	1.5824	0.9981	2.5059	0.0000	5,698.0861	5,698.0861	1.0472	0.4268	5,851.4552
2023	38.8771	16.2379	22.9336	0.0505	2.0687	0.7197	2.7884	0.5547	0.6772	1.2319	0.0000	5,006.1526	5,006.1526	0.7176	0.1577	5,069.8558
Maximum	**38.8771**	**26.5742**	**23.6709**	**0.0557**	**3.6743**	**1.0718**	**4.6756**	**1.5824**	**0.9981**	**2.5059**	**0.0000**	**5,698.0861**	**5,698.0861**	**1.0472**	**0.4268**	**5,851.4552**

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-South Coast County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	43.06	0.00	36.79	49.47	0.00	35.89	0.00	0.00	0.00	0.00	0.00	0.00

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-South Coast County, Summer

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.5979	1.9058	10.6799	0.0120		0.1997	0.1997		0.1997	0.1997	0.0000	2,304.9177	2,304.9177	0.0611	0.0419	2,318.9392
Energy	0.0510	0.4358	0.1854	2.7800e-003		0.0352	0.0352		0.0352	0.0352		556.2806	556.2806	0.0107	0.0102	559.5863
Mobile	2.2585	2.9411	22.2601	0.0483	4.7105	0.0368	4.7473	1.2564	0.0344	1.2908		4,970.1610	4,970.1610	0.2601	0.2270	5,044.3089
Total	**5.9074**	**5.2827**	**33.1254**	**0.0630**	**4.7105**	**0.2717**	**4.9822**	**1.2564**	**0.2694**	**1.5257**	**0.0000**	**7,831.3592**	**7,831.3592**	**0.3318**	**0.2791**	**7,922.8343**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.5979	1.9058	10.6799	0.0120		0.1997	0.1997		0.1997	0.1997	0.0000	2,304.9177	2,304.9177	0.0611	0.0419	2,318.9392
Energy	0.0510	0.4358	0.1854	2.7800e-003		0.0352	0.0352		0.0352	0.0352		556.2806	556.2806	0.0107	0.0102	559.5863
Mobile	1.9745	2.2349	16.5663	0.0342	3.3055	0.0266	3.3321	0.8816	0.0249	0.9065		3,523.2787	3,523.2787	0.2049	0.1720	3,579.6507
Total	**5.6234**	**4.5764**	**27.4316**	**0.0490**	**3.3055**	**0.2615**	**3.5671**	**0.8816**	**0.2598**	**1.1415**	**0.0000**	**6,384.4769**	**6,384.4769**	**0.2766**	**0.2241**	**6,458.1761**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**4.81**	**13.37**	**17.19**	**22.30**	**29.83**	**3.74**	**28.40**	**29.83**	**3.53**	**25.18**	**0.00**	**18.48**	**18.48**	**16.62**	**19.71**	**18.49**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/1/2022	3/9/2022	5	27	
2	Grading	Grading	3/10/2022	3/25/2022	5	12	
3	Building Construction	Building Construction	3/26/2022	5/26/2023	5	305	
4	Paving	Paving	5/27/2023	6/28/2023	5	23	
5	Architectural Coating	Architectural Coating	6/29/2023	8/1/2023	5	24	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 12

Acres of Paving: 4.05

Residential Indoor: 283,500; Residential Outdoor: 94,500; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 10,665 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

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

Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	500.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	161.00	42.00	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	32.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-South Coast County, Summer

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

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0547	0.0000	0.0547	8.2800e-003	0.0000	8.2800e-003			0.0000			0.0000
Off-Road	2.2343	22.1655	14.0838	0.0285		1.0708	1.0708		0.9972	0.9972		2,746.7506	2,746.7506	0.7290		2,764.9757
Total	**2.2343**	**22.1655**	**14.0838**	**0.0285**	**0.0547**	**1.0708**	**1.1255**	**8.2800e-003**	**0.9972**	**1.0055**		**2,746.7506**	**2,746.7506**	**0.7290**		**2,764.9757**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.8000e-004	0.0353	9.2200e-003	1.5000e-004	4.5400e-003	3.7000e-004	4.9100e-003	1.2400e-003	3.6000e-004	1.6000e-003		16.6047	16.6047	7.1000e-004	2.6300e-003	17.4066
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
Worker	0.0424	0.0268	0.4120	1.0300e-003	0.1118	5.9000e-004	0.1124	0.0296	5.4000e-004	0.0302		104.9568	104.9568	2.7300e-003	2.6100e-003	105.8034
Total	**0.0433**	**0.0622**	**0.4212**	**1.1800e-003**	**0.1163**	**9.6000e-004**	**0.1173**	**0.0309**	**9.0000e-004**	**0.0318**		**121.5614**	**121.5614**	**3.4400e-003**	**5.2400e-003**	**123.2099**

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

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0213	0.0000	0.0213	3.2300e-003	0.0000	3.2300e-003			0.0000			0.0000
Off-Road	2.2343	22.1655	14.0838	0.0285		1.0708	1.0708		0.9972	0.9972	0.0000	2,746.7506	2,746.7506	0.7290		2,764.9757
Total	**2.2343**	**22.1655**	**14.0838**	**0.0285**	**0.0213**	**1.0708**	**1.0922**	**3.2300e-003**	**0.9972**	**1.0004**	**0.0000**	**2,746.7506**	**2,746.7506**	**0.7290**		**2,764.9757**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.8000e-004	0.0353	9.2200e-003	1.5000e-004	4.5400e-003	3.7000e-004	4.9100e-003	1.2400e-003	3.6000e-004	1.6000e-003		16.6047	16.6047	7.1000e-004	2.6300e-003	17.4066
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
Worker	0.0424	0.0268	0.4120	1.0300e-003	0.1118	5.9000e-004	0.1124	0.0296	5.4000e-004	0.0302		104.9568	104.9568	2.7300e-003	2.6100e-003	105.8034
Total	**0.0433**	**0.0622**	**0.4212**	**1.1800e-003**	**0.1163**	**9.6000e-004**	**0.1173**	**0.0309**	**9.0000e-004**	**0.0318**		**121.5614**	**121.5614**	**3.4400e-003**	**5.2400e-003**	**123.2099**

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

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.1203	0.0000	7.1203	3.4304	0.0000	3.4304			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**7.1203**	**0.9409**	**8.0611**	**3.4304**	**0.8656**	**4.2960**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1576	5.6788	1.4817	0.0245	0.7297	0.0597	0.7893	0.2001	0.0571	0.2572		2,668.6045	2,668.6045	0.1143	0.4229	2,797.4818
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
Worker	0.0635	0.0402	0.6179	1.5500e-003	0.1677	8.8000e-004	0.1685	0.0445	8.1000e-004	0.0453		157.4352	157.4352	4.0900e-003	3.9200e-003	158.7050
Total	**0.2211**	**5.7191**	**2.0996**	**0.0261**	**0.8973**	**0.0605**	**0.9579**	**0.2446**	**0.0579**	**0.3024**		**2,826.0397**	**2,826.0397**	**0.1184**	**0.4268**	**2,956.1869**

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

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7769	0.0000	2.7769	1.3379	0.0000	1.3379			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**2.7769**	**0.9409**	**3.7178**	**1.3379**	**0.8656**	**2.2035**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1576	5.6788	1.4817	0.0245	0.7297	0.0597	0.7893	0.2001	0.0571	0.2572		2,668.6045	2,668.6045	0.1143	0.4229	2,797.4818
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
Worker	0.0635	0.0402	0.6179	1.5500e-003	0.1677	8.8000e-004	0.1685	0.0445	8.1000e-004	0.0453		157.4352	157.4352	4.0900e-003	3.9200e-003	158.7050
Total	**0.2211**	**5.7191**	**2.0996**	**0.0261**	**0.8973**	**0.0605**	**0.9579**	**0.2446**	**0.0579**	**0.3024**		**2,826.0397**	**2,826.0397**	**0.1184**	**0.4268**	**2,956.1869**

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-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

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0732	1.8392	0.6750	7.8400e-003	0.2691	0.0219	0.2910	0.0775	0.0209	0.0984		840.2891	840.2891	0.0227	0.1244	877.9128
Worker	0.6819	0.4319	6.6326	0.0166	1.7996	9.4500e-003	1.8091	0.4773	8.7000e-003	0.4860		1,689.8044	1,689.8044	0.0439	0.0421	1,703.4341
Total	**0.7551**	**2.2711**	**7.3075**	**0.0245**	**2.0687**	**0.0313**	**2.1000**	**0.5547**	**0.0296**	**0.5844**		**2,530.0935**	**2,530.0935**	**0.0667**	**0.1664**	**2,581.3469**

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-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 On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0732	1.8392	0.6750	7.8400e-003	0.2691	0.0219	0.2910	0.0775	0.0209	0.0984		840.2891	840.2891	0.0227	0.1244	877.9128
Worker	0.6819	0.4319	6.6326	0.0166	1.7996	9.4500e-003	1.8091	0.4773	8.7000e-003	0.4860		1,689.8044	1,689.8044	0.0439	0.0421	1,703.4341
Total	**0.7551**	**2.2711**	**7.3075**	**0.0245**	**2.0687**	**0.0313**	**2.1000**	**0.5547**	**0.0296**	**0.5844**		**2,530.0935**	**2,530.0935**	**0.0667**	**0.1664**	**2,581.3469**

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-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 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0492	1.4732	0.6182	7.5200e-003	0.2691	0.0111	0.2802	0.0775	0.0106	0.0881		806.0564	806.0564	0.0211	0.1190	842.0547
Worker	0.6295	0.3799	6.0715	0.0161	1.7996	8.8900e-003	1.8085	0.4773	8.1800e-003	0.4855		1,644.8864	1,644.8864	0.0393	0.0387	1,657.3950
Total	**0.6787**	**1.8531**	**6.6896**	**0.0236**	**2.0687**	**0.0200**	**2.0887**	**0.5547**	**0.0188**	**0.5735**		**2,450.9427**	**2,450.9427**	**0.0604**	**0.1577**	**2,499.4497**

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-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 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0492	1.4732	0.6182	7.5200e-003	0.2691	0.0111	0.2802	0.0775	0.0106	0.0881		806.0564	806.0564	0.0211	0.1190	842.0547
Worker	0.6295	0.3799	6.0715	0.0161	1.7996	8.8900e-003	1.8085	0.4773	8.1800e-003	0.4855		1,644.8864	1,644.8864	0.0393	0.0387	1,657.3950
Total	**0.6787**	**1.8531**	**6.6896**	**0.0236**	**2.0687**	**0.0200**	**2.0887**	**0.5547**	**0.0188**	**0.5735**		**2,450.9427**	**2,450.9427**	**0.0604**	**0.1577**	**2,499.4497**

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-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

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.1492					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1820**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0587	0.0354	0.5657	1.5000e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		153.2503	153.2503	3.6600e-003	3.6000e-003	154.4157
Total	**0.0587**	**0.0354**	**0.5657**	**1.5000e-003**	**0.1677**	**8.3000e-004**	**0.1685**	**0.0445**	**7.6000e-004**	**0.0452**		**153.2503**	**153.2503**	**3.6600e-003**	**3.6000e-003**	**154.4157**

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-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 On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.1492					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1820**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0587	0.0354	0.5657	1.5000e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		153.2503	153.2503	3.6600e-003	3.6000e-003	154.4157
Total	**0.0587**	**0.0354**	**0.5657**	**1.5000e-003**	**0.1677**	**8.3000e-004**	**0.1685**	**0.0445**	**7.6000e-004**	**0.0452**		**153.2503**	**153.2503**	**3.6600e-003**	**3.6000e-003**	**154.4157**

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

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	38.5603					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		281.8690
Total	**38.7520**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.1251	0.0755	1.2068	3.1900e-003	0.3577	1.7700e-003	0.3595	0.0949	1.6300e-003	0.0965		326.9339	326.9339	7.8100e-003	7.6900e-003	329.4201
Total	**0.1251**	**0.0755**	**1.2068**	**3.1900e-003**	**0.3577**	**1.7700e-003**	**0.3595**	**0.0949**	**1.6300e-003**	**0.0965**		**326.9339**	**326.9339**	**7.8100e-003**	**7.6900e-003**	**329.4201**

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

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	38.5603					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	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**38.7520**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.1251	0.0755	1.2068	3.1900e-003	0.3577	1.7700e-003	0.3595	0.0949	1.6300e-003	0.0965		326.9339	326.9339	7.8100e-003	7.6900e-003	329.4201
Total	**0.1251**	**0.0755**	**1.2068**	**3.1900e-003**	**0.3577**	**1.7700e-003**	**0.3595**	**0.0949**	**1.6300e-003**	**0.0965**		**326.9339**	**326.9339**	**7.8100e-003**	**7.6900e-003**	**329.4201**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.9745	2.2349	16.5663	0.0342	3.3055	0.0266	3.3321	0.8816	0.0249	0.9065		3,523.2787	3,523.2787	0.2049	0.1720	3,579.6507
Unmitigated	2.2585	2.9411	22.2601	0.0483	4.7105	0.0368	4.7473	1.2564	0.0344	1.2908		4,970.1610	4,970.1610	0.2601	0.2270	5,044.3089

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	652.80	589.20	490.80	2,120,587	1,488,094
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	652.80	589.20	490.80	2,120,587	1,488,094

4.3 Trip Type Information

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

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Other Non-Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0510	0.4358	0.1854	2.7800e-003		0.0352	0.0352		0.0352	0.0352		556.2806	556.2806	0.0107	0.0102	559.5863
NaturalGas Unmitigated	0.0510	0.4358	0.1854	2.7800e-003		0.0352	0.0352		0.0352	0.0352		556.2806	556.2806	0.0107	0.0102	559.5863

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

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	4728.38	0.0510	0.4358	0.1854	2.7800e-003		0.0352	0.0352		0.0352	0.0352		556.2806	556.2806	0.0107	0.0102	559.5863
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0510**	**0.4358**	**0.1854**	**2.7800e-003**		**0.0352**	**0.0352**		**0.0352**	**0.0352**		**556.2806**	**556.2806**	**0.0107**	**0.0102**	**559.5863**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	4.72838	0.0510	0.4358	0.1854	2.7800e-003		0.0352	0.0352		0.0352	0.0352		556.2806	556.2806	0.0107	0.0102	559.5863
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0510**	**0.4358**	**0.1854**	**2.7800e-003**		**0.0352**	**0.0352**		**0.0352**	**0.0352**		**556.2806**	**556.2806**	**0.0107**	**0.0102**	**559.5863**

6.0 Area Detail

6.1 Mitigation Measures Area

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-South Coast County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.5979	1.9058	10.6799	0.0120		0.1997	0.1997		0.1997	0.1997	0.0000	2,304.9177	2,304.9177	0.0611	0.0419	2,318.9392
Unmitigated	3.5979	1.9058	10.6799	0.0120		0.1997	0.1997		0.1997	0.1997	0.0000	2,304.9177	2,304.9177	0.0611	0.0419	2,318.9392

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2097	1.7915	0.7624	0.0114		0.1449	0.1449		0.1449	0.1449	0.0000	2,287.0588	2,287.0588	0.0438	0.0419	2,300.6497
Landscaping	0.2997	0.1143	9.9175	5.2000e-004		0.0549	0.0549		0.0549	0.0549		17.8588	17.8588	0.0172		18.2895
Total	**3.5979**	**1.9058**	**10.6799**	**0.0120**		**0.1997**	**0.1997**		**0.1997**	**0.1997**	**0.0000**	**2,304.9177**	**2,304.9177**	**0.0611**	**0.0419**	**2,318.9392**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2097	1.7915	0.7624	0.0114		0.1449	0.1449		0.1449	0.1449	0.0000	2,287.0588	2,287.0588	0.0438	0.0419	2,300.6497
Landscaping	0.2997	0.1143	9.9175	5.2000e-004		0.0549	0.0549		0.0549	0.0549		17.8588	17.8588	0.0172		18.2895
Total	**3.5979**	**1.9058**	**10.6799**	**0.0120**		**0.1997**	**0.1997**		**0.1997**	**0.1997**	**0.0000**	**2,304.9177**	**2,304.9177**	**0.0611**	**0.0419**	**2,318.9392**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-South Coast County, Winter

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

19421 Riverwalk Yucaipa Multi-family Alternative

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	2.74	Acre	2.74	119,354.40	0
Parking Lot	146.00	Space	1.31	58,400.00	0
Apartments Mid Rise	120.00	Dwelling Unit	0.97	140,000.00	343

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5.02 ac site w/ 120 apartments [3-story bldg w/ ~42,253 sf (or ~0.97 ac footprint) & bldg total is up to ~140TSF], 146 space parking lot, & remainder of site (~2.74ac) hardscape/landscaping/open space.

Construction Phase - Construction anticipated to begin no sooner than February 1, 2022 and be completed by August 1, 2023.

Off-road Equipment - CalEEMod default construction equipment for demolition reduced as only one residential dwelling unit with associated barn to be demolished.

Trips and VMT -

Demolition - ~1,500 sf of demolition for existing single-family dwelling unit/associated barn structure.

Grading - ~4,000 CY Import during grading.

Vehicle Trips - CalEEMod default trip generation for mid-rise apartments (ITE 221).

Woodstoves - SCAQMD Rule 445 prohibits the installation of wood burning devices in new developments.

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

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Site is ~0.37 miles east of Omnitrans Rte 309 stop Fifth at Bella Vista & ~0.93 miles SW of downtown portion of Yucaipa. Sidewalks provided on/off-site.

Water Mitigation - ~20% indoor water reduction per CalGreen Standards. Water-efficient irrigation systems.

Waste Mitigation - AB 341 requires each jurisdiction in CA to divert at least 75% of their waste away from landfills by 2020.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	27.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	230.00	305.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	20.00	24.00
tblFireplaces	NumberGas	102.00	108.00
tblFireplaces	NumberWood	6.00	0.00
tblGrading	MaterialImported	0.00	4,000.00
tblLandUse	LandUseSquareFeet	120,000.00	140,000.00
tblLandUse	LotAcreage	3.16	0.97
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblWoodstoves	NumberCatalytic	6.00	0.00
tblWoodstoves	NumberNoncatalytic	6.00	0.00

2.0 Emissions Summary

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4316	26.8600	22.5104	0.0556	8.0176	1.0718	9.0191	3.6750	0.9981	4.5986	0.0000	5,685.2317	5,685.2317	1.0469	0.4272	5,838.7248
2023	38.8725	16.3404	21.8784	0.0490	2.0687	0.7197	2.7884	0.5547	0.6772	1.2320	0.0000	4,853.4463	4,853.4463	0.7176	0.1593	4,917.6272
Maximum	**38.8725**	**26.8600**	**22.5104**	**0.0556**	**8.0176**	**1.0718**	**9.0191**	**3.6750**	**0.9981**	**4.5986**	**0.0000**	**5,685.2317**	**5,685.2317**	**1.0469**	**0.4272**	**5,838.7248**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4316	26.8600	22.5104	0.0556	3.6743	1.0718	4.6757	1.5824	0.9981	2.5060	0.0000	5,685.2317	5,685.2317	1.0469	0.4272	5,838.7247
2023	38.8725	16.3404	21.8784	0.0490	2.0687	0.7197	2.7884	0.5547	0.6772	1.2320	0.0000	4,853.4463	4,853.4463	0.7176	0.1593	4,917.6272
Maximum	**38.8725**	**26.8600**	**22.5104**	**0.0556**	**3.6743**	**1.0718**	**4.6757**	**1.5824**	**0.9981**	**2.5060**	**0.0000**	**5,685.2317**	**5,685.2317**	**1.0469**	**0.4272**	**5,838.7247**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	43.06	0.00	36.78	49.47	0.00	35.89	0.00	0.00	0.00	0.00	0.00	0.00

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-South Coast County, Winter

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.5979	1.9058	10.6799	0.0120		0.1997	0.1997		0.1997	0.1997	0.0000	2,304.9177	2,304.9177	0.0611	0.0419	2,318.9392
Energy	0.0510	0.4358	0.1854	2.7800e-003		0.0352	0.0352		0.0352	0.0352		556.2806	556.2806	0.0107	0.0102	559.5863
Mobile	1.9698	3.1229	19.8294	0.0448	4.7105	0.0368	4.7473	1.2564	0.0344	1.2908		4,610.5122	4,610.5122	0.2661	0.2328	4,686.5235
Total	**5.6187**	**5.4644**	**30.6947**	**0.0595**	**4.7105**	**0.2717**	**4.9822**	**1.2564**	**0.2694**	**1.5257**	**0.0000**	**7,471.7104**	**7,471.7104**	**0.3378**	**0.2849**	**7,565.0490**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.5979	1.9058	10.6799	0.0120		0.1997	0.1997		0.1997	0.1997	0.0000	2,304.9177	2,304.9177	0.0611	0.0419	2,318.9392
Energy	0.0510	0.4358	0.1854	2.7800e-003		0.0352	0.0352		0.0352	0.0352		556.2806	556.2806	0.0107	0.0102	559.5863
Mobile	1.6912	2.3736	15.0130	0.0318	3.3055	0.0266	3.3322	0.8816	0.0249	0.9066		3,271.5071	3,271.5071	0.2127	0.1765	3,329.4281
Total	**5.3401**	**4.7152**	**25.8783**	**0.0465**	**3.3055**	**0.2616**	**3.5671**	**0.8816**	**0.2599**	**1.1415**	**0.0000**	**6,132.7053**	**6,132.7053**	**0.2845**	**0.2287**	**6,207.9535**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**4.96**	**13.71**	**15.69**	**21.85**	**29.83**	**3.74**	**28.40**	**29.83**	**3.53**	**25.18**	**0.00**	**17.92**	**17.92**	**15.80**	**19.74**	**17.94**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/1/2022	3/9/2022	5	27	
2	Grading	Grading	3/10/2022	3/25/2022	5	12	
3	Building Construction	Building Construction	3/26/2022	5/26/2023	5	305	
4	Paving	Paving	5/27/2023	6/28/2023	5	23	
5	Architectural Coating	Architectural Coating	6/29/2023	8/1/2023	5	24	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 12

Acres of Paving: 4.05

Residential Indoor: 283,500; Residential Outdoor: 94,500; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 10,665 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

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

Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	500.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	161.00	42.00	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	32.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0547	0.0000	0.0547	8.2800e-003	0.0000	8.2800e-003			0.0000			0.0000
Off-Road	2.2343	22.1655	14.0838	0.0285		1.0708	1.0708		0.9972	0.9972		2,746.7506	2,746.7506	0.7290		2,764.9757
Total	**2.2343**	**22.1655**	**14.0838**	**0.0285**	**0.0547**	**1.0708**	**1.1255**	**8.2800e-003**	**0.9972**	**1.0055**		**2,746.7506**	**2,746.7506**	**0.7290**		**2,764.9757**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.4000e-004	0.0371	9.4300e-003	1.5000e-004	4.5400e-003	3.7000e-004	4.9100e-003	1.2400e-003	3.6000e-004	1.6000e-003		16.6171	16.6171	7.1000e-004	2.6300e-003	17.4195
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
Worker	0.0407	0.0282	0.3384	9.3000e-004	0.1118	5.9000e-004	0.1124	0.0296	5.4000e-004	0.0302		95.0589	95.0589	2.7200e-003	2.7000e-003	95.9306
Total	**0.0416**	**0.0653**	**0.3478**	**1.0800e-003**	**0.1163**	**9.6000e-004**	**0.1173**	**0.0309**	**9.0000e-004**	**0.0318**		**111.6760**	**111.6760**	**3.4300e-003**	**5.3300e-003**	**113.3501**

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

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0213	0.0000	0.0213	3.2300e-003	0.0000	3.2300e-003			0.0000			0.0000
Off-Road	2.2343	22.1655	14.0838	0.0285		1.0708	1.0708		0.9972	0.9972	0.0000	2,746.7506	2,746.7506	0.7290		2,764.9757
Total	**2.2343**	**22.1655**	**14.0838**	**0.0285**	**0.0213**	**1.0708**	**1.0922**	**3.2300e-003**	**0.9972**	**1.0004**	**0.0000**	**2,746.7506**	**2,746.7506**	**0.7290**		**2,764.9757**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.4000e-004	0.0371	9.4300e-003	1.5000e-004	4.5400e-003	3.7000e-004	4.9100e-003	1.2400e-003	3.6000e-004	1.6000e-003		16.6171	16.6171	7.1000e-004	2.6300e-003	17.4195
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
Worker	0.0407	0.0282	0.3384	9.3000e-004	0.1118	5.9000e-004	0.1124	0.0296	5.4000e-004	0.0302		95.0589	95.0589	2.7200e-003	2.7000e-003	95.9306
Total	**0.0416**	**0.0653**	**0.3478**	**1.0800e-003**	**0.1163**	**9.6000e-004**	**0.1173**	**0.0309**	**9.0000e-004**	**0.0318**		**111.6760**	**111.6760**	**3.4300e-003**	**5.3300e-003**	**113.3501**

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

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.1203	0.0000	7.1203	3.4304	0.0000	3.4304			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**7.1203**	**0.9409**	**8.0611**	**3.4304**	**0.8656**	**4.2960**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1511	5.9625	1.5152	0.0245	0.7297	0.0597	0.7894	0.2001	0.0572	0.2573		2,670.5970	2,670.5970	0.1139	0.4232	2,799.5605
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
Worker	0.0610	0.0423	0.5076	1.4000e-003	0.1677	8.8000e-004	0.1685	0.0445	8.1000e-004	0.0453		142.5884	142.5884	4.0800e-003	4.0400e-003	143.8959
Total	**0.2121**	**6.0048**	**2.0228**	**0.0259**	**0.8973**	**0.0606**	**0.9580**	**0.2446**	**0.0580**	**0.3025**		**2,813.1853**	**2,813.1853**	**0.1180**	**0.4272**	**2,943.4564**

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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 On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7769	0.0000	2.7769	1.3379	0.0000	1.3379			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**2.7769**	**0.9409**	**3.7178**	**1.3379**	**0.8656**	**2.2035**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1511	5.9625	1.5152	0.0245	0.7297	0.0597	0.7894	0.2001	0.0572	0.2573		2,670.5970	2,670.5970	0.1139	0.4232	2,799.5605
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
Worker	0.0610	0.0423	0.5076	1.4000e-003	0.1677	8.8000e-004	0.1685	0.0445	8.1000e-004	0.0453		142.5884	142.5884	4.0800e-003	4.0400e-003	143.8959
Total	**0.2121**	**6.0048**	**2.0228**	**0.0259**	**0.8973**	**0.0606**	**0.9580**	**0.2446**	**0.0580**	**0.3025**		**2,813.1853**	**2,813.1853**	**0.1180**	**0.4272**	**2,943.4564**

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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 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0703	1.9308	0.6987	7.8500e-003	0.2691	0.0220	0.2910	0.0775	0.0210	0.0985		841.2160	841.2160	0.0226	0.1246	878.9004
Worker	0.6550	0.4543	5.4482	0.0150	1.7996	9.4500e-003	1.8091	0.4773	8.7000e-003	0.4860		1,530.4483	1,530.4483	0.0438	0.0434	1,544.4821
Total	**0.7254**	**2.3850**	**6.1470**	**0.0229**	**2.0687**	**0.0314**	**2.1001**	**0.5547**	**0.0297**	**0.5844**		**2,371.6643**	**2,371.6643**	**0.0664**	**0.1680**	**2,423.3825**

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-South Coast County, Winter

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 On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0703	1.9308	0.6987	7.8500e-003	0.2691	0.0220	0.2910	0.0775	0.0210	0.0985		841.2160	841.2160	0.0226	0.1246	878.9004
Worker	0.6550	0.4543	5.4482	0.0150	1.7996	9.4500e-003	1.8091	0.4773	8.7000e-003	0.4860		1,530.4483	1,530.4483	0.0438	0.0434	1,544.4821
Total	**0.7254**	**2.3850**	**6.1470**	**0.0229**	**2.0687**	**0.0314**	**2.1001**	**0.5547**	**0.0297**	**0.5844**		**2,371.6643**	**2,371.6643**	**0.0664**	**0.1680**	**2,423.3825**

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-South Coast County, Winter

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

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0457	1.5561	0.6372	7.5300e-003	0.2691	0.0111	0.2802	0.0775	0.0106	0.0881		808.0111	808.0111	0.0209	0.1194	844.1155
Worker	0.6064	0.3994	4.9971	0.0146	1.7996	8.8900e-003	1.8085	0.4773	8.1800e-003	0.4855		1,490.2252	1,490.2252	0.0393	0.0399	1,503.1057
Total	**0.6522**	**1.9555**	**5.6344**	**0.0221**	**2.0687**	**0.0200**	**2.0887**	**0.5547**	**0.0188**	**0.5736**		**2,298.2364**	**2,298.2364**	**0.0602**	**0.1593**	**2,347.2211**

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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 On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0457	1.5561	0.6372	7.5300e-003	0.2691	0.0111	0.2802	0.0775	0.0106	0.0881		808.0111	808.0111	0.0209	0.1194	844.1155
Worker	0.6064	0.3994	4.9971	0.0146	1.7996	8.8900e-003	1.8085	0.4773	8.1800e-003	0.4855		1,490.2252	1,490.2252	0.0393	0.0399	1,503.1057
Total	**0.6522**	**1.9555**	**5.6344**	**0.0221**	**2.0687**	**0.0200**	**2.0887**	**0.5547**	**0.0188**	**0.5736**		**2,298.2364**	**2,298.2364**	**0.0602**	**0.1593**	**2,347.2211**

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

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.1492					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1820**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0565	0.0372	0.4656	1.3600e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		138.8409	138.8409	3.6600e-003	3.7200e-003	140.0409
Total	**0.0565**	**0.0372**	**0.4656**	**1.3600e-003**	**0.1677**	**8.3000e-004**	**0.1685**	**0.0445**	**7.6000e-004**	**0.0452**		**138.8409**	**138.8409**	**3.6600e-003**	**3.7200e-003**	**140.0409**

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

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.1492					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1820**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0565	0.0372	0.4656	1.3600e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		138.8409	138.8409	3.6600e-003	3.7200e-003	140.0409
Total	**0.0565**	**0.0372**	**0.4656**	**1.3600e-003**	**0.1677**	**8.3000e-004**	**0.1685**	**0.0445**	**7.6000e-004**	**0.0452**		**138.8409**	**138.8409**	**3.6600e-003**	**3.7200e-003**	**140.0409**

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

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	38.5603					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		281.8690
Total	**38.7520**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.1205	0.0794	0.9932	2.8900e-003	0.3577	1.7700e-003	0.3595	0.0949	1.6300e-003	0.0965		296.1938	296.1938	7.8200e-003	7.9300e-003	298.7539
Total	**0.1205**	**0.0794**	**0.9932**	**2.8900e-003**	**0.3577**	**1.7700e-003**	**0.3595**	**0.0949**	**1.6300e-003**	**0.0965**		**296.1938**	**296.1938**	**7.8200e-003**	**7.9300e-003**	**298.7539**

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

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	38.5603					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	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**38.7520**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.1205	0.0794	0.9932	2.8900e-003	0.3577	1.7700e-003	0.3595	0.0949	1.6300e-003	0.0965		296.1938	296.1938	7.8200e-003	7.9300e-003	298.7539
Total	**0.1205**	**0.0794**	**0.9932**	**2.8900e-003**	**0.3577**	**1.7700e-003**	**0.3595**	**0.0949**	**1.6300e-003**	**0.0965**		**296.1938**	**296.1938**	**7.8200e-003**	**7.9300e-003**	**298.7539**

19421 Riverwalk Yucaipa Multi-family Alternative - San Bernardino-South Coast County, Winter

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6912	2.3736	15.0130	0.0318	3.3055	0.0266	3.3322	0.8816	0.0249	0.9066		3,271.5071	3,271.5071	0.2127	0.1765	3,329.4281
Unmitigated	1.9698	3.1229	19.8294	0.0448	4.7105	0.0368	4.7473	1.2564	0.0344	1.2908		4,610.5122	4,610.5122	0.2661	0.2328	4,686.5235

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	652.80	589.20	490.80	2,120,587	1,488,094
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	652.80	589.20	490.80	2,120,587	1,488,094

4.3 Trip Type Information

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

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Other Non-Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0510	0.4358	0.1854	2.7800e-003		0.0352	0.0352		0.0352	0.0352		556.2806	556.2806	0.0107	0.0102	559.5863
NaturalGas Unmitigated	0.0510	0.4358	0.1854	2.7800e-003		0.0352	0.0352		0.0352	0.0352		556.2806	556.2806	0.0107	0.0102	559.5863

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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

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	4728.38	0.0510	0.4358	0.1854	2.7800e-003		0.0352	0.0352		0.0352	0.0352		556.2806	556.2806	0.0107	0.0102	559.5863
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0510**	**0.4358**	**0.1854**	**2.7800e-003**		**0.0352**	**0.0352**		**0.0352**	**0.0352**		**556.2806**	**556.2806**	**0.0107**	**0.0102**	**559.5863**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	4.72838	0.0510	0.4358	0.1854	2.7800e-003		0.0352	0.0352		0.0352	0.0352		556.2806	556.2806	0.0107	0.0102	559.5863
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0510**	**0.4358**	**0.1854**	**2.7800e-003**		**0.0352**	**0.0352**		**0.0352**	**0.0352**		**556.2806**	**556.2806**	**0.0107**	**0.0102**	**559.5863**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.5979	1.9058	10.6799	0.0120		0.1997	0.1997		0.1997	0.1997	0.0000	2,304.9177	2,304.9177	0.0611	0.0419	2,318.9392
Unmitigated	3.5979	1.9058	10.6799	0.0120		0.1997	0.1997		0.1997	0.1997	0.0000	2,304.9177	2,304.9177	0.0611	0.0419	2,318.9392

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2097	1.7915	0.7624	0.0114		0.1449	0.1449		0.1449	0.1449	0.0000	2,287.0588	2,287.0588	0.0438	0.0419	2,300.6497
Landscaping	0.2997	0.1143	9.9175	5.2000e-004		0.0549	0.0549		0.0549	0.0549		17.8588	17.8588	0.0172		18.2895
Total	**3.5979**	**1.9058**	**10.6799**	**0.0120**		**0.1997**	**0.1997**		**0.1997**	**0.1997**	**0.0000**	**2,304.9177**	**2,304.9177**	**0.0611**	**0.0419**	**2,318.9392**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2097	1.7915	0.7624	0.0114		0.1449	0.1449		0.1449	0.1449	0.0000	2,287.0588	2,287.0588	0.0438	0.0419	2,300.6497
Landscaping	0.2997	0.1143	9.9175	5.2000e-004		0.0549	0.0549		0.0549	0.0549		17.8588	17.8588	0.0172		18.2895
Total	**3.5979**	**1.9058**	**10.6799**	**0.0120**		**0.1997**	**0.1997**		**0.1997**	**0.1997**	**0.0000**	**2,304.9177**	**2,304.9177**	**0.0611**	**0.0419**	**2,318.9392**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C

CALEEMOD MODEL ANNUAL EMISSIONS PRINTOUTS AND EMFAC DATA

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

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	2.74	Acre	2.74	119,354.40	0
Parking Lot	146.00	Space	1.31	58,400.00	0
Congregate Care (Assisted Living)	150.00	Dwelling Unit	0.97	140,000.00	429

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5.02 ac site w/ 150 senior housing attached DUs [3-story bldg w/ ~42,253 sf (or ~0.97 ac footprint) & bldg total is up to ~140TSF], 146 space parking lot, & remainder of site (~2.74ac) hardscape/landscaping/open space.

Construction Phase - Construction anticipated to begin no sooner than February 1, 2022 and be completed by August 1, 2023.

Off-road Equipment - CalEEMod default construction equipment for demolition reduced as only one residential dwelling unit with associated barn to be demolished.

Trips and VMT -

Demolition - ~1,500 sf of demolition for existing single-family dwelling unit/associated barn structure.

Grading - ~4,000 CY Import during grading.

Vehicle Trips - LOS & VMT Anlaysis, 3.7 trips/DU/day.

Woodstoves - SCAQMD Rule 445 prohibits the installation of wood burning devices in new developments.

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

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Site is ~0.37 miles east of Omnitrans Rte 309 stop Fifth at Bella Vista & ~0.93 miles SW of downtown portion of Yucaipa. Sidewalks provided on/off-site.

Water Mitigation - ~20% indoor water reduction per CalGreen Standards. Water-efficient irrigation systems.

Waste Mitigation - AB 341 requires each jurisdiction in CA to divert at least 75% of their waste away from landfills by 2020.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	27.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	230.00	305.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	20.00	24.00
tblFireplaces	NumberGas	127.50	135.00
tblFireplaces	NumberWood	7.50	0.00
tblGrading	MaterialImported	0.00	4,000.00
tblLandUse	LandUseSquareFeet	150,000.00	140,000.00
tblLandUse	LotAcreage	9.38	0.97
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblVehicleTrips	ST_TR	2.93	3.70
tblVehicleTrips	SU_TR	3.15	3.70
tblVehicleTrips	WD_TR	2.60	3.70
tblWoodstoves	NumberCatalytic	7.50	0.00
tblWoodstoves	NumberNoncatalytic	7.50	0.00

2.0 Emissions Summary

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2938	2.3086	2.7034	6.0800e-003	0.2798	0.1060	0.3857	0.0842	0.0994	0.1836	0.0000	546.8565	546.8565	0.0790	0.0191	554.5309
2023	0.5995	1.0018	1.4102	3.0800e-003	0.1270	0.0446	0.1716	0.0341	0.0419	0.0760	0.0000	276.5208	276.5208	0.0400	8.4600e-003	280.0407
Maximum	**0.5995**	**2.3086**	**2.7034**	**6.0800e-003**	**0.2798**	**0.1060**	**0.3857**	**0.0842**	**0.0994**	**0.1836**	**0.0000**	**546.8565**	**546.8565**	**0.0790**	**0.0191**	**554.5309**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2938	2.3086	2.7034	6.0800e-003	0.2533	0.1060	0.3592	0.0715	0.0994	0.1710	0.0000	546.8561	546.8561	0.0790	0.0191	554.5305
2023	0.5995	1.0018	1.4102	3.0800e-003	0.1270	0.0446	0.1716	0.0341	0.0419	0.0760	0.0000	276.5206	276.5206	0.0400	8.4600e-003	280.0406
Maximum	**0.5995**	**2.3086**	**2.7034**	**6.0800e-003**	**0.2533**	**0.1060**	**0.3592**	**0.0715**	**0.0994**	**0.1710**	**0.0000**	**546.8561**	**546.8561**	**0.0790**	**0.0191**	**554.5305**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**6.52**	**0.00**	**4.76**	**10.68**	**0.00**	**4.86**	**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**	0.7816	0.7816
2	**5-1-2022**	**7-31-2022**	0.6781	0.6781
3	**8-1-2022**	**10-31-2022**	0.6791	0.6791
4	**11-1-2022**	**1-31-2023**	0.6599	0.6599
5	**2-1-2023**	**4-30-2023**	0.5972	0.5972
6	**5-1-2023**	**7-31-2023**	0.7839	0.7839
7	**8-1-2023**	**9-30-2023**	0.0144	0.0144
		Highest	0.7839	0.7839

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6137	0.0459	1.5611	2.6000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	34.9490	34.9490	3.0600e-003	5.9000e-004	35.2027
Energy	0.0116	0.0994	0.0423	6.3000e-004		8.0400e-003	8.0400e-003		8.0400e-003	8.0400e-003	0.0000	224.0916	224.0916	0.0114	3.2300e-003	225.3378
Mobile	0.3025	0.4934	3.1976	7.0200e-003	0.7151	5.6800e-003	0.7208	0.1910	5.3200e-003	0.1964	0.0000	656.0747	656.0747	0.0378	0.0331	666.8921
Waste						0.0000	0.0000		0.0000	0.0000	27.7854	0.0000	27.7854	1.6421	0.0000	68.8372
Water						0.0000	0.0000		0.0000	0.0000	3.1006	34.7079	37.8084	0.3214	7.8700e-003	48.1897
Total	**0.9278**	**0.6386**	**4.8009**	**7.9100e-003**	**0.7151**	**0.0246**	**0.7397**	**0.1910**	**0.0242**	**0.2152**	**30.8860**	**949.8232**	**980.7092**	**2.0157**	**0.0448**	**1,044.4595**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6137	0.0459	1.5611	2.6000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	34.9490	34.9490	3.0600e-003	5.9000e-004	35.2027
Energy	0.0116	0.0994	0.0423	6.3000e-004		8.0400e-003	8.0400e-003		8.0400e-003	8.0400e-003	0.0000	224.0916	224.0916	0.0114	3.2300e-003	225.3378
Mobile	0.2586	0.3741	2.4163	4.9800e-003	0.5018	4.1100e-003	0.5060	0.1341	3.8500e-003	0.1379	0.0000	465.4391	465.4391	0.0302	0.0251	473.6732
Waste						0.0000	0.0000		0.0000	0.0000	6.9464	0.0000	6.9464	0.4105	0.0000	17.2093
Water						0.0000	0.0000		0.0000	0.0000	2.4804	30.1942	32.6747	0.2573	6.3200e-003	40.9922
Total	**0.8839**	**0.5193**	**4.0196**	**5.8700e-003**	**0.5018**	**0.0230**	**0.5248**	**0.1341**	**0.0227**	**0.1568**	**9.4268**	**754.6739**	**764.1007**	**0.7125**	**0.0352**	**792.4152**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**4.73**	**18.69**	**16.27**	**25.79**	**29.83**	**6.40**	**29.05**	**29.83**	**6.08**	**27.16**	**69.48**	**20.55**	**22.09**	**64.65**	**21.37**	**24.13**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/1/2022	3/9/2022	5	27	
2	Grading	Grading	3/10/2022	3/25/2022	5	12	
3	Building Construction	Building Construction	3/26/2022	5/26/2023	5	305	

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

4	Paving	Paving	5/27/2023	6/28/2023	5	23	
5	Architectural Coating	Architectural Coating	6/29/2023	8/1/2023	5	24	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 12

Acres of Paving: 4.05

Residential Indoor: 283,500; Residential Outdoor: 94,500; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 10,665 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	2	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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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
Demolition	5	13.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	500.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	183.00	45.00	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	37.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.4000e-004	0.0000	7.4000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0329	0.3232	0.2341	4.5000e-004		0.0156	0.0156		0.0145	0.0145	0.0000	39.7631	39.7631	0.0109	0.0000	40.0358
Total	**0.0329**	**0.3232**	**0.2341**	**4.5000e-004**	**7.4000e-004**	**0.0156**	**0.0164**	**1.1000e-004**	**0.0145**	**0.0146**	**0.0000**	**39.7631**	**39.7631**	**0.0109**	**0.0000**	**40.0358**

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

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.0000e-004	1.3000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2034	0.2034	1.0000e-005	3.0000e-005	0.2132
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	5.2000e-004	6.2300e-003	2.0000e-005	1.9200e-003	1.0000e-005	1.9300e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.5436	1.5436	4.0000e-005	4.0000e-005	1.5579
Total	**6.7000e-004**	**1.0200e-003**	**6.3600e-003**	**2.0000e-005**	**1.9800e-003**	**2.0000e-005**	**2.0000e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7470**	**1.7470**	**5.0000e-005**	**7.0000e-005**	**1.7711**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9000e-004	0.0000	2.9000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0329	0.3232	0.2341	4.5000e-004		0.0156	0.0156		0.0145	0.0145	0.0000	39.7631	39.7631	0.0109	0.0000	40.0358
Total	**0.0329**	**0.3232**	**0.2341**	**4.5000e-004**	**2.9000e-004**	**0.0156**	**0.0159**	**4.0000e-005**	**0.0145**	**0.0146**	**0.0000**	**39.7631**	**39.7631**	**0.0109**	**0.0000**	**40.0358**

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

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.0000e-004	1.3000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2034	0.2034	1.0000e-005	3.0000e-005	0.2132
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	5.2000e-004	6.2300e-003	2.0000e-005	1.9200e-003	1.0000e-005	1.9300e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.5436	1.5436	4.0000e-005	4.0000e-005	1.5579
Total	**6.7000e-004**	**1.0200e-003**	**6.3600e-003**	**2.0000e-005**	**1.9800e-003**	**2.0000e-005**	**2.0000e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7470**	**1.7470**	**5.0000e-005**	**7.0000e-005**	**1.7711**

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0427	0.0000	0.0427	0.0206	0.0000	0.0206	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.1251	0.0916	1.8000e-004		5.6500e-003	5.6500e-003		5.1900e-003	5.1900e-003	0.0000	15.6329	15.6329	5.0600e-003	0.0000	15.7593
Total	**0.0117**	**0.1251**	**0.0916**	**1.8000e-004**	**0.0427**	**5.6500e-003**	**0.0484**	**0.0206**	**5.1900e-003**	**0.0258**	**0.0000**	**15.6329**	**15.6329**	**5.0600e-003**	**0.0000**	**15.7593**

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3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.3000e-004	0.0360	8.9700e-003	1.5000e-004	4.3100e-003	3.6000e-004	4.6600e-003	1.1800e-003	3.4000e-004	1.5300e-003	0.0000	14.5301	14.5301	6.2000e-004	2.3000e-003	15.2318
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.7000e-004	3.1900e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	0.0000	2.7000e-004	0.0000	0.7916	0.7916	2.0000e-005	2.0000e-005	0.7989
Total	**1.2700e-003**	**0.0363**	**0.0122**	**1.6000e-004**	**5.3000e-003**	**3.7000e-004**	**5.6500e-003**	**1.4400e-003**	**3.4000e-004**	**1.8000e-003**	**0.0000**	**15.3216**	**15.3216**	**6.4000e-004**	**2.3200e-003**	**16.0307**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0167	0.0000	0.0167	8.0300e-003	0.0000	8.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.1251	0.0916	1.8000e-004		5.6500e-003	5.6500e-003		5.1900e-003	5.1900e-003	0.0000	15.6328	15.6328	5.0600e-003	0.0000	15.7592
Total	**0.0117**	**0.1251**	**0.0916**	**1.8000e-004**	**0.0167**	**5.6500e-003**	**0.0223**	**8.0300e-003**	**5.1900e-003**	**0.0132**	**0.0000**	**15.6328**	**15.6328**	**5.0600e-003**	**0.0000**	**15.7592**

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.3000e-004	0.0360	8.9700e-003	1.5000e-004	4.3100e-003	3.6000e-004	4.6600e-003	1.1800e-003	3.4000e-004	1.5300e-003	0.0000	14.5301	14.5301	6.2000e-004	2.3000e-003	15.2318
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.7000e-004	3.1900e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	0.0000	2.7000e-004	0.0000	0.7916	0.7916	2.0000e-005	2.0000e-005	0.7989
Total	**1.2700e-003**	**0.0363**	**0.0122**	**1.6000e-004**	**5.3000e-003**	**3.7000e-004**	**5.6500e-003**	**1.4400e-003**	**3.4000e-004**	**1.8000e-003**	**0.0000**	**15.3216**	**15.3216**	**6.4000e-004**	**2.3200e-003**	**16.0307**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1706	1.5616	1.6363	2.6900e-003		0.0809	0.0809		0.0761	0.0761	0.0000	231.7252	231.7252	0.0555	0.0000	233.1131
Total	**0.1706**	**1.5616**	**1.6363**	**2.6900e-003**		**0.0809**	**0.0809**		**0.0761**	**0.0761**	**0.0000**	**231.7252**	**231.7252**	**0.0555**	**0.0000**	**233.1131**

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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 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.6700e-003	0.2073	0.0735	8.4000e-004	0.0284	2.3500e-003	0.0307	8.1900e-003	2.2500e-003	0.0104	0.0000	81.7127	81.7127	2.2000e-003	0.0121	85.3740
Worker	0.0690	0.0542	0.6494	1.7400e-003	0.2007	1.0700e-003	0.2017	0.0533	9.9000e-004	0.0543	0.0000	160.9539	160.9539	4.5900e-003	4.6300e-003	162.4469
Total	**0.0767**	**0.2614**	**0.7229**	**2.5800e-003**	**0.2290**	**3.4200e-003**	**0.2325**	**0.0615**	**3.2400e-003**	**0.0647**	**0.0000**	**242.6666**	**242.6666**	**6.7900e-003**	**0.0167**	**247.8208**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1706	1.5616	1.6363	2.6900e-003		0.0809	0.0809		0.0761	0.0761	0.0000	231.7250	231.7250	0.0555	0.0000	233.1128
Total	**0.1706**	**1.5616**	**1.6363**	**2.6900e-003**		**0.0809**	**0.0809**		**0.0761**	**0.0761**	**0.0000**	**231.7250**	**231.7250**	**0.0555**	**0.0000**	**233.1128**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.6700e-003	0.2073	0.0735	8.4000e-004	0.0284	2.3500e-003	0.0307	8.1900e-003	2.2500e-003	0.0104	0.0000	81.7127	81.7127	2.2000e-003	0.0121	85.3740
Worker	0.0690	0.0542	0.6494	1.7400e-003	0.2007	1.0700e-003	0.2017	0.0533	9.9000e-004	0.0543	0.0000	160.9539	160.9539	4.5900e-003	4.6300e-003	162.4469
Total	**0.0767**	**0.2614**	**0.7229**	**2.5800e-003**	**0.2290**	**3.4200e-003**	**0.2325**	**0.0615**	**3.2400e-003**	**0.0647**	**0.0000**	**242.6666**	**242.6666**	**6.7900e-003**	**0.0167**	**247.8208**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0826	0.7552	0.8528	1.4100e-003		0.0367	0.0367		0.0346	0.0346	0.0000	121.6975	121.6975	0.0290	0.0000	122.4212
Total	**0.0826**	**0.7552**	**0.8528**	**1.4100e-003**		**0.0367**	**0.0367**		**0.0346**	**0.0346**	**0.0000**	**121.6975**	**121.6975**	**0.0290**	**0.0000**	**122.4212**

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3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6600e-003	0.0872	0.0353	4.2000e-004	0.0149	6.2000e-004	0.0155	4.3000e-003	6.0000e-004	4.9000e-003	0.0000	41.1744	41.1744	1.0700e-003	6.0800e-003	43.0144
Worker	0.0335	0.0250	0.3126	8.9000e-004	0.1053	5.3000e-004	0.1059	0.0280	4.9000e-004	0.0285	0.0000	82.2747	82.2747	2.1600e-003	2.2300e-003	82.9939
Total	**0.0361**	**0.1122**	**0.3479**	**1.3100e-003**	**0.1202**	**1.1500e-003**	**0.1214**	**0.0323**	**1.0900e-003**	**0.0334**	**0.0000**	**123.4490**	**123.4490**	**3.2300e-003**	**8.3100e-003**	**126.0083**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0826	0.7552	0.8528	1.4100e-003		0.0367	0.0367		0.0346	0.0346	0.0000	121.6974	121.6974	0.0290	0.0000	122.4211
Total	**0.0826**	**0.7552**	**0.8528**	**1.4100e-003**		**0.0367**	**0.0367**		**0.0346**	**0.0346**	**0.0000**	**121.6974**	**121.6974**	**0.0290**	**0.0000**	**122.4211**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6600e-003	0.0872	0.0353	4.2000e-004	0.0149	6.2000e-004	0.0155	4.3000e-003	6.0000e-004	4.9000e-003	0.0000	41.1744	41.1744	1.0700e-003	6.0800e-003	43.0144
Worker	0.0335	0.0250	0.3126	8.9000e-004	0.1053	5.3000e-004	0.1059	0.0280	4.9000e-004	0.0285	0.0000	82.2747	82.2747	2.1600e-003	2.2300e-003	82.9939
Total	**0.0361**	**0.1122**	**0.3479**	**1.3100e-003**	**0.1202**	**1.1500e-003**	**0.1214**	**0.0323**	**1.0900e-003**	**0.0334**	**0.0000**	**123.4490**	**123.4490**	**3.2300e-003**	**8.3100e-003**	**126.0083**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1172	0.1677	2.6000e-004		5.8700e-003	5.8700e-003		5.4000e-003	5.4000e-003	0.0000	23.0309	23.0309	7.4500e-003	0.0000	23.2171
Paving	1.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1172**	**0.1677**	**2.6000e-004**		**5.8700e-003**	**5.8700e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**23.0309**	**23.0309**	**7.4500e-003**	**0.0000**	**23.2171**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.5000e-004	5.6100e-003	2.0000e-005	1.8900e-003	1.0000e-005	1.9000e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4772	1.4772	4.0000e-005	4.0000e-005	1.4901
Total	**6.0000e-004**	**4.5000e-004**	**5.6100e-003**	**2.0000e-005**	**1.8900e-003**	**1.0000e-005**	**1.9000e-003**	**5.0000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.4772**	**1.4772**	**4.0000e-005**	**4.0000e-005**	**1.4901**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1172	0.1677	2.6000e-004		5.8700e-003	5.8700e-003		5.4000e-003	5.4000e-003	0.0000	23.0309	23.0309	7.4500e-003	0.0000	23.2171
Paving	1.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1172**	**0.1677**	**2.6000e-004**		**5.8700e-003**	**5.8700e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**23.0309**	**23.0309**	**7.4500e-003**	**0.0000**	**23.2171**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.5000e-004	5.6100e-003	2.0000e-005	1.8900e-003	1.0000e-005	1.9000e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4772	1.4772	4.0000e-005	4.0000e-005	1.4901
Total	**6.0000e-004**	**4.5000e-004**	**5.6100e-003**	**2.0000e-005**	**1.8900e-003**	**1.0000e-005**	**1.9000e-003**	**5.0000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.4772**	**1.4772**	**4.0000e-005**	**4.0000e-005**	**1.4901**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4627					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3000e-003	0.0156	0.0217	4.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	3.0639	3.0639	1.8000e-004	0.0000	3.0685
Total	**0.4650**	**0.0156**	**0.0217**	**4.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**3.0639**	**3.0639**	**1.8000e-004**	**0.0000**	**3.0685**

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

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5500e-003	1.1500e-003	0.0145	4.0000e-005	4.8700e-003	2.0000e-005	4.8900e-003	1.2900e-003	2.0000e-005	1.3200e-003	0.0000	3.8022	3.8022	1.0000e-004	1.0000e-004	3.8355
Total	**1.5500e-003**	**1.1500e-003**	**0.0145**	**4.0000e-005**	**4.8700e-003**	**2.0000e-005**	**4.8900e-003**	**1.2900e-003**	**2.0000e-005**	**1.3200e-003**	**0.0000**	**3.8022**	**3.8022**	**1.0000e-004**	**1.0000e-004**	**3.8355**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4627					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3000e-003	0.0156	0.0217	4.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	3.0639	3.0639	1.8000e-004	0.0000	3.0685
Total	**0.4650**	**0.0156**	**0.0217**	**4.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**3.0639**	**3.0639**	**1.8000e-004**	**0.0000**	**3.0685**

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

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5500e-003	1.1500e-003	0.0145	4.0000e-005	4.8700e-003	2.0000e-005	4.8900e-003	1.2900e-003	2.0000e-005	1.3200e-003	0.0000	3.8022	3.8022	1.0000e-004	1.0000e-004	3.8355
Total	**1.5500e-003**	**1.1500e-003**	**0.0145**	**4.0000e-005**	**4.8700e-003**	**2.0000e-005**	**4.8900e-003**	**1.2900e-003**	**2.0000e-005**	**1.3200e-003**	**0.0000**	**3.8022**	**3.8022**	**1.0000e-004**	**1.0000e-004**	**3.8355**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2586	0.3741	2.4163	4.9800e-003	0.5018	4.1100e-003	0.5060	0.1341	3.8500e-003	0.1379	0.0000	465.4391	465.4391	0.0302	0.0251	473.6732
Unmitigated	0.3025	0.4934	3.1976	7.0200e-003	0.7151	5.6800e-003	0.7208	0.1910	5.3200e-003	0.1964	0.0000	656.0747	656.0747	0.0378	0.0331	666.8921

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	555.00	555.00	555.00	1,896,519	1,330,857
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	555.00	555.00	555.00	1,896,519	1,330,857

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Congregate Care (Assisted	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Other Non-Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

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

Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	108.9685	108.9685	9.2000e-003	1.1100e-003	109.5306
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	108.9685	108.9685	9.2000e-003	1.1100e-003	109.5306
NaturalGas Mitigated	0.0116	0.0994	0.0423	6.3000e-004		8.0400e-003	8.0400e-003		8.0400e-003	8.0400e-003	0.0000	115.1231	115.1231	2.2100e-003	2.1100e-003	115.8072
NaturalGas Unmitigated	0.0116	0.0994	0.0423	6.3000e-004		8.0400e-003	8.0400e-003		8.0400e-003	8.0400e-003	0.0000	115.1231	115.1231	2.2100e-003	2.1100e-003	115.8072

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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

	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					
Congregate Care (Assisted Living)	2.15733e+006	0.0116	0.0994	0.0423	6.3000e-004		8.0400e-003	8.0400e-003		8.0400e-003	8.0400e-003	0.0000	115.1231	115.1231	2.2100e-003	2.1100e-003	115.8072
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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
Total		**0.0116**	**0.0994**	**0.0423**	**6.3000e-004**		**8.0400e-003**	**8.0400e-003**		**8.0400e-003**	**8.0400e-003**	**0.0000**	**115.1231**	**115.1231**	**2.2100e-003**	**2.1100e-003**	**115.8072**

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

	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					
Congregate Care (Assisted Living)	2.15733e+006	0.0116	0.0994	0.0423	6.3000e-004		8.0400e-003	8.0400e-003		8.0400e-003	8.0400e-003	0.0000	115.1231	115.1231	2.2100e-003	2.1100e-003	115.8072
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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
Total		**0.0116**	**0.0994**	**0.0423**	**6.3000e-004**		**8.0400e-003**	**8.0400e-003**		**8.0400e-003**	**8.0400e-003**	**0.0000**	**115.1231**	**115.1231**	**2.2100e-003**	**2.1100e-003**	**115.8072**

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

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	594002	105.3435	8.8900e-003	1.0800e-003	105.8870
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20440	3.6249	3.1000e-004	4.0000e-005	3.6436
Total		**108.9685**	**9.2000e-003**	**1.1200e-003**	**109.5306**

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

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	594002	105.3435	8.8900e-003	1.0800e-003	105.8870
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20440	3.6249	3.1000e-004	4.0000e-005	3.6436
Total		**108.9685**	**9.2000e-003**	**1.1200e-003**	**109.5306**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6137	0.0459	1.5611	2.6000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	34.9490	34.9490	3.0600e-003	5.9000e-004	35.2027
Unmitigated	0.6137	0.0459	1.5611	2.6000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	34.9490	34.9490	3.0600e-003	5.9000e-004	35.2027

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0463					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5174					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2800e-003	0.0280	0.0119	1.8000e-004		2.2600e-003	2.2600e-003		2.2600e-003	2.2600e-003	0.0000	32.4185	32.4185	6.2000e-004	5.9000e-004	32.6112
Landscaping	0.0468	0.0179	1.5491	8.0000e-005		8.5700e-003	8.5700e-003		8.5700e-003	8.5700e-003	0.0000	2.5305	2.5305	2.4400e-003	0.0000	2.5915
Total	**0.6137**	**0.0458**	**1.5611**	**2.6000e-004**		**0.0108**	**0.0108**		**0.0108**	**0.0108**	**0.0000**	**34.9490**	**34.9490**	**3.0600e-003**	**5.9000e-004**	**35.2027**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0463					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5174					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2800e-003	0.0280	0.0119	1.8000e-004		2.2600e-003	2.2600e-003		2.2600e-003	2.2600e-003	0.0000	32.4185	32.4185	6.2000e-004	5.9000e-004	32.6112
Landscaping	0.0468	0.0179	1.5491	8.0000e-005		8.5700e-003	8.5700e-003		8.5700e-003	8.5700e-003	0.0000	2.5305	2.5305	2.4400e-003	0.0000	2.5915
Total	**0.6137**	**0.0458**	**1.5611**	**2.6000e-004**		**0.0108**	**0.0108**		**0.0108**	**0.0108**	**0.0000**	**34.9490**	**34.9490**	**3.0600e-003**	**5.9000e-004**	**35.2027**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	32.6747	0.2573	6.3200e-003	40.9922
Unmitigated	37.8084	0.3214	7.8700e-003	48.1897

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	9.7731 / 6.1613	37.8084	0.3214	7.8700e-003	48.1897
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**37.8084**	**0.3214**	**7.8700e-003**	**48.1897**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	7.81848 / 6.1613	32.6747	0.2573	6.3200e-003	40.9922
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**32.6747**	**0.2573**	**6.3200e-003**	**40.9922**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

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	6.9464	0.4105	0.0000	17.2093
Unmitigated	27.7854	1.6421	0.0000	68.8372

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	136.88	27.7854	1.6421	0.0000	68.8372
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**27.7854**	**1.6421**	**0.0000**	**68.8372**

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

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	34.22	6.9464	0.4105	0.0000	17.2093
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**6.9464**	**0.4105**	**0.0000**	**17.2093**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

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

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	2.74	Acre	2.74	119,354.40	0
Parking Lot	146.00	Space	1.31	58,400.00	0
Apartments Mid Rise	120.00	Dwelling Unit	0.97	140,000.00	343

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5.02 ac site w/ 120 apartments [3-story bldg w/ ~42,253 sf (or ~0.97 ac footprint) & bldg total is up to ~140TSF], 146 space parking lot, & remainder of site (~2.74ac) hardscape/landscaping/open space.

Construction Phase - Construction anticipated to begin no sooner than February 1, 2022 and be completed by August 1, 2023.

Off-road Equipment - CalEEMod default construction equipment for demolition reduced as only one residential dwelling unit with associated barn to be demolished.

Trips and VMT -

Demolition - ~1,500 sf of demolition for existing single-family dwelling unit/associated barn structure.

Grading - ~4,000 CY Import during grading.

Vehicle Trips - CalEEMod default trip generation for mid-rise apartments (ITE 221).

Woodstoves - SCAQMD Rule 445 prohibits the installation of wood burning devices in new developments.

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Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Site is ~0.37 miles east of Omnitrans Rte 309 stop Fifth at Bella Vista & ~0.93 miles SW of downtown portion of Yucaipa. Sidewalks provided on/off-site.

Water Mitigation - ~20% indoor water reduction per CalGreen Standards. Water-efficient irrigation systems.

Waste Mitigation - AB 341 requires each jurisdiction in CA to divert at least 75% of their waste away from landfills by 2020.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	27.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	230.00	305.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	20.00	24.00
tblFireplaces	NumberGas	102.00	108.00
tblFireplaces	NumberWood	6.00	0.00
tblGrading	MaterialImported	0.00	4,000.00
tblLandUse	LandUseSquareFeet	120,000.00	140,000.00
tblLandUse	LotAcreage	3.16	0.97
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblWoodstoves	NumberCatalytic	6.00	0.00
tblWoodstoves	NumberNoncatalytic	6.00	0.00

2.0 Emissions Summary

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2821	2.2642	2.5751	5.7400e-003	0.2533	0.1045	0.3578	0.0771	0.0981	0.1752	0.0000	515.5794	515.5794	0.0763	0.0178	522.7774
2023	0.5951	0.9928	1.3683	2.9400e-003	0.1127	0.0445	0.1572	0.0303	0.0418	0.0721	0.0000	263.3710	263.3710	0.0396	7.7700e-003	266.6774
Maximum	**0.5951**	**2.2642**	**2.5751**	**5.7400e-003**	**0.2533**	**0.1045**	**0.3578**	**0.0771**	**0.0981**	**0.1752**	**0.0000**	**515.5794**	**515.5794**	**0.0763**	**0.0178**	**522.7774**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2821	2.2642	2.5751	5.7400e-003	0.2268	0.1045	0.3313	0.0645	0.0981	0.1626	0.0000	515.5791	515.5791	0.0763	0.0178	522.7771
2023	0.5951	0.9928	1.3683	2.9400e-003	0.1127	0.0445	0.1572	0.0303	0.0418	0.0721	0.0000	263.3709	263.3709	0.0396	7.7700e-003	266.6772
Maximum	**0.5951**	**2.2642**	**2.5751**	**5.7400e-003**	**0.2268**	**0.1045**	**0.3313**	**0.0645**	**0.0981**	**0.1626**	**0.0000**	**515.5791**	**515.5791**	**0.0763**	**0.0178**	**522.7771**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**7.24**	**0.00**	**5.15**	**11.76**	**0.00**	**5.11**	**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**	0.7515	0.7515
2	**5-1-2022**	**7-31-2022**	0.6686	0.6686
3	**8-1-2022**	**10-31-2022**	0.6695	0.6695
4	**11-1-2022**	**1-31-2023**	0.6507	0.6507
5	**2-1-2023**	**4-30-2023**	0.5893	0.5893
6	**5-1-2023**	**7-31-2023**	0.7813	0.7813
7	**8-1-2023**	**9-30-2023**	0.0144	0.0144
		Highest	0.7813	0.7813

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6037	0.0367	1.2492	2.1000e-004		8.6700e-003	8.6700e-003		8.6700e-003	8.6700e-003	0.0000	27.9600	27.9600	2.4500e-003	4.8000e-004	28.1629
Energy	9.3100e-003	0.0795	0.0338	5.1000e-004		6.4300e-003	6.4300e-003		6.4300e-003	6.4300e-003	0.0000	179.9982	179.9982	9.1800e-003	2.5900e-003	180.9990
Mobile	0.3382	0.5517	3.5754	7.8500e-003	0.7996	6.3500e-003	0.8060	0.2136	5.9500e-003	0.2196	0.0000	733.5878	733.5878	0.0422	0.0371	745.6833
Waste						0.0000	0.0000		0.0000	0.0000	11.2051	0.0000	11.2051	0.6622	0.0000	27.7602
Water						0.0000	0.0000		0.0000	0.0000	2.4804	27.7663	30.2468	0.2571	6.3000e-003	38.5518
Total	**0.9513**	**0.6679**	**4.8584**	**8.5700e-003**	**0.7996**	**0.0215**	**0.8211**	**0.2136**	**0.0211**	**0.2347**	**13.6855**	**969.3123**	**982.9979**	**0.9732**	**0.0464**	**1,021.1571**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6037	0.0367	1.2492	2.1000e-004		8.6700e-003	8.6700e-003		8.6700e-003	8.6700e-003	0.0000	27.9600	27.9600	2.4500e-003	4.8000e-004	28.1629
Energy	9.3100e-003	0.0795	0.0338	5.1000e-004		6.4300e-003	6.4300e-003		6.4300e-003	6.4300e-003	0.0000	179.9982	179.9982	9.1800e-003	2.5900e-003	180.9990
Mobile	0.2891	0.4182	2.7017	5.5700e-003	0.5611	4.6000e-003	0.5657	0.1499	4.3000e-003	0.1542	0.0000	520.4292	520.4292	0.0337	0.0281	529.6361
Waste						0.0000	0.0000		0.0000	0.0000	2.8013	0.0000	2.8013	0.1656	0.0000	6.9400
Water						0.0000	0.0000		0.0000	0.0000	1.9844	24.1554	26.1398	0.2059	5.0600e-003	32.7938
Total	**0.9022**	**0.5344**	**3.9848**	**6.2900e-003**	**0.5611**	**0.0197**	**0.5808**	**0.1499**	**0.0194**	**0.1693**	**4.7856**	**752.5428**	**757.3284**	**0.4168**	**0.0362**	**778.5318**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.16**	**19.98**	**17.98**	**26.60**	**29.83**	**8.16**	**29.26**	**29.83**	**7.84**	**27.85**	**65.03**	**22.36**	**22.96**	**57.17**	**22.02**	**23.76**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/1/2022	3/9/2022	5	27	
2	Grading	Grading	3/10/2022	3/25/2022	5	12	
3	Building Construction	Building Construction	3/26/2022	5/26/2023	5	305	

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

4	Paving	Paving	5/27/2023	6/28/2023	5	23	
5	Architectural Coating	Architectural Coating	6/29/2023	8/1/2023	5	24	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 12

Acres of Paving: 4.05

Residential Indoor: 283,500; Residential Outdoor: 94,500; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 10,665 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	500.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	161.00	42.00	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	32.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.4000e-004	0.0000	7.4000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0302	0.2992	0.1901	3.8000e-004		0.0145	0.0145		0.0135	0.0135	0.0000	33.6394	33.6394	8.9300e-003	0.0000	33.8626
Total	**0.0302**	**0.2992**	**0.1901**	**3.8000e-004**	**7.4000e-004**	**0.0145**	**0.0152**	**1.1000e-004**	**0.0135**	**0.0136**	**0.0000**	**33.6394**	**33.6394**	**8.9300e-003**	**0.0000**	**33.8626**

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

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.0000e-004	1.3000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2034	0.2034	1.0000e-005	3.0000e-005	0.2132
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	5.1000e-004	4.0000e-004	4.7900e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1874	1.1874	3.0000e-005	3.0000e-005	1.1984
Total	**5.2000e-004**	**9.0000e-004**	**4.9200e-003**	**1.0000e-005**	**1.5400e-003**	**2.0000e-005**	**1.5600e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.3908**	**1.3908**	**4.0000e-005**	**6.0000e-005**	**1.4116**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9000e-004	0.0000	2.9000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0302	0.2992	0.1901	3.8000e-004		0.0145	0.0145		0.0135	0.0135	0.0000	33.6394	33.6394	8.9300e-003	0.0000	33.8626
Total	**0.0302**	**0.2992**	**0.1901**	**3.8000e-004**	**2.9000e-004**	**0.0145**	**0.0148**	**4.0000e-005**	**0.0135**	**0.0135**	**0.0000**	**33.6394**	**33.6394**	**8.9300e-003**	**0.0000**	**33.8626**

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

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.0000e-004	1.3000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2034	0.2034	1.0000e-005	3.0000e-005	0.2132
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	5.1000e-004	4.0000e-004	4.7900e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1874	1.1874	3.0000e-005	3.0000e-005	1.1984
Total	**5.2000e-004**	**9.0000e-004**	**4.9200e-003**	**1.0000e-005**	**1.5400e-003**	**2.0000e-005**	**1.5600e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.3908**	**1.3908**	**4.0000e-005**	**6.0000e-005**	**1.4116**

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0427	0.0000	0.0427	0.0206	0.0000	0.0206	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.1251	0.0916	1.8000e-004		5.6500e-003	5.6500e-003		5.1900e-003	5.1900e-003	0.0000	15.6329	15.6329	5.0600e-003	0.0000	15.7593
Total	**0.0117**	**0.1251**	**0.0916**	**1.8000e-004**	**0.0427**	**5.6500e-003**	**0.0484**	**0.0206**	**5.1900e-003**	**0.0258**	**0.0000**	**15.6329**	**15.6329**	**5.0600e-003**	**0.0000**	**15.7593**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.3000e-004	0.0360	8.9700e-003	1.5000e-004	4.3100e-003	3.6000e-004	4.6600e-003	1.1800e-003	3.4000e-004	1.5300e-003	0.0000	14.5301	14.5301	6.2000e-004	2.3000e-003	15.2318
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.7000e-004	3.1900e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	0.0000	2.7000e-004	0.0000	0.7916	0.7916	2.0000e-005	2.0000e-005	0.7989
Total	**1.2700e-003**	**0.0363**	**0.0122**	**1.6000e-004**	**5.3000e-003**	**3.7000e-004**	**5.6500e-003**	**1.4400e-003**	**3.4000e-004**	**1.8000e-003**	**0.0000**	**15.3216**	**15.3216**	**6.4000e-004**	**2.3200e-003**	**16.0307**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0167	0.0000	0.0167	8.0300e-003	0.0000	8.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.1251	0.0916	1.8000e-004		5.6500e-003	5.6500e-003		5.1900e-003	5.1900e-003	0.0000	15.6328	15.6328	5.0600e-003	0.0000	15.7592
Total	**0.0117**	**0.1251**	**0.0916**	**1.8000e-004**	**0.0167**	**5.6500e-003**	**0.0223**	**8.0300e-003**	**5.1900e-003**	**0.0132**	**0.0000**	**15.6328**	**15.6328**	**5.0600e-003**	**0.0000**	**15.7592**

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.3000e-004	0.0360	8.9700e-003	1.5000e-004	4.3100e-003	3.6000e-004	4.6600e-003	1.1800e-003	3.4000e-004	1.5300e-003	0.0000	14.5301	14.5301	6.2000e-004	2.3000e-003	15.2318
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.7000e-004	3.1900e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	0.0000	2.7000e-004	0.0000	0.7916	0.7916	2.0000e-005	2.0000e-005	0.7989
Total	**1.2700e-003**	**0.0363**	**0.0122**	**1.6000e-004**	**5.3000e-003**	**3.7000e-004**	**5.6500e-003**	**1.4400e-003**	**3.4000e-004**	**1.8000e-003**	**0.0000**	**15.3216**	**15.3216**	**6.4000e-004**	**2.3200e-003**	**16.0307**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1706	1.5616	1.6363	2.6900e-003		0.0809	0.0809		0.0761	0.0761	0.0000	231.7252	231.7252	0.0555	0.0000	233.1131
Total	**0.1706**	**1.5616**	**1.6363**	**2.6900e-003**		**0.0809**	**0.0809**		**0.0761**	**0.0761**	**0.0000**	**231.7252**	**231.7252**	**0.0555**	**0.0000**	**233.1131**

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3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.1600e-003	0.1935	0.0686	7.8000e-004	0.0265	2.1900e-003	0.0287	7.6500e-003	2.1000e-003	9.7400e-003	0.0000	76.2652	76.2652	2.0600e-003	0.0113	79.6824
Worker	0.0607	0.0476	0.5713	1.5300e-003	0.1765	9.4000e-004	0.1775	0.0469	8.7000e-004	0.0478	0.0000	141.6042	141.6042	4.0300e-003	4.0700e-003	142.9177
Total	**0.0679**	**0.2411**	**0.6399**	**2.3100e-003**	**0.2030**	**3.1300e-003**	**0.2062**	**0.0545**	**2.9700e-003**	**0.0575**	**0.0000**	**217.8695**	**217.8695**	**6.0900e-003**	**0.0154**	**222.6001**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1706	1.5616	1.6363	2.6900e-003		0.0809	0.0809		0.0761	0.0761	0.0000	231.7250	231.7250	0.0555	0.0000	233.1128
Total	**0.1706**	**1.5616**	**1.6363**	**2.6900e-003**		**0.0809**	**0.0809**		**0.0761**	**0.0761**	**0.0000**	**231.7250**	**231.7250**	**0.0555**	**0.0000**	**233.1128**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.1600e-003	0.1935	0.0686	7.8000e-004	0.0265	2.1900e-003	0.0287	7.6500e-003	2.1000e-003	9.7400e-003	0.0000	76.2652	76.2652	2.0600e-003	0.0113	79.6824
Worker	0.0607	0.0476	0.5713	1.5300e-003	0.1765	9.4000e-004	0.1775	0.0469	8.7000e-004	0.0478	0.0000	141.6042	141.6042	4.0300e-003	4.0700e-003	142.9177
Total	**0.0679**	**0.2411**	**0.6399**	**2.3100e-003**	**0.2030**	**3.1300e-003**	**0.2062**	**0.0545**	**2.9700e-003**	**0.0575**	**0.0000**	**217.8695**	**217.8695**	**6.0900e-003**	**0.0154**	**222.6001**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0826	0.7552	0.8528	1.4100e-003		0.0367	0.0367		0.0346	0.0346	0.0000	121.6975	121.6975	0.0290	0.0000	122.4212
Total	**0.0826**	**0.7552**	**0.8528**	**1.4100e-003**		**0.0367**	**0.0367**		**0.0346**	**0.0346**	**0.0000**	**121.6975**	**121.6975**	**0.0290**	**0.0000**	**122.4212**

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

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4900e-003	0.0814	0.0329	3.9000e-004	0.0139	5.8000e-004	0.0145	4.0100e-003	5.6000e-004	4.5700e-003	0.0000	38.4294	38.4294	1.0000e-003	5.6800e-003	40.1468
Worker	0.0295	0.0220	0.2750	7.8000e-004	0.0927	4.7000e-004	0.0932	0.0246	4.3000e-004	0.0250	0.0000	72.3837	72.3837	1.9000e-003	1.9600e-003	73.0165
Total	**0.0319**	**0.1033**	**0.3080**	**1.1700e-003**	**0.1066**	**1.0500e-003**	**0.1076**	**0.0286**	**9.9000e-004**	**0.0296**	**0.0000**	**110.8131**	**110.8131**	**2.9000e-003**	**7.6400e-003**	**113.1633**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0826	0.7552	0.8528	1.4100e-003		0.0367	0.0367		0.0346	0.0346	0.0000	121.6974	121.6974	0.0290	0.0000	122.4211
Total	**0.0826**	**0.7552**	**0.8528**	**1.4100e-003**		**0.0367**	**0.0367**		**0.0346**	**0.0346**	**0.0000**	**121.6974**	**121.6974**	**0.0290**	**0.0000**	**122.4211**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4900e-003	0.0814	0.0329	3.9000e-004	0.0139	5.8000e-004	0.0145	4.0100e-003	5.6000e-004	4.5700e-003	0.0000	38.4294	38.4294	1.0000e-003	5.6800e-003	40.1468
Worker	0.0295	0.0220	0.2750	7.8000e-004	0.0927	4.7000e-004	0.0932	0.0246	4.3000e-004	0.0250	0.0000	72.3837	72.3837	1.9000e-003	1.9600e-003	73.0165
Total	**0.0319**	**0.1033**	**0.3080**	**1.1700e-003**	**0.1066**	**1.0500e-003**	**0.1076**	**0.0286**	**9.9000e-004**	**0.0296**	**0.0000**	**110.8131**	**110.8131**	**2.9000e-003**	**7.6400e-003**	**113.1633**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1172	0.1677	2.6000e-004		5.8700e-003	5.8700e-003		5.4000e-003	5.4000e-003	0.0000	23.0309	23.0309	7.4500e-003	0.0000	23.2171
Paving	1.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1172**	**0.1677**	**2.6000e-004**		**5.8700e-003**	**5.8700e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**23.0309**	**23.0309**	**7.4500e-003**	**0.0000**	**23.2171**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.5000e-004	5.6100e-003	2.0000e-005	1.8900e-003	1.0000e-005	1.9000e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4772	1.4772	4.0000e-005	4.0000e-005	1.4901
Total	**6.0000e-004**	**4.5000e-004**	**5.6100e-003**	**2.0000e-005**	**1.8900e-003**	**1.0000e-005**	**1.9000e-003**	**5.0000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.4772**	**1.4772**	**4.0000e-005**	**4.0000e-005**	**1.4901**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1172	0.1677	2.6000e-004		5.8700e-003	5.8700e-003		5.4000e-003	5.4000e-003	0.0000	23.0309	23.0309	7.4500e-003	0.0000	23.2171
Paving	1.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1172**	**0.1677**	**2.6000e-004**		**5.8700e-003**	**5.8700e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**23.0309**	**23.0309**	**7.4500e-003**	**0.0000**	**23.2171**

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.5000e-004	5.6100e-003	2.0000e-005	1.8900e-003	1.0000e-005	1.9000e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4772	1.4772	4.0000e-005	4.0000e-005	1.4901
Total	**6.0000e-004**	**4.5000e-004**	**5.6100e-003**	**2.0000e-005**	**1.8900e-003**	**1.0000e-005**	**1.9000e-003**	**5.0000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.4772**	**1.4772**	**4.0000e-005**	**4.0000e-005**	**1.4901**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4627					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3000e-003	0.0156	0.0217	4.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	3.0639	3.0639	1.8000e-004	0.0000	3.0685
Total	**0.4650**	**0.0156**	**0.0217**	**4.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**3.0639**	**3.0639**	**1.8000e-004**	**0.0000**	**3.0685**

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

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3400e-003	1.0000e-003	0.0125	4.0000e-005	4.2100e-003	2.0000e-005	4.2300e-003	1.1200e-003	2.0000e-005	1.1400e-003	0.0000	3.2884	3.2884	9.0000e-005	9.0000e-005	3.3172
Total	**1.3400e-003**	**1.0000e-003**	**0.0125**	**4.0000e-005**	**4.2100e-003**	**2.0000e-005**	**4.2300e-003**	**1.1200e-003**	**2.0000e-005**	**1.1400e-003**	**0.0000**	**3.2884**	**3.2884**	**9.0000e-005**	**9.0000e-005**	**3.3172**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4627					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3000e-003	0.0156	0.0217	4.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	3.0639	3.0639	1.8000e-004	0.0000	3.0685
Total	**0.4650**	**0.0156**	**0.0217**	**4.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**3.0639**	**3.0639**	**1.8000e-004**	**0.0000**	**3.0685**

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3400e-003	1.0000e-003	0.0125	4.0000e-005	4.2100e-003	2.0000e-005	4.2300e-003	1.1200e-003	2.0000e-005	1.1400e-003	0.0000	3.2884	3.2884	9.0000e-005	9.0000e-005	3.3172
Total	**1.3400e-003**	**1.0000e-003**	**0.0125**	**4.0000e-005**	**4.2100e-003**	**2.0000e-005**	**4.2300e-003**	**1.1200e-003**	**2.0000e-005**	**1.1400e-003**	**0.0000**	**3.2884**	**3.2884**	**9.0000e-005**	**9.0000e-005**	**3.3172**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2891	0.4182	2.7017	5.5700e-003	0.5611	4.6000e-003	0.5657	0.1499	4.3000e-003	0.1542	0.0000	520.4292	520.4292	0.0337	0.0281	529.6361
Unmitigated	0.3382	0.5517	3.5754	7.8500e-003	0.7996	6.3500e-003	0.8060	0.2136	5.9500e-003	0.2196	0.0000	733.5878	733.5878	0.0422	0.0371	745.6833

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	652.80	589.20	490.80	2,120,587	1,488,094
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	652.80	589.20	490.80	2,120,587	1,488,094

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Other Non-Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

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

Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	87.8998	87.8998	7.4200e-003	9.0000e-004	88.3532
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	87.8998	87.8998	7.4200e-003	9.0000e-004	88.3532
NaturalGas Mitigated	9.3100e-003	0.0795	0.0338	5.1000e-004		6.4300e-003	6.4300e-003		6.4300e-003	6.4300e-003	0.0000	92.0985	92.0985	1.7700e-003	1.6900e-003	92.6458
NaturalGas Unmitigated	9.3100e-003	0.0795	0.0338	5.1000e-004		6.4300e-003	6.4300e-003		6.4300e-003	6.4300e-003	0.0000	92.0985	92.0985	1.7700e-003	1.6900e-003	92.6458

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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

	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					
Apartments Mid Rise	1.72586e+006	9.3100e-003	0.0795	0.0338	5.1000e-004		6.4300e-003	6.4300e-003		6.4300e-003	6.4300e-003	0.0000	92.0985	92.0985	1.7700e-003	1.6900e-003	92.6458
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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
Total		**9.3100e-003**	**0.0795**	**0.0338**	**5.1000e-004**		**6.4300e-003**	**6.4300e-003**		**6.4300e-003**	**6.4300e-003**	**0.0000**	**92.0985**	**92.0985**	**1.7700e-003**	**1.6900e-003**	**92.6458**

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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

	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					
Apartments Mid Rise	1.72586e+006	9.3100e-003	0.0795	0.0338	5.1000e-004		6.4300e-003	6.4300e-003		6.4300e-003	6.4300e-003	0.0000	92.0985	92.0985	1.7700e-003	1.6900e-003	92.6458
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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
Total		**9.3100e-003**	**0.0795**	**0.0338**	**5.1000e-004**		**6.4300e-003**	**6.4300e-003**		**6.4300e-003**	**6.4300e-003**	**0.0000**	**92.0985**	**92.0985**	**1.7700e-003**	**1.6900e-003**	**92.6458**

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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

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	475201	84.2748	7.1100e-003	8.6000e-004	84.7096
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20440	3.6249	3.1000e-004	4.0000e-005	3.6436
Total		**87.8998**	**7.4200e-003**	**9.0000e-004**	**88.3532**

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

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	475201	84.2748	7.1100e-003	8.6000e-004	84.7096
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20440	3.6249	3.1000e-004	4.0000e-005	3.6436
Total		**87.8998**	**7.4200e-003**	**9.0000e-004**	**88.3532**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6037	0.0367	1.2492	2.1000e-004		8.6700e-003	8.6700e-003		8.6700e-003	8.6700e-003	0.0000	27.9600	27.9600	2.4500e-003	4.8000e-004	28.1629
Unmitigated	0.6037	0.0367	1.2492	2.1000e-004		8.6700e-003	8.6700e-003		8.6700e-003	8.6700e-003	0.0000	27.9600	27.9600	2.4500e-003	4.8000e-004	28.1629

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0463					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5174					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.6200e-003	0.0224	9.5300e-003	1.4000e-004		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	25.9348	25.9348	5.0000e-004	4.8000e-004	26.0889
Landscaping	0.0375	0.0143	1.2397	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0252	2.0252	1.9500e-003	0.0000	2.0740
Total	**0.6037**	**0.0367**	**1.2492**	**2.1000e-004**		**8.6700e-003**	**8.6700e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**27.9600**	**27.9600**	**2.4500e-003**	**4.8000e-004**	**28.1629**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0463					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5174					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.6200e-003	0.0224	9.5300e-003	1.4000e-004		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	25.9348	25.9348	5.0000e-004	4.8000e-004	26.0889
Landscaping	0.0375	0.0143	1.2397	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0252	2.0252	1.9500e-003	0.0000	2.0740
Total	**0.6037**	**0.0367**	**1.2492**	**2.1000e-004**		**8.6700e-003**	**8.6700e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**27.9600**	**27.9600**	**2.4500e-003**	**4.8000e-004**	**28.1629**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	26.1398	0.2059	5.0600e-003	32.7938
Unmitigated	30.2468	0.2571	6.3000e-003	38.5518

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	7.81848 / 4.92904	30.2468	0.2571	6.3000e-003	38.5518
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**30.2468**	**0.2571**	**6.3000e-003**	**38.5518**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	6.25479 / 4.92904	26.1398	0.2059	5.0600e-003	32.7938
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**26.1398**	**0.2059**	**5.0600e-003**	**32.7938**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

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	2.8013	0.1656	0.0000	6.9400
Unmitigated	11.2051	0.6622	0.0000	27.7602

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	55.2	11.2051	0.6622	0.0000	27.7602
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**11.2051**	**0.6622**	**0.0000**	**27.7602**

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

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	13.8	2.8013	0.1656	0.0000	6.9400
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**2.8013**	**0.1656**	**0.0000**	**6.9400**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Trips	Energy Consumption	Fuel Consumption	Fuel Consumption	Total Fuel Consumption	Total VMT	Total VMT	Miles Per Gallon	Vehicle Class
South Coast	2022	HHDT	Aggregate	Aggregate	Gasoline	93.77521787	1876.254559	0	1.271766939	1271.766939	1998484.407	4872.85011	11739264.89	**5.87**	**HHDT**
South Coast	2022	HHDT	Aggregate	Aggregate	Diesel	86344.61493	1308488.279	0	1883.165573	1883165.573		11080949.98			
South Coast	2022	HHDT	Aggregate	Aggregate	Natural Gas	9530.013799	64445.55712	0	114.0470669	114047.0669		653442.0558			
South Coast	2022	LDA	Aggregate	Aggregate	Gasoline	5432984.929	25333114.49	0	7742.158581	7742158.581	7863292.337	217937990	233491817.2	**29.69**	**LDA**
South Coast	2022	LDA	Aggregate	Aggregate	Diesel	16596.66266	70061.62945	0	12.98213336	12982.13336		525055.9524			
South Coast	2022	LDA	Aggregate	Aggregate	Electricity	204269.3588	1027049.78	3533212.262	0	0		9151442.882			
South Coast	2022	LDA	Aggregate	Aggregate	Plug-in Hybrid	123066.1719	508878.6208	856005.7326	108.1516236	108151.6236		5877328.413			
South Coast	2022	LDT1	Aggregate	Aggregate	Gasoline	508118.9525	2234897.36	0	772.6742907	772674.2907	773091.3918	18186231.22	18233327.62	**23.58**	**LDT1**
South Coast	2022	LDT1	Aggregate	Aggregate	Diesel	219.3543012	650.4955004	0	0.181276274	181.2762739		4217.627426			
South Coast	2022	LDT1	Aggregate	Aggregate	Electricity	860.4090968	3929.280026	11231.02673	0	0		29089.70421			
South Coast	2022	LDT1	Aggregate	Aggregate	Plug-in Hybrid	262.0628223	1083.62977	2172.476691	0.2358249	235.8249004		13789.07098			
South Coast	2022	LDT2	Aggregate	Aggregate	Gasoline	2380478.996	11180656.67	0	4304.779926	4304779.926	4326812.467	97358601.17	97676672.01	**22.57**	**LDT2**
South Coast	2022	LDT2	Aggregate	Aggregate	Diesel	7265.359325	35160.20236	0	10.4792726	10479.2726		318070.8386			
South Coast	2022	LDT2	Aggregate	Aggregate	Electricity	6619.441536	34120.34272	95194.32476	0	0		246564.7012			
South Coast	2022	LDT2	Aggregate	Aggregate	Plug-in Hybrid	12770.05734	52804.18709	99473.18925	11.55326881	11553.26881		651602.4969			
South Coast	2022	LHDT1	Aggregate	Aggregate	Gasoline	200207.0512	2982786.755	0	596.2532604	596253.2604	791494.8201	7670055.089	11609061.87	**14.67**	**LHDT1**
South Coast	2022	LHDT1	Aggregate	Aggregate	Diesel	95425.65716	1200334.722	0	195.2415597	195241.5597		3939006.782			
South Coast	2022	LHDT2	Aggregate	Aggregate	Gasoline	31310.70271	466482.8175	0	100.8426005	100842.6005	201968.3332	1148331.498	2852151.512	**14.12**	**LHDT2**
South Coast	2022	LHDT2	Aggregate	Aggregate	Diesel	41221.34914	518512.7157	0	101.1257327	101125.7327		1703820.013			
South Coast	2022	MCY	Aggregate	Aggregate	Gasoline	232866.3127	465732.6253	0	36.03993715	36039.93715	36039.93715	1478622.183	1478622.183	**41.03**	**MCY**
South Coast	2022	MDV	Aggregate	Aggregate	Gasoline	1546490.389	7140651.876	0	3192.182291	3192182.291	3233168.731	58964077.19	60366385.9	**18.67**	**MDV**
South Coast	2022	MDV	Aggregate	Aggregate	Diesel	19342.84345	91596.79576	0	34.03297982	34032.97982		777527.7955			
South Coast	2022	MDV	Aggregate	Aggregate	Electricity	6696.74782	34502.63749	96159.45426	0	0		249064.5022			
South Coast	2022	MDV	Aggregate	Aggregate	Plug-in Hybrid	8117.761373	33566.94328	55475.93063	6.953460429	6953.460429		375716.4182			
South Coast	2022	MH	Aggregate	Aggregate	Gasoline	31850.36852	3186.310866	0	60.85222666	60852.22666	71928.89964	295792.8678	407742.3745	**5.67**	**MH**
South Coast	2022	MH	Aggregate	Aggregate	Diesel	11356.53565	1135.653565	0	11.07667298	11076.67298		111949.5066			
South Coast	2022	MHDT	Aggregate	Aggregate	Gasoline	26007.04178	520348.8919	0	274.1467882	274146.7882	819392.7308	1387695.111	6218651.542	**7.59**	**MHDT**
South Coast	2022	MHDT	Aggregate	Aggregate	Diesel	111240.7041	1363402.45	0	537.3888811	537388.8811		4766318.794			
South Coast	2022	MHDT	Aggregate	Aggregate	Natural Gas	1338.762023	12270.86005	0	7.857061417	7857.061417		64637.63673			
South Coast	2022	OBUS	Aggregate	Aggregate	Gasoline	5619.001977	112424.9916	0	46.10429672	46104.29672	82591.31041	229489.8627	490521.1159	**5.94**	**OBUS**
South Coast	2022	OBUS	Aggregate	Aggregate	Diesel	2896.768075	36743.40436	0	32.79511564	32795.11564		229036.0369			
South Coast	2022	OBUS	Aggregate	Aggregate	Natural Gas	537.7361163	4785.851435	0	3.691898056	3691.898056		31995.21632			
South Coast	2022	SBUS	Aggregate	Aggregate	Gasoline	2656.068282	10624.27313	0	13.13398403	13133.98403	40315.41184	115961.1562	260029.2373	**6.45**	**SBUS**
South Coast	2022	SBUS	Aggregate	Aggregate	Diesel	3463.174133	50146.76145	0	9.812107071	9812.107071		71631.6642			
South Coast	2022	SBUS	Aggregate	Aggregate	Natural Gas	2857.078854	41370.50181	0	17.36932074	17369.32074		72436.41685			
South Coast	2022	UBUS	Aggregate	Aggregate	Gasoline	892.5609011	3570.243605	0	14.15154342	14151.54342	205291.0561	96764.45551	693436.26	**3.38**	**UBUS**
South Coast	2022	UBUS	Aggregate	Aggregate	Diesel	15.79905129	63.19620517	0	0.277029151	277.0291511		1863.133553			
South Coast	2022	UBUS	Aggregate	Aggregate	Electricity	58.06621632	232.2648653	5333.126445	0	0		2542.871299			
South Coast	2022	UBUS	Aggregate	Aggregate	Natural Gas	4946.181814	19784.72726	0	190.8624835	190862.4835		592265.7996			

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Trips	Energy Consumption	Fuel Consumption	Fuel Consumption	Total Fuel Consumption	Total VMT	Total VMT	Miles Per Gallon	Vehicle Class
South Coast	2023	HHDT	Aggregate	Aggregate	Gasoline	77.76705152	1555.963167	0	1.13577086	1135.77086	1902570.073	4463.059823	11350616.67	**5.97**	**HHDT**
South Coast	2023	HHDT	Aggregate	Aggregate	Diesel	88939.48335	1354183.938	0	1901.434302	1901434.302		11341687.62			
South Coast	2023	HHDT	Aggregate	Aggregate	Electricity	69.55210742	1090.269168	7969.44745	0	0		4465.990707			
South Coast	2023	HHDT	Aggregate	Aggregate	Natural Gas	9734.51825	62334.09461	0	108.4243363	108424.3363	7680508.917	635905.4264	228542169.3	**29.76**	**LDA**
South Coast	2023	LDA	Aggregate	Aggregate	Gasoline	5370115.979	25014254.84	0	7560.140191	7560140.191		216250190.4			
South Coast	2023	LDA	Aggregate	Aggregate	Diesel	15648.45784	65526.69936	0	11.94439033	11944.39033		486634.8854			
South Coast	2023	LDA	Aggregate	Aggregate	Electricity	241152.5368	1208859.723	4312325.17	0	0		11169438.62			
South Coast	2023	LDA	Aggregate	Aggregate	Plug-in Hybrid	136333.5236	563739.1202	971420.6342	116.5989322	116598.9322	870253.2499	6496196.814	24547955.06	**28.21**	**LDT1**
South Coast	2023	LDT1	Aggregate	Aggregate	Gasoline	499113.9009	2195668.394	0	753.4930394	753493.0394		18009866.74			
South Coast	2023	LDT1	Aggregate	Aggregate	Diesel	197.6298759	575.4909742	0	0.161278255	161.278255		3756.265001			
South Coast	2023	LDT1	Aggregate	Aggregate	Electricity	1012.723437	4715.252993	14723.34847	0	0		38135.23576			
South Coast	2023	LDT1	Aggregate	Aggregate	Plug-in Hybrid	463.9603347	1918.475984	3964.563568	0.400339089	400.3390888	4351441.574	24314.99018	100316975.8	**23.05**	**LDT2**
South Coast	2023	LDT2	Aggregate	Aggregate	Gasoline	2429950.117	11422828.59	0	4340.074795	4340074.795		100292660.9			
South Coast	2023	LDT2	Aggregate	Aggregate	Diesel	7734.815855	37335.71589	0	10.96643985	10966.43985		337920.5463			
South Coast	2023	LDT2	Aggregate	Aggregate	Electricity	11160.73812	57317.98395	159502.5609	0	0		413130.7341			
South Coast	2023	LDT2	Aggregate	Aggregate	Plug-in Hybrid	17128.65814	70827.00142	136848.0138	14.88755019	14887.55019	604831.9262	867992.1123	8688662.767	**14.37**	**LHDT1**
South Coast	2023	LHDT1	Aggregate	Aggregate	Gasoline	200398.3929	2985637.46	0	589.944376	589944.376		7820670.654			
South Coast	2023	LHDT1	Aggregate	Aggregate	Diesel	99896.36028	1256570.543	0	206.0356758	206035.6758	305180.3742	4194656.56	5351327.632	**17.53**	**LHDT2**
South Coast	2023	LHDT2	Aggregate	Aggregate	Gasoline	31213.47663	465034.2937	0	99.14469838	99144.69838		1156671.072			
South Coast	2023	LHDT2	Aggregate	Aggregate	Diesel	43691.53059	549584.4908	0	107.1632097	107163.2097	107163.2097	1828609.129	1828609.129	**17.06**	**MCY**
South Coast	2023	MCY	Aggregate	Aggregate	Gasoline	237586.076	475172.1521	0	36.88140998	36881.40998	3258846.142	1522726.619	62822547.87	**19.28**	**MDV**
South Coast	2023	MDV	Aggregate	Aggregate	Gasoline	1559902.035	7210563.701	0	3188.051046	3188051.046		60070040.07			
South Coast	2023	MDV	Aggregate	Aggregate	Diesel	19613.50466	92462.53217	0	33.91368569	33913.68569		784655.9403			
South Coast	2023	MDV	Aggregate	Aggregate	Electricity	12017.75416	61732.39119	171855.0799	0	0		445125.2375			
South Coast	2023	MDV	Aggregate	Aggregate	Plug-in Hybrid	10053.44096	41570.97836	70940.44124	8.322835871	8322.835871	67468.7074	464374.4805	752062.2021	**11.15**	**MH**
South Coast	2023	MH	Aggregate	Aggregate	Gasoline	30468.55432	3048.074174	0	59.14587153	59145.87153		287687.7216			
South Coast	2023	MH	Aggregate	Aggregate	Diesel	11533.11741	1153.311741	0	11.30112611	11301.12611	819648.6117	114141.8155	6302753.398	**7.69**	**MHDT**
South Coast	2023	MHDT	Aggregate	Aggregate	Gasoline	25436.77287	508938.9517	0	266.1846594	266184.6594		1361855.942			
South Coast	2023	MHDT	Aggregate	Aggregate	Diesel	112753.1691	1384256.954	0	542.1628262	542162.8262		4826755.64			
South Coast	2023	MHDT	Aggregate	Aggregate	Electricity	60.14211345	769.7741807	1354.591964	0	0	52048.54694	1295.841104	289973.7428	**5.57**	**OBUS**
South Coast	2023	MHDT	Aggregate	Aggregate	Natural Gas	1405.746156	12603.45034	0	8.268140472	8268.140472		68507.0989			
South Coast	2023	OBUS	Aggregate	Aggregate	Gasoline	5457.340752	109190.4738	0	43.78040647	43780.40647		220170.8028			
South Coast	2023	OBUS	Aggregate	Aggregate	Diesel	2949.128306	37294.91051	0	33.32983706	33329.83706	50038.16004	233227.1381	381057.5339	**7.62**	**SBUS**
South Coast	2023	OBUS	Aggregate	Aggregate	Natural Gas	467.0036657	4156.332625	0	3.280062265	3280.062265		28665.48863			
South Coast	2023	SBUS	Aggregate	Aggregate	Gasoline	2711.533402	10846.13361	0	13.42826072	13428.26072		119164.9071			
South Coast	2023	SBUS	Aggregate	Aggregate	Diesel	3377.128927	48900.82686	0	9.464602039	9464.602039	41441.52119	69271.73995	241028.6401	**5.82**	**UBUS**
South Coast	2023	SBUS	Aggregate	Aggregate	Electricity	3.674682915	53.20940862	49.36713892	0	0		42.69400814			
South Coast	2023	SBUS	Aggregate	Aggregate	Natural Gas	2976.329163	43097.24627	0	17.80624767	17806.24767		74753.64709			
South Coast	2023	UBUS	Aggregate	Aggregate	Gasoline	894.3697717	3577.479087	0	14.17067148	14170.67148		96960.55907			
South Coast	2023	UBUS	Aggregate	Aggregate	Diesel	14.61165815	58.44663261	0	0.262644403			1749.021883			
South Coast	2023	UBUS	Aggregate	Aggregate	Electricity	58.03212573	232.1285029	5326.224873	0			2539.586791			
South Coast	2023	UBUS	Aggregate	Aggregate	Natural Gas	4957.576963	19830.30785	0	190.2775974			593592.4153			

GANDDINI GROUP INC.

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GENERAL BIOLOGICAL ASSESSMENT
FOR
RIVERWALK SENIOR APARTMENTS
CASE NO. 21-045/GPA/LUCR

CITY OF YUCAIPA
SAN BERNARDINO COUNTY,
CALIFORNIA

Prepared By:
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Prepared for:
MBTK Homes, LLC
11154 Walnut Street
Redlands, CA 92374

March 2022

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17037 Lakeshore Drive
Lake Elsinore, CA 92530

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Hernandez Environmental Services
17037 Lakeshore Drive
Lake Elsinore, CA 92530

1.0 INTRODUCTION

Hernandez Environmental Services (HES) was retained by to perform a General Biological Assessment (GBA) on a 5-acre site comprised of Assessor Parcel Numbers (APNs) 319-112-03. The purpose of the GBA is to document the presence/absence of sensitive resources that may be present on the site, to document existing habitats, and generally address biological questions that may be needed for project approval. This GBA will present the results obtained from the November 9, 2021 field survey and will provide recommendations that may be needed to mitigate potential biological impacts from project activities.

1.1 PROJECT LOCATION

The proposed Project site is located at 12836 3rd Street on the west side of 3rd Street, between Avenue E and Wildwood Canyon Road in the City of Yucaipa, San Bernardino County, California (Figures 1 and 2). Specifically, the project site is located within Section 1, Township 2 South, Range 2 West, San Bernardino Base Meridian (SBBM), on the *Yucaipa* United States Geological Survey (USGS) 7.5-minute topographic quadrangles. The Project site center point latitude and longitude are 34°01'12.7660" North and 117°02'55.1021" West.

1.2 PROJECT DESCRIPTION

The project proposes a General Plan Amendment (GPA) to upzone the existing land use of the property from an RM-72C (Multiple Residential) designation to an RM-24 (High Density Multiple Residential) designation in order to facilitate for the development of a 150-unit, three-story, age-restricted senior housing apartment complex for individuals 55 years and older. Additionally, the proposed GPA, under the RM-24 designation, could also allow for the property to develop up to a maximum of 150 units of non-age restricted use.

The property is currently developed with existing residential structures and pastures which were used for livestock. The existing structures and pasture will be completely removed. Refer to Figure 3.

2.0 METHODOLOGY

2.1 LITERATURE REVIEW

HES conducted a literature review and reviewed aerial photographs and topographic maps of the project location and surrounding areas. The following USGS quads were used to query the California Natural Diversity Database (CNDDB): *Yucaipa, Forest Falls, Big Bear Lake, Keller Peak, Harrison Mtn, Redlands, Sunnymead, El Casco, and Beaumont.* The United States Fish

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and Wildlife Service (USFWS) County Endangered Species Lists, and CNPS's rare plant lists were reviewed to obtain species information for the project area.

2.2 FIELD SURVEY

On November 9, 2021, HES conducted a field survey of the approximate 5-acre project site. Ambient temperature at 10:50 AM was 61° Fahrenheit, sunny, with winds ranging from 0 to 6 miles per hour from the west. The purpose of the field survey was to document the existing habitat conditions, obtain plant and animal species information, view the surrounding uses, assess the potential for state and federal waters, assess the potential for wildlife movement corridors, and assess for the presence of critical habitat constituent elements.

The entire 5-acre project site was surveyed. Linear transects approximately 50 feet apart were walked for 100 percent coverage. All species observed were recorded and Global Positioning System (GPS) way points were taken to delineate specific habitat types, species locations, state or federal waters, or any other information that would be useful for the assessment of the project site. A comprehensive list of all plant and wildlife species that were detected during the field survey within the project site is included in Appendix A. Sensitive plant and wildlife species with the potential to occur within the project area are listed in Appendix B. Representative site photographs were taken and are included within Appendix C.

3.0 RESULTS

3.1 ENVIRONMENTAL SETTING

The project site is predominantly a flat agricultural parcel with two abandoned residential structures, and an old barn. The project site is bordered by single family residences to the north and east, a trailer park to the west, and a disturbed open field to the south. The existing abandoned buildings were also surveyed. Elevations on the project site range from 2487 feet above mean sea level (amsl) to 2513 feet amsl.

3.2 SOILS

According to the USDA Web Soil Survey, soils at the project site are classified as Ramona sandy loam (RmC), 2 to 9 percent slopes, MLRA 19 and Saugus sandy loam (ShF), 30 to 50 percent slopes (Appendix D).

3.3 HABITAT COMMUNITIES

Seven habitat types were observed within the approximately 5-acre project site, including 3.40 acres of disturbed non-native vegetation, 1.20 acres of disturbed residential, 0.05 of disturbed

non-native grassland, 0.03 ornamental vegetation, 0.27 disturbed non-vegetated, 0.04 Fremont cottonwood series vegetation, and 0.01 acres of California buckwheat series vegetation (Figure 4).

3.3.1 Disturbed Non-Native Vegetation

The project site has approximately 3.40 acres of disturbed non-native vegetation. This vegetation type is characterized by areas that have been disturbed by human activities and are dominated by non-native vegetation. The dominant vegetation for this habitat type is Russian thistle (Salsola tragus). Other species associated with this habitat type are: puncture vine (Tribulus terrestris), tree tabacco (Nicotina glauca), filaree (Erodium sp.), horseweed (Erigeron bonariensis), oats (Avena sp.), and vinegar weed (Trichostema lanceolatum).

3.3.2 Disturbed Residential

Approximately 1.20 acres of areas described as disturbed residential. Disturbed residential areas are the portions of the project site that was used by the inhabitants of the property. These areas contain dwellings and landscaping. The dominant vegetation in these areas are ornamental species. These areas have no native vegetative communities.

3.3.3 Ornamental Vegetation

Approximately 0.03 acres of the property have small areas that are composed of non-native trees. The main species is Peruvian pepper tree (Schinus molle). These small areas are found along the eastern boundary of the property.

3.3.4 Disturbed Non-Vegetated

The project site contains approximately 0.27 acres of a non-vegetated area. This area is located along the northern portion of the property and is a dirt road used to access the residential dwellings. The majority of this road is unvegetated, but may contain individual plants of Russian thistle, mustard, common mustard, puncture vine, bromus, oats, and cheeseweed.

3.3.5 Fremont Cottonwood Series Vegetation

The property contains 0.04 acres of Fremont Cottonwood Series vegetation. This small area is located on the southeastern corner of the property. It is created by the hydrology associated with an unnamed tributary to Yucaipa Creek. This vegetative series is dominated by Fremont cottonwood (*Populus fremontii*). Other associated species are mulefat (*Baccharis salicifolia*), arroyo willow (*Salix lasiolepsis*), and red willow (*Salix laevigata*).

3.3.6 California Buckwheat Series Vegetation

The property contains a small area of California buckwheat series vegetation along the fence on

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the eastern boundary of the property. This area is predominantly California buckwheat (*Eriogonum fasciculatum*) and looks to be a remnant population of a time prior to development of the area. This small area holds very little biological significance as it is small, isolated, and adjacent to 3rd Street.

3.4 THREATENED, ENDANGERED, AND SENSISTIVE SPECIES

A total of 83 sensitive species of plants and 64 sensitive species of animals have the potential to occur on or within the vicinity of the project location. These include those species listed or candidates for listing by the U. S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW) and California Native Plant Society (CNPS) and Bureau of Land Management (BLM). All habitats utilized by these species was evaluated during the site visit and a determination has been made for the presence or probability of presence in this report. This section will address those species listed as candidate, rare, threatened, or endangered under the state and federal endangered species laws or directed to be evaluated under other state, county, or municipal regulations. Other special status species will be reported in Appendix B.

3.4.1 Threatened, Endangered, and Sensitive Plants

A total of 25 plant species listed as state and/or federal threatened, endangered, candidate, or 1B.1 listed plants on the CNPS Rare Plan Inventory. The following is a description of the sensitive species:

Chaparral sand-verbena
Chaparral sand-verbena (*Abronia villosa var. aurita*) is ranked 1B.1 in the CNPS rare plant inventory. It is found in sandy areas of chaparral, coastal scrub, and desert dunes habitats. No habitat for this species is present on the project site. **This species is not present.**

Marsh sandwort
Marsh sandwort (*Arenaria paludicola*) is a federally and state listed endangered species and is ranked 1B.1 in the CNPS rare plant inventory. It is found in freshwater marsh, wetland, and marsh and swamp habitats. No habitat for this species is present on the project site. **This species is not present.**

Horn's Milk-Vetch
Horn's milk-vetch (*Astragalus hornii var. hornii*) is ranked 1B.1 in the CNPS rare plant inventory. It is typically found in alkali playa, meadow, seep, and wetland habitats. No habitat for this species is present on the project site. **This species is not present.**

Coachella Valley milk-vetch

Coachella Velley milk-vetch (*Astragalus lentiginosus var. coachellae*) is a federally listed endangered species and is ranked 1B.2 in the CNPS rare plant inventory. It is typically found in sandy flats, washes, outwash fans, and on dunes. Its habitat includes desert dunes and Sonoran Desert scrub. No habitat for this species is present on the project site. **This species is not present.**

Jaeger's milk-vetch

Jaeger's milk-vetch (*Astragalus pachypus var. jaegeri*) is ranked 1B.1 in the CNPS rare plant inventory. It is often found in dry ridges and valleys, and open sandy slopes. Its habitat includes coastal scrub, chaparral, valley and foothill grassland, and cismontane woodland. No habitat for this species is present on the project site. **This species is not present.**

San Jacinto Valley crownscale

San Jacinto Valley crownscale (*Atriplex coronata var. notatior*) is a federally listed endangered species and is ranked 1B.1 in the CNPS rare plant inventory. Its habitat includes playas, valley and foothill grassland, and vernal pools. It is commonly found in the alkaline areas in the San Jacinto River Valley. No habitat for this species is present on the project site. **This species is not present.**

Nevin's barberry

Nevin's barberry (*Berberis nevinii*) is a federally and state listed endangered species and is ranked 1B.1 in the CNPS rare plant inventory. It is typically found on steep, north facing slopes or in low grade sandy washes. Its habitat includes chaparral, cismontane woodland, coastal scrub, and riparian scrub. No habitat for this species is present on the project site. **This species is not present.**

Ash-gray paintbrush

Ash-gray paintbrush (*Castilleja cinerea*) is a federally listed threatened species and is ranked 1B.2 in the CNPS rare plant inventory. This species is endemic to the San Bernardino Mountains and is typically found in clay openings and in meadow edges. Its habitat includes meadow and seep, Mojavean desert scrub, pavement plain, pinon and juniper woodlands, and upper montane coniferous forest. No habitat for this species is present on the project site. **This species is not present.**

Smooth tarplant

Smooth tarplant (*Centromadia pungens ssp. laevis*) is ranked 1B.1 in the CNPS rare plant inventory. Its habitat includes alkali playa, chenopod scrub, meadows and seeps, riparian woodlands, wetlands, and valley and foothill grasslands. It is most commonly found in alkali

meadow, alkali scrub, and disturbed habitat. No habitat for this species is present on the project site. **This species is not present.**

Salt marsh bird's-beak

Salt marsh bird's beak (*Chloropyron maritimum ssp. maritimum*) is a federally and state listed endangered species and is ranked 1B.2 in the CNPS rare plant inventory. This species is limited to the higher zones of salt marsh habitat at elevations of less than ten meters. Its habitat includes coastal dunes, marsh and swamp, salt marsh, and wetland. No habitat for this species is present on the project site. **This species is not present.**

Parry's spineflower

Parry's spineflower (*Chorizanthe parryi var. parryi*) is ranked 1B.1 in the CNPS rare plant inventory. The species occurs in dry, sandy soils on dry slopes and flats, sometimes at the interface of two vegetations types, such as chaparral and oak woodland. Its habitat includes coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. No habitat for this species is present on the project site. **This species is not present.**

Mojave tarplant

Mojave tarplant (*Deinandra mohavensis*) is a state listed endangered species and is ranked 1B.3 in the CNPS rare plant inventory. This species is typically found in low sand bars in river beds and most commonly in riparian or ephemeral grassy areas. Its habitat includes chaparral, coastal scrub, and riparian scrub. No habitat for this species is present on the project site. **This species is not present.**

Slender-horned spineflower

Slender-horned spineflower (*Dodecahema leptoceras*) is a federally and state listed endangered species and is ranked 1B.1 in the CNPS rare plant inventory. This species is typically found near flood deposited terraces and washes. Its habitat includes chaparral, cismontane woodland, and coastal scrub (alluvial fan sage scrub). No habitat for this species is present on the project site. **This species is not present.**

Big Bear Valley sandwort

Big Bear Valley sandwort (*Eremogone ursina*) is a federally listed threatened species and is ranked 1B.2 in the CNPS rare plant inventory. It is found is mesic, rocky sites. Its habitat inlues meadow and seep, pavement plain, and pinon and juniper woodlands. No habitat for this species is present on the project site. **This species is not present.**

Santa Ana River woollystar

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Santa Ana River woollystar (*Eriastrum densifolium ssp. sanctorum*) is a federally and state listed endangered species and is ranked 1B.1 in the CNPS rare plant inventory. It is typically found in sandy soils on river floodplains or terraced fluvial deposits. Its habitat includes chaparral and coastal scrub. No habitat for this species is present on the project site. **This species is not present.**

Southern mountain buckwheat

Southern mountain buckwheat (*Eriogonum kennedyi var. austromontanum*) is a federally listed threatened species and is ranked 1B.2 in the CNPS rare plant inventory. It is usually found in pebble plain habitats. Its habitat includes lower montane coniferous forest and pavement plain. No habitat for this species is present on the project site. **This species is not present.**

Bear Lake buckwheat

Bear Lake buckwheat (*Eriogonum microthecum var. lacus-ursi*) is ranked 1B.1 in the CNPS rare plant inventory. It is typically found in clay outcrops at elevations between 2000 and 2100 meters. Its habitat includes Great Basin scrub and lower montane coniferous forest. No habitat for this species is present on the project site. **This species is not present.**

Mesa horkelia

Mesa horkelia (*Horkelia cuneate var. puberula*) is ranked 1B.1 in the CNPS rare plant inventory. It is typically found in sandy or gravelly sites. Its habitat includes chaparral, cismontane woodland, and coastal scrub. No habitat for this species is present on the project site. **This species is not present.**

Barton Flats horkelia

Barton Flats horkelia (*Horkelia wilderae*) is ranked 1B.1 in the CNPS rare plant inventory. This species is typically found on rocky, north aspects, in openings that hold persistent snowdrifts. Its habitat includes chaparral, lower montane coniferous forest, and upper montane coniferous forest. No habitat for this species is present on the project site. **This species is not present.**

Coulter's goldfields

Coulter's goldfields (*Lasthenia glabrata ssp.coulteri*) is ranked 1B.1 in the CNPS rare plant inventory. Its habitat includes alkali playas, marsh, swamp, salt marsh, vernal pool, and wetland. It is usually found on alkaline soils in playas, sinks, and grasslands. No habitat for this species is present on the project site. **This species is not present.**

San Bernardino Mountains bladderpod

San Bernardino Mountains bladderpod (*Physaria kingie ssp. bernardina*) is a federally listed endangered species and is ranked 1B.1 in the CNPS rare plant inventory. It is typically found on

dry sandy to rocky carbonate soils. Its habitat includes limestone, lower montane coniferous forest, pinon and juniper woodlands, and subalpine coniferous forest. No habitat for this species is present on the project site. **This species is not present.**

San Bernardino blue grass

San Bernardino blue grass (*Poa atropurpurea*) is a federally listed endangered species and is ranked 1B.2 in the CNPS rare plant inventory. It is found in mesic meadows of open pine forests and grassy slopes, and loamy alluvial to sandy loam soil. Its habitat includes meadow and seep, and wetland. No habitat for this species is present on the project site. **This species is not present.**

Bird-foot checkerbloom

Bird-foot checkerbloom (*Sidalcea pedata*) is a federally and state listed endangered species and is ranked 1B.1 in the CNPS rare plant inventory. This species is found in vernally mesic sites in meadows or pebble plains. Its habitat includes meadow and seep, pavement plain, and wetland. No habitat for this species is present on the project site. **This species is not present.**

California dandelion

California dandelion (*Taraxacum californicum*) is a federally listed endangered species and is ranked 1B.1 in the CNPS rare plant inventory. It is found in mesic meadows that are usually free of taller vegetation. Its habitat includes meadow and seep, and wetland. No habitat for this species is present on the project site. **This species is not present.**

Slender-petaled thelypodium

Slender-petaled thelypodium (*Thelypodium stenopetalum*) is a federally and state listed endangered species and is ranked 1B.1 in the CNPS rare plant inventory. It is found in seasonally moist alkaline clay soils and is associated with seeps and springs in the pebble plains. Its habitat includes meadow and seep, and wetland. No habitat for this species is present on the project site. **This species is not present.**

3.4.2 Threatened, Endangered, and Sensitive Wildlife

A total of 14 wildlife species are listed as state and/or federal threatened, endangered, or candidate species. Sensitive species which have a potential to occur will also be discussed in this section. All sensitive species within a 5-mile radius of project area were reviewed and a complete list of those species are discussed in in Appendix B.

Tricolored blackbird

Tricolored blackbird (*Agelaius tricolor)* is a state listed candidate endangered species and listed

by the CDFW as a species of special concern. Its habitat includes freshwater marsh, marsh and swamp, swamp, and wetland. This species is largely endemic to California and is most numerous in and around Central Valley. This species requires open accessible water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony. There is no habitat for this species on the project site. **This species is not present.**

Pallid Bat

The pallid bat (*Antrozous pallidus*) is a California Species of Special Concern. It is found in chaparral, valley and foothill grasslands. The property has old abandoned structures that this species can use for roosting. **This species has potential to be present.**

Burrowing owl

Burrowing owl (*Athene cunicularia*) is a CDFW Species of Special Concern. Its habitat includes coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, and valley and foothill grassland. This species is typically found in open and dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. It is a subterranean nester and is dependent upon burrowing mammals, most notably the California ground squirrel. There is potential habitat for this species to be present on the project site. **This species is not present.**

Swainson's hawk

Swainson's hawk (*Buteo swainsoni*) is a state listed threatened species. This species favors open grasslands for foraging but also occurs in agricultural settings. It relies on scattered stands of trees near agricultural fields and grasslands for nesting sites. Its habitats include great basin grassland, riparian forest, riparian woodland, and valley and foothill grassland. The project site does not contain suitable habitat for this species. **This species is not present.**

Santa Ana sucker

Santa Ana sucker (*Catostomus santaanae*) is a federally listed threatened species. Its habitat includes aquatic and south coast flowing waters. This species prefers sand-rubble-boulder bottoms, cool and clear water, and algae. It is endemic to Los Angeles Basin south coastal streams. The project site does not contain suitable habitat for this species. **This species is not present.**

Southern rubber boa

Southern-rubber boa (*Charina umbratical*) is a state listed threatened species. Its habitat includes meadow and seep, riparian forest, riparian woodland, upper montane coniferous forest, and wetland. This species is typically found near streams or wet meadows, and requires loose, moist soil for burrowing. It seeks cover in rotting logs, rock outcrops, and under surface litter. It

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is known to be found in the San Bernardino and San Jacinto mountains and has been reported to be found in other areas, but further research is required. The project site does not contain suitable habitat for this species. **This species is not present.**

Western yellow-billed cuckoo

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a federally listed threatened and state listed endangered species. This species typically nests in riparian jungles of willows, often mixed with cottonwoods, with a lower story of blackberry, nettles, or wild grape. It is found in riparian forest habitat. The project site does not contain suitable habitat for this species. **This species is not present.**

San Bernardino kangaroo rat

San Bernardino kangaroo rat (*Dipodomys merriami parvus*) is a federally listed endangered species and a CDFW Species of Special Concern. It is found in coastal scrub habitat. This species is found in alluvial scrub vegetation on sandy loam substrates, characteristic of alluvial fans and flood plains. It needs early to intermediate seral stages. The project site does not contain suitable habitat for this species. **This species is not present.**

Stephen's kangaroo rat

Stephens' kangaroo rat (*Dipodomys stephensi*) is a federally listed endangered and state listed threatened species. This species is found in coastal sage scrub with sparse vegetation cover, and in valley and foothill grasslands. This species prefers buckwheat, chamise, brome grass, and filaree, and will burrow into firm soil. The project site does not contain suitable habitat for this species. **This species is not present.**

Southwestern willow flycatcher

Southwestern willow flycatcher (*Empidonax traillii extimus*) is a federally and state listed endangered species. It is found in riparian woodland habitat in southern California. The project site does not contain suitable habitat for this species. **This species is not present.**

Western Mastiff Bat

The western mastiff bat (*Eumops perotis californicus*) is a California Species of Special Concern. It is found in chaparral and coastal sage scrub. The property has old abandoned structures that this species can use for roosting. **This species has potential to be present.**

Bald eagle

Bald eagle (*Haliaeetus leucocephalus*) is a state listed endangered and CDFW fully protected species. This species is found in lower montane coniferous forest and old-growth. They nest in large old-growth or tress with open branches, especially ponderosa pine. The project site does

not contain suitable habitat for this species. **This species is not present.**

Western Yellow Bat
The western yellow bat (*Lasiurus xanithinus*) is a California Species of Special Concern. It is found in chaparral and coastal sage scrub, and desert. The property has a fan palm and old abandoned structures that this species can use for roosting. There are also CNDDB observations of this species within one mile of the project site. **This species has potential to be present.**

Lesser Long-nosed Bat
The lesser long-nosed bat (*Leptonycteris yerbabuenae)* is a federally endangered species. It is found in Mojave desert scrub. The property is not in Mojave desert scrub, but is within migratory proximity of the Mojave desert. **This species has potential to be present.**

Pocketed Free-tailed Bat
The pocketed free-tailed bat (*Nyctinomops femorosaccus*) is a California Species of Special Concern. It is found in Joshua tree woodland, pinon-juniper woodlands, riparian scrub, and in the Sonoran desert scrub. The property has old abandoned structures that this species can use for roosting. **This species has potential to be present.**

Steelhead-southern California DPS
Steelhead-southern California DPS (*Oncorhynchus mykiss irideus pop. 10*) is a federally listed endangered species. This species is likely to have greater physiological tolerances to warmer water and more variable conditions. Its habitats include aquatic and south coast flowing waters. The project site does not have suitable habitat for this species. **This species is not present.**

Coastal California gnatcatcher
Coastal California gnatcatcher (*Polioptila californica californica*) is a federally listed threatened species and CDFW Species of Special Concern. This species is found in coastal bluff scrub and coastal scrub habitat. This species is typically found in low, coastal sage scrub in arid washes, on mesas and slopes. The project site does not contain suitable habitat for this species. **This species is not present.**

California red-legged frog
California red-legged frog (*Rana draytonii*) is a federally listed threatened species and a CDFW Species of Special Concern. Its habitat includes aquatic, artificial flowing waters, artificial standing waters, freshwater marsh, marsh and swamp, riparian forest, riparian scrub, riparian woodland, Sacramento and San Juaquin flowing and standing waters, and south coast. It requires 11 to 20 weeks for larval development and must have access to estivation habitat. It is most commonly found in lowlands and foothills, in or near permanent sources of deep water, with dense, shrubby, or emergent riparian vegetation. The project site does not contain suitable habitat for this species. **This species is not present.**

Southern mountain yellow-legged frog
Southern mountain yellow-legged frog (*Rana muscosa*) is a federally and state listed endangered species. It is found in aquatic habitat. This species is always encountered within a few feet of water. Tadpoles may require two to four years to complete their aquatic development. The project site does not contain suitable habitat for this species. **This species is not present.**

Least Bell's vireo
Least Bell's vireo (*Vireo bellii pusillus)* is a federal and state listed endangered species. This species is found in riparian forest, riparian scrub, and riparian woodland. Nesting habitat of this species is restricted to willow and/or mulefat dominated riparian scrub along permanent or nearly permanent streams. The project site does not contain suitable habitat for this species. **This species is not present.**

3.5 CRITICAL HABITATS

The proposed project site is not located within any designated federal critical habitat.

3.6 NESTING BIRDS

Migratory non-game native bird species are protected under the federal Migratory Bird Treaty Act. Additionally, Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests. The entire 5-acre study area has shrubs that can be used by nesting songbirds during the nesting bird season of February 1 to September 15.

3.7 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbances. The project site was evaluated for its function as a wildlife corridor that species would use to move between wildlife habitat zones. Usually mountain canyons or riparian corridors are used by wildlife as corridors. The project site is surrounded by residential areas and does not contain mountain canyons or riparian corridors nearby. Furthermore, the site is blocked off by residential areas from each side. No wildlife movement corridors were found to be present on the project site.

3.8 OTHER CITY, COUNTY, REGIONAL, STATE, OR FEDERAL CONSERVATION PLANS

Pursuant to the City of Yucaipa Municipal Code, the project would be required to comply with Division 9 Plant Protection and Management.

3.9 STATE AND FEDERAL JURISDICTIONAL STREAMS

There is a federal and state jurisdictional stream on the southeastern portion of the site. The jurisdictional stream was delineated and all impacts to the stream will be avoided.

4.0 PROJECT IMPACTS

4.1 IMPACTS TO HABITAT TYPES

The proposed project will impact the entire 5-acre site consisting of approximately 3.40 acres of disturbed non-native vegetation, 1.20 acres of disturbed residential, 0.05 of disturbed non-native grassland, 0.03 ornamental vegetation, 0.27 disturbed non-vegetated, 0.04 Fremont cottonwood series vegetation, and 0.01 acres of California buckwheat series vegetation.

4.2 IMPACTS TO STATE OR FEDERALLY LISTED PLANT AND ANIMAL SPECIES OR CNPS LISTED PLANTS

4.2.1 Impacts to State or Federally Listed and CNPS Listed Plants

There are no state or federally listed plants or CNPS listed plants that have the potential to be impacted by the project.

4.2.2 Impacts to State or Federally Listed and Sensitive Wildlife

There are no state or federally listed wildlife that have the potential to be impacted by the project.

4.3 IMPACTS TO CRITICAL HABITAT

The project site is not located within designated federal critical habitat. No impacts to critical habitat would occur.

4.4 IMPACTS TO NESTING BIRDS

Migratory nongame native bird species are protected under the federal Migratory Bird Treaty Act. Additionally, Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests. If vegetation removal and other ground disturbance activities can be conducted outside of the recognized nesting bird season (February 15 through September 15), impacts to nesting birds is not expected.

If work cannot be avoided during the nesting bird season, prior to initiation of project activities that would remove vegetation or otherwise disturb nesting activity (for instance, mobilization of heavy equipment), work associated with project activities have the potential to impact nesting birds.

4.5 IMPACTS TO STATE OR FEDERAL STREAMS

There is a federal and state jurisdictional stream on the southeastern portion of the site. The jurisdictional stream was delineated and all impacts to the stream will be avoided.

5.0 RECOMMENDATIONS

Based upon the findings of this report, it is recommended that the following measures be implemented as part of the project to avoid, minimize, or compensate for the anticipated impacts from project activities:

5.1 SENSITIVE PLANT SPECIES

No sensitive species have a potential to occur on the project site; therefore, no sensitive species will be impacted by this project.

5.2 SENSITIVE WILDLIFE

The western yellow bat is a California Species of Special Concern. It is found in chaparral and coastal sage scrub, and desert. The property has a fan palm and old abandoned structures that this species can use for roosting. There are also CNDDB observations of this species within one mile of the project site.

The western mastiff bat is a California Species of Special Concern. It is found in chaparral and coastal sage scrub. The property has old abandoned structures that this species can use for roosting.

The pallid bat is a California Species of Special Concern. It is found in chaparral, valley and foothill grasslands. The property has old abandoned structures that this species can use for roosting.

The pocketed free-tailed bat is a California Species of Special Concern. It is found in Joshua tree woodland, pinon-juniper woodlands, riparian scrub, and in the Sonoran desert scrub. The property has old abandoned structures that this species can use for roosting.

Focused surveys for the western yellow bat, western mastiff bat, pallid bat, and pocketed free-tailed bat shall be conducted by an approved biologist to determine the presence or absence of

the species on the project site and potential impacts resulting from implementation of the proposed project.

5.3 NESTING BIRDS

If ground disturbing and vegetation clearing activities cannot be avoided during the nesting bird season (February 15 through September 15), a qualified biologist should conduct a pre-construction nesting bird survey within all areas of breeding/nesting habitat within and adjacent to the project site prior to initiation of project activities that would remove vegetation or otherwise disturb nesting activity (for instance, mobilization of heavy equipment). Surveys should be conducted not more than 3 days prior to initiation of activities.

If nesting birds are encountered, a qualified biologist will establish an avoidance buffer zone around the nest (buffer zones vary according to species involved and shall be determined by the qualified biologist). No activities that would adversely affect the nest shall occur within the buffer zone until the qualified biologist has determined the nest is no longer active and the young are no longer dependent on the nest.

5.4 STATE AND FEDERAL DRAINAGES

There is a federal and state jurisdictional stream on the southeastern portion of the site. The jurisdictional stream was delineated and all impacts to the stream will be avoided (Appendix C). Work activities will occur within 10 feet of the CDFW jurisdictional area (Figure 3). However, CDFW jurisdiction only extends outside drip-lines of the riparian vegetation and work will not affect drainage or riparian vegetation.

CDFW, Army Corps of Engineers (USACE), and Regional Water Quality Control Board (RWQCB) jurisdictional waters are regulated by state and federal governments under a no-net-loss policy. All impacts are considered significant and should be avoided to the greatest extent possible. Unavoidable and authorized impacts would require mitigation through habitat creation, restoration or enhancement as determined through consultation with the regulatory agencies during the permitting process. Any impacts to CDFW, USACE, and RWQCB jurisdictional waters would require a 1600 Streambed Alteration Agreement from the CDFW, a Section 404 permit authorization from the USACE, and a 401 State Water Quality Certification from the RWQCB.

Hernandez Environmental Services
17037 Lakeshore Drive
Lake Elsinore, CA 92530

6.0 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 and belief.

Date 03-29-2022 Signed _____

PROJECT MANAGER

Fieldwork Performed By:

Juan Jose Hernandez

PRINCIPAL BIOLOGIST

7.0 REFERENCES

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FIGURES

Figure 1

Location Map
APN 319-112-03
San Bernardino County, California

Legend

Project Site Boundary

N

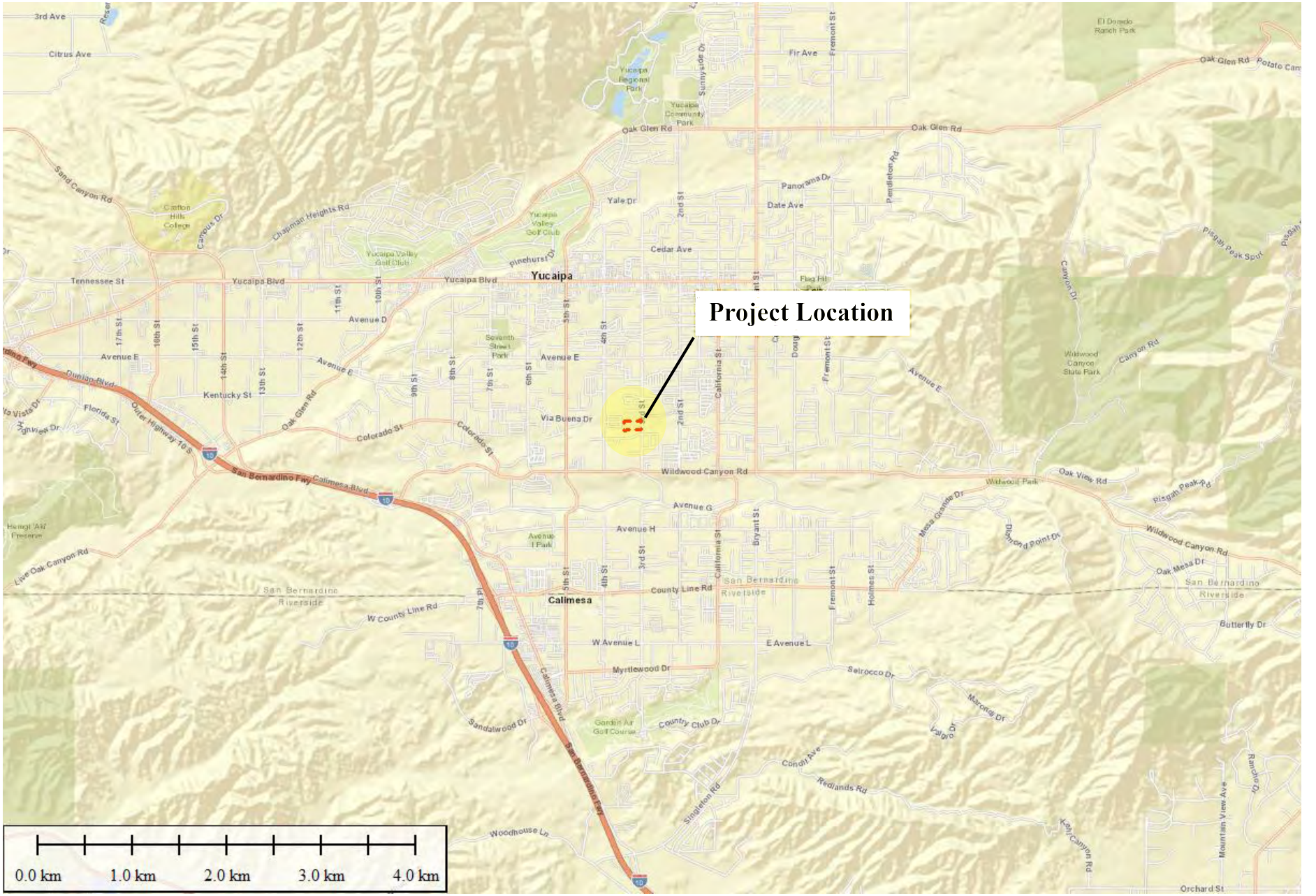

Figure 2

Vicinity Map
APN 319-112-03
San Bernardino County, California

Legend

Project Site Boundary

N

Figure 3

Project Plans
APN 319-112-03
San Bernardino County, California

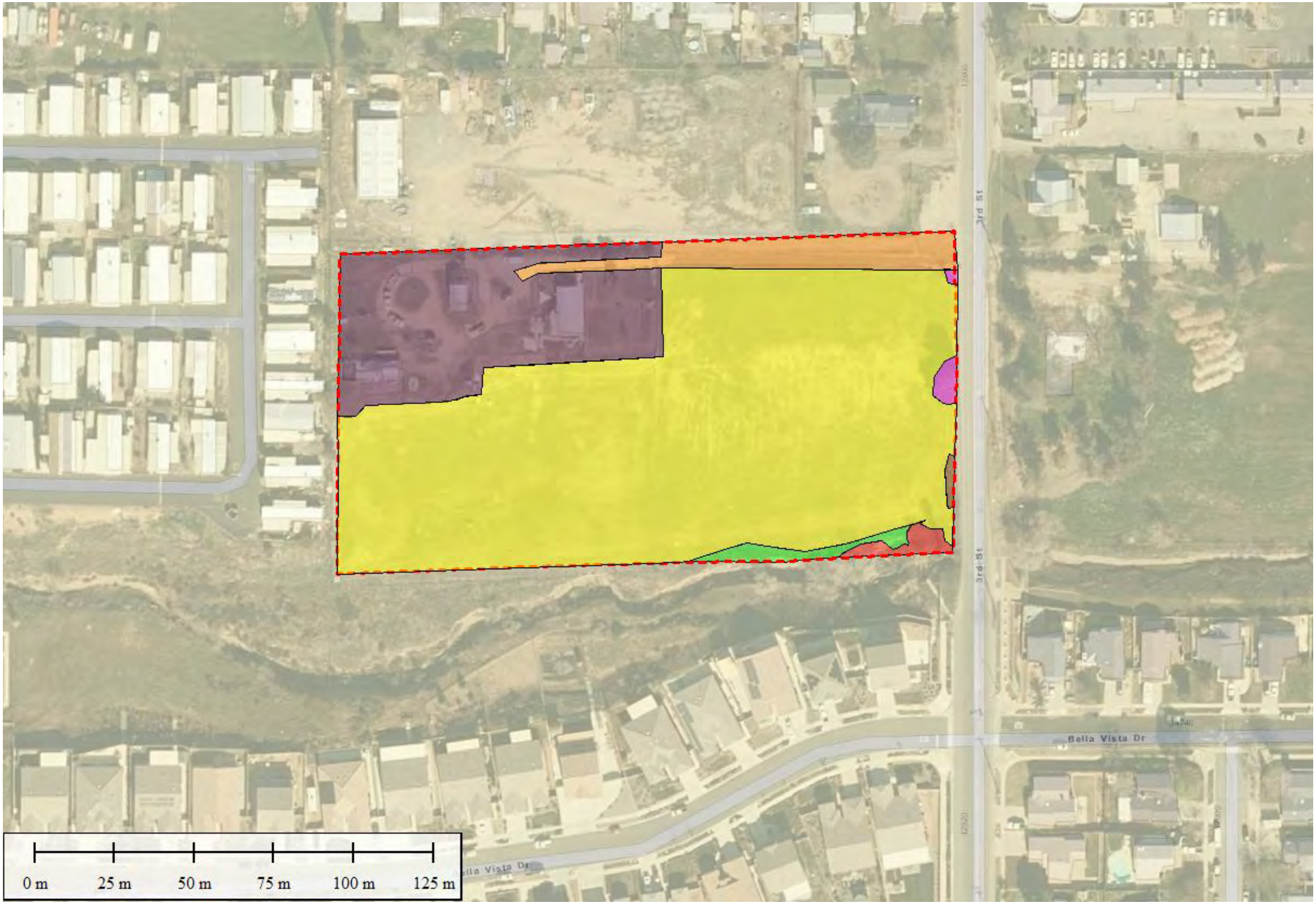

Figure 4

Habitat Map
APN 319-112-03
San Bernardino County, California

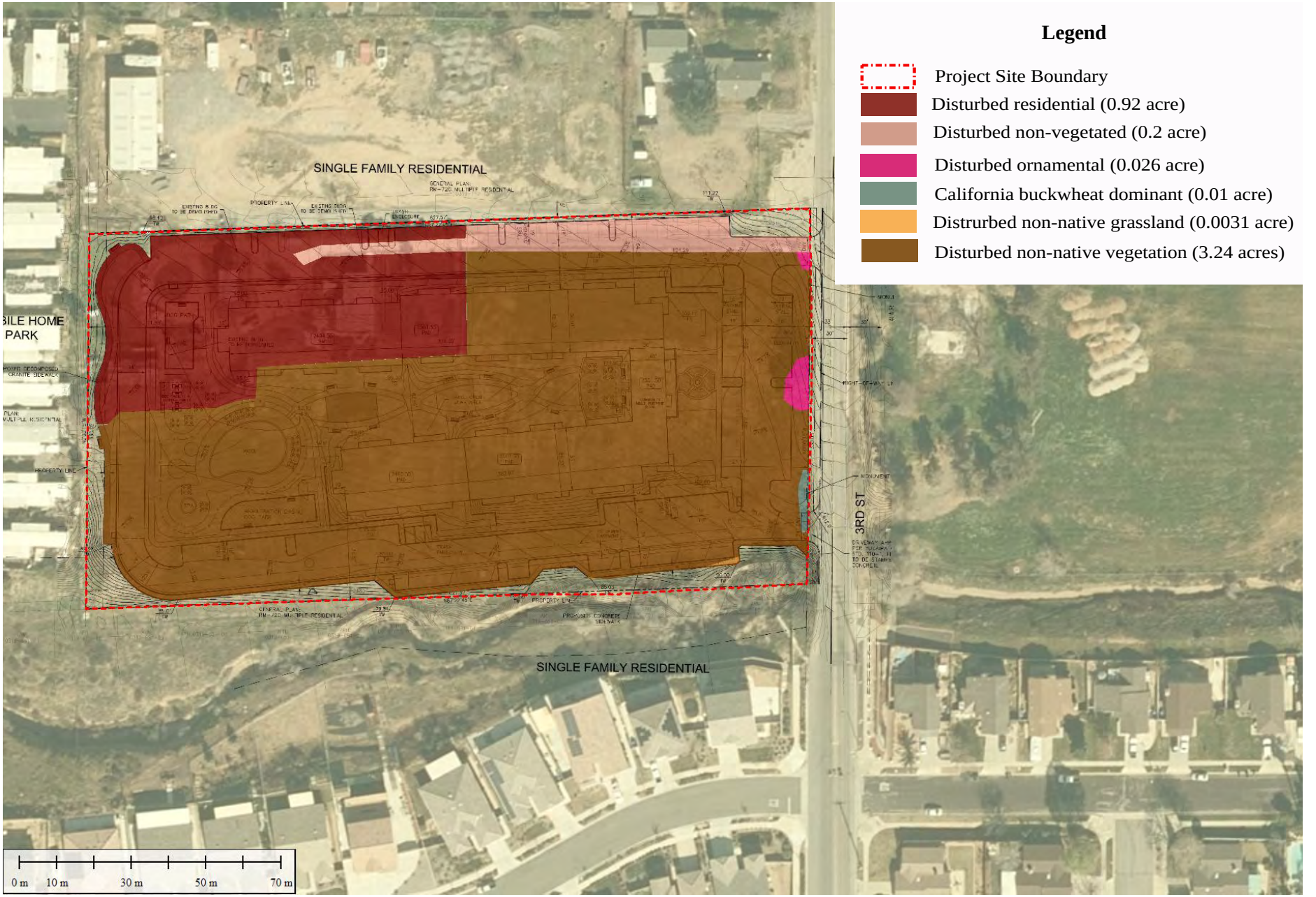

Figure 5

Impacts Map
APN 319-112-03
San Bernardino County, California

APPENDIX A

Species List

Plant List

Ailanthus altissima	Tree of heaven
Alcea sp.	Hollyhock sp.
Albizia julibrissin	Persian silk tree
Bromus sp.	Grass sp.
Croton setigerus	Doveweed
Datura stramonium	Jimsonweed
Erodium moschatum	Whitestem filaree
Ficus carica	Fig tree
Kali tragus	Tumbleweed
Malva parviflora	Cheeseweed
Marrubium vulgare	White horehound
Pistacia chinensis	Chinese pistache
Populus fremontii	Fremont cottonwood
Robinia pseudoacacia	Black locust
Salix sp.	Willow sp.
Schinus molle	Peruvian pepper tree
Trichostema lanceolatum	Vinegarweed

Animal List

Aphelocoma californica	California scrub jay
Canis latrans	Coyote
Corvus corax	Common raven
Sayornis saya	Say's phoebe
Uta stansburiana	Common side-blotched lizard

APPENDIX B

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Abronia villosa var. aurita	chaparral sand-verbena	Dicots	None	None	1B.1	Chaparral | Coastal scrub | Desert dunes	Chaparral, coastal scrub, desert dunes.	Sandy areas. -60-1570 m.	No suitable habitat is present on site. **This species is not present.**
Allium howellii var. clokeyi	Mt. Pinos onion	Monocots	None	None	1B.3	Great Basin scrub | Meadow & seep | Pinon & juniper woodlands	Great Basin scrub, pinyon and juniper woodland, meadows and seeps (edges).	1385-1800 m.	No suitable habitat is present on site. **This species is not present.**
Allium marvinii	Yucaipa onion	Monocots	None	None	1B.2	Chaparral	Chaparral.	In openings on clay soils. 850-1070 m.	No suitable habitat is present on site. **This species is not present.**
Arenaria lanuginosa var. saxosa	rock sandwort	Dicots	None	None	2B.3	Subalpine coniferous forest | Upper montane coniferous forest	Subalpine coniferous forest, upper montane coniferous forest.	Mesic, sandy sites. 1920-2935 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Arenaria paludicola	marsh sandwort	Dicots	Endangered	Endangered	1B.1	Freshwater marsh | Marsh & swamp | Wetland	Marshes and swamps.	Growing up through dense mats of Typha, Juncus, Scirpus, etc. in freshwater marsh. Sandy soil. 3-170 m.	No suitable habitat is present on site. **This species is not present.**
Astragalus hornii var. hornii	Horn's milk-vetch	Dicots	None	None	1B.1	Alkali playa | Meadow & seep | Wetland	Meadows and seeps, playas.	Lake margins, alkaline sites. 75-350 m.	No suitable habitat is present on site. **This species is not present.**
Astragalus lentiginosus var. coachellae	Coachella Valley milk-vetch	Dicots	Endangered	None	1B.2	Desert dunes | Sonoran desert scrub	Sonoran desert scrub, desert dunes.	Sandy flats, washes, outwash fans, sometimes on dunes. 35-695 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Astragalus lentiginosus var. sierrae	Big Bear Valley milk-vetch	Dicots	None	None	1B.2	Meadow & seep | Mojavean desert scrub | Pinon & juniper woodlands | Upper montane coniferous forest	Mojavean desert scrub, meadows and seeps, pinyon and juniper woodland, upper montane coniferous forest.	Stony meadows and open pinewoods; sandy and gravelly soils in a variety of habitats. 1710-3230 m.	No suitable habitat is present on site. **This species is not present.**
Astragalus leucolobus	Big Bear Valley woollypod	Dicots	None	None	1B.2	Lower montane coniferous forest | Pavement plain | Pinon & juniper woodlands | Upper montane coniferous forest	Lower montane coniferous forest, pebble plain, pinyon and juniper woodland, upper montane coniferous forest.	Dry pine woods, gravelly knolls among sagebrush, or stony lake shores in the pine belt. 1460-2895 m.	No suitable habitat is present on site. **This species is not present.**
Astragalus pachypus var. jaegeri	Jaeger's milk-vetch	Dicots	None	None	1B.1	Chaparral | Cismontane woodland | Coastal scrub | Valley & foothill grassland	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland.	Dry ridges and valleys and open sandy slopes; often in grassland and oak-chaparral. 365-1040 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Atriplex coronata var. notatior	San Jacinto Valley crownscale	Dicots	Endangered	None	1B.1	Alkali playa | Valley & foothill grassland | Vernal pool | Wetland	Playas, valley and foothill grassland, vernal pools.	Alkaline areas in the San Jacinto River Valley. 35-460 m.	No suitable habitat is present on site. **This species is not present.**
Atriplex serenana var. davidsonii	Davidson's saltscale	Dicots	None	None	1B.2	Coastal bluff scrub | Coastal scrub	Coastal bluff scrub, coastal scrub.	Alkaline soil. 0-480 m.	No suitable habitat is present on site. **This species is not present.**
Berberis nevinii	Nevin's barberry	Dicots	Endangered	Endangered	1B.1	Chaparral | Cismontane woodland | Coastal scrub | Riparian scrub	Chaparral, cismontane woodland, coastal scrub, riparian scrub.	On steep, N-facing slopes or in low grade sandy washes. 90-1590 m.	No suitable habitat is present on site. **This species is not present.**
Boechera parishii	Parish's rockcress	Dicots	None	None	1B.2	Limestone | Pavement plain | Pinon & juniper woodlands | Upper montane coniferous forest	Pebble plain, pinyon and juniper woodland, upper montane coniferous forest.	Generally found on pebble plains on clay soil with quartzite cobbles; sometimes on limestone. 1825-2805 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Botrychium crenulatum	scalloped moonwort	Ferns	None	None	2B.2	Bog & fen | Lower montane coniferous forest | Marsh & swamp | Meadow & seep | Upper montane coniferous forest | Wetland	Bogs and fens, meadows and seeps, upper montane coniferous forest, lower montane coniferous forest, marshes and swamps.	Moist meadows, freshwater marsh, and near creeks. 1185-3110 m.	No suitable habitat is present on site. **This species is not present.**
Calochortus palmeri var. palmeri	Palmer's mariposa-lily	Monocots	None	None	1B.2	Chaparral | Lower montane coniferous forest | Meadow & seep	Meadows and seeps, chaparral, lower montane coniferous forest.	Vernally moist places in yellow-pine forest, chaparral. 195-2530 m.	No suitable habitat is present on site. **This species is not present.**
Calochortus plummerae	Plummer's mariposa-lily	Monocots	None	None	4.2	Chaparral | Cismontane woodland | Coastal scrub | Lower montane coniferous forest | Valley & foothill grassland	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest.	Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Calyptridium pygmaeum	pygmy pussypaws	Dicots	None	None	1B.2	Subalpine coniferous forest | Upper montane coniferous forest	Upper montane coniferous forest, subalpine coniferous forest.	Sandy or gravelly sites. 2145-3415 m.	No suitable habitat is present on site. **This species is not present.**
Canyon Live Oak Ravine Forest	Canyon Live Oak Ravine Forest	Riparian	None	None		Riparian forest			**This is not present.**
Carex occidentalis	western sedge	Monocots	None	None	2B.3	Lower montane coniferous forest | Meadow & seep | Wetland	Lower montane coniferous forest, meadows and seeps.	1645-2320 m.	No suitable habitat is present on site. **This species is not present.**
Castilleja cinerea	ash-gray paintbrush	Dicots	Threatened	None	1B.2	Meadow & seep | Mojavean desert scrub | Pavement plain | Pinon & juniper woodlands | Upper montane coniferous forest	Pebble plains, upper montane coniferous forest, Mojavean desert scrub, meadows and seeps, pinyon and juniper woodland.	Endemic to the San Bernardino Mountains, in clay openings; often in meadow edges. 725-2860 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Castilleja lasiorhyncha	San Bernardino Mountains owl's-clover	Dicots	None	None	1B.2	Chaparral | Meadow & seep | Pavement plain | Riparian woodland | Upper montane coniferous forest | Wetland	Meadows and seeps, pebble plain, upper montane coniferous forest, chaparral, riparian woodland.	Mesic to drying soils in open areas of stream and meadow margins or in vernally wet areas. 1140-2320 m.	No suitable habitat is present on site. **This species is not present.**
Caulanthus simulans	Payson's jewelflower	Dicots	None	None	4.2	Chaparral | Coastal scrub	Chaparral, coastal scrub.	Frequently in burned areas, or in disturbed sites such as streambeds; also on rocky, steep slopes. Sandy, granitic soils. 90-2200 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Centromadia pungens ssp. laevis	smooth tarplant	Dicots	None	None	1B.1	Alkali playa | Chenopod scrub | Meadow & seep | Riparian woodland | Valley & foothill grassland | Wetland	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland.	Alkali meadow, alkali scrub; also in disturbed places. 5-1170 m.	No suitable habitat is present on site. **This species is not present.**
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Dicots	Endangered	Endangered	1B.2	Coastal dunes | Marsh & swamp | Salt marsh | Wetland	Marshes and swamps, coastal dunes.	Limited to the higher zones of salt marsh habitat. 0-10 m.	No suitable habitat is present on site. **This species is not present.**
Chorizanthe parryi var. parryi	Parry's spineflower	Dicots	None	None	1B.1	Chaparral | Cismontane woodland | Coastal scrub | Valley & foothill grassland	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland.	Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1220 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Chorizanthe xanti var. leucotheca	white-bracted spineflower	Dicots	None	None	1B.2	Coastal scrub | Mojavean desert scrub | Pinon & juniper woodlands	Mojavean desert scrub, pinyon and juniper woodland, coastal scrub (alluvial fans).	Sandy or gravelly places. 365-1830 m.	No suitable habitat is present on site. **This species is not present.**
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Dicots	None	None	2B.2	Marsh & swamp | Wetland	Marshes and swamps (freshwater).	Freshwater marsh. 15-280 m.	No suitable habitat is present on site. **This species is not present.**
Deinandra mohavensis	Mojave tarplant	Dicots	None	Endangered	1B.3	Chaparral | Coastal scrub | Riparian scrub	Riparian scrub, coastal scrub, chaparral.	Low sand bars in river bed; mostly in riparian areas or in ephemeral grassy areas. 640-1645 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Dodecahema leptoceras	slender-horned spineflower	Dicots	Endangered	Endangered	1B.1	Chaparral | Cismontane woodland | Coastal scrub	Chaparral, cismontane woodland, coastal scrub (alluvial fan sage scrub).	Flood deposited terraces and washes; associates include Encelia, Dalea, Lepidospartum, etc. Sandy soils. 200-765 m.	No suitable habitat is present on site. **This species is not present.**
Eremogone ursina	Big Bear Valley sandwort	Dicots	Threatened	None	1B.2	Meadow & seep | Pavement plain | Pinon & juniper woodlands	Pebble plain, pinyon and juniper woodland, meadows and seeps.	Mesic, rocky sites. 1795-2895 m.	No suitable habitat is present on site. **This species is not present.**
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	Dicots	Endangered	Endangered	1B.1	Chaparral | Coastal scrub	Coastal scrub, chaparral.	In sandy soils on river floodplains or terraced fluvial deposits. 180-705 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Eriogonum kennedyi var. austromontanum	southern mountain buckwheat	Dicots	Threatened	None	1B.2	Lower montane coniferous forest | Pavement plain	Pebble (pavement) plain, lower montane coniferous forest.	Usually found in pebble plain habitats. 1765-3020 m.	No suitable habitat is present on site. **This species is not present.**
Eriogonum microthecum var. lacus-ursi	Bear Lake buckwheat	Dicots	None	None	1B.1	Great Basin scrub | Lower montane coniferous forest	Lower montane coniferous forest, Great Basin scrub.	Clay outcrops. 2000-2100 m.	No suitable habitat is present on site. **This species is not present.**
Erythranthe exigua	San Bernardino Mountains monkeyflower	Dicots	None	None	1B.2	Meadow & seep | Pavement plain | Upper montane coniferous forest | Wetland	Meadows and seeps, pebble plains, upper montane coniferous forest.	Seeps and sandy sometimes disturbed soil in moist drainages of annual streams; clay soils. 2060-2630 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Erythranthe purpurea	little purple monkeyflower	Dicots	None	None	1B.2	Meadow & seep | Pavement plain | Upper montane coniferous forest | Wetland	Meadows and seeps, pebble plain, upper montane coniferous forest.	Dry clay or gravelly soils under Jeffrey pines, along annual streams or vernal springs and seeps. 2045-2290 m.	No suitable habitat is present on site. **This species is not present.**
Gilia leptantha ssp. leptantha	San Bernardino gilia	Dicots	None	None	1B.3	Lower montane coniferous forest	Lower montane coniferous forest.	Sandy or gravelly sites. 1520-2595 m.	No suitable habitat is present on site. **This species is not present.**
Heuchera parishii	Parish's alumroot	Dicots	None	None	1B.3	Alpine boulder & rock field | Limestone | Lower montane coniferous forest | Subalpine coniferous forest | Upper montane coniferous forest	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest, alpine boulder and rock field.	Rocky places. Sometimes on carbonate. 1340-3505 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Horkelia cuneata var. puberula	mesa horkelia	Dicots	None	None	1B.1	Chaparral | Cismontane woodland | Coastal scrub	Chaparral, cismontane woodland, coastal scrub.	Sandy or gravelly sites. 15-1645 m.	No suitable habitat is present on site. **This species is not present.**
Horkelia wilderae	Barton Flats horkelia	Dicots	None	None	1B.1	Chaparral | Lower montane coniferous forest | Upper montane coniferous forest	Lower montane coniferous forest, upper montane coniferous forest, chaparral.	On rocky, north aspects in openings that hold persistent snowdrifts. 1980-2895 m.	No suitable habitat is present on site. **This species is not present.**
Imperata brevifolia	California satintail	Monocots	None	None	2B.1	Chaparral | Coastal scrub | Meadow & seep | Mojavean desert scrub | Riparian scrub | Wetland	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub.	Mesic sites, alkali seeps, riparian areas. 3-1495 m.	No suitable habitat is present on site. **This species is not present.**
Ivesia argyrocoma var. argyrocoma	silver-haired ivesia	Dicots	None	None	1B.2	Meadow & seep | Pavement plain | Upper montane coniferous forest	Meadows and seeps, pebble plains, upper montane coniferous forest.	In pebble plains and meadows with other rare plants. 1490-2960 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Dicots	None	None	1B.1	Alkali playa | Marsh & swamp | Salt marsh | Vernal pool | Wetland	Coastal salt marshes, playas, vernal pools.	Usually found on alkaline soils in playas, sinks, and grasslands. 1-1375 m.	No suitable habitat is present on site. **This species is not present.**
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	Dicots	None	None	4.3	Chaparral | Coastal scrub	Chaparral, coastal scrub.	Dry soils, shrubland. 4-1435 m.	No suitable habitat is present on site. **This species is not present.**
Lewisia brachycalyx	short-sepaled lewisia	Dicots	None	None	2B.2	Lower montane coniferous forest | Meadow & seep	Lower montane coniferous forest, meadows and seeps.	Dry to moist meadows in rich loam. 1400-2290 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Lilium parryi	lemon lily	Monocots	None	None	1B.2	Lower montane coniferous forest | Meadow & seep | Riparian forest | Upper montane coniferous forest | Wetland	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest.	Wet, mountainous terrain; generally in forested areas; on shady edges of streams, in open boggy meadows and seeps. 625-2930 m.	No suitable habitat is present on site. **This species is not present.**
Malacothamnus parishii	Parish's bush-mallow	Dicots	None	None	1A	Chaparral | Coastal scrub	Chaparral, coastal sage scrub.	In a wash. 305-455 m.	No suitable habitat is present on site. **This species is not present.**
Mentzelia tricuspis	spiny-hair blazing star	Dicots	None	None	2B.1	Mojavean desert scrub	Mojavean desert scrub.	Sandy or gravelly slopes and washes.150-1280 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Monardella macrantha ssp. hallii	Hall's monardella	Dicots	None	None	1B.3	Broadleaved upland forest | Chaparral | Cismontane woodland | Lower montane coniferous forest | Valley & foothill grassland	Broadleafed upland forest, chaparral, lower montane coniferous forest, cismontane woodland, valley and foothill grassland.	Dry slopes and ridges in openings. 700-1800 m.	No suitable habitat is present on site. **This species is not present.**
Nama stenocarpa	mud nama	Dicots	None	None	2B.2	Marsh & swamp | Wetland	Marshes and swamps.	Lake shores, river banks, intermittently wet areas. 15-815 m.	No suitable habitat is present on site. **This species is not present.**
Navarretia peninsularis	Baja navarretia	Dicots	None	None	1B.2	Chaparral | Lower montane coniferous forest | Meadow & seep | Pinon & juniper woodlands	Lower montane coniferous forest, chaparral, meadows and seeps, pinyon and juniper woodland.	Wet areas in open forest. 1150-2365 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Oxytropis oreophila var. oreophila	rock-loving oxytrope	Dicots	None	None	2B.3	Alpine boulder & rock field | Subalpine coniferous forest	Alpine boulder and rock field, subalpine coniferous forest.	Gravelly or rocky sites. 2615-3505 m.	No suitable habitat is present on site. **This species is not present.**
Packera bernardina	San Bernardino ragwort	Dicots	None	None	1B.2	Meadow & seep | Pavement plain | Upper montane coniferous forest | Wetland	Meadows and seeps, pebble plains, upper montane coniferous forest.	Mesic, sometimes alkaline meadows, and dry rocky slopes. 1615-2470 m.	No suitable habitat is present on site. **This species is not present.**
Parnassia cirrata var. cirrata	San Bernardino grass-of-Parnassus	Dicots	None	None	1B.3	Limestone | Lower montane coniferous forest | Meadow & seep | Upper montane coniferous forest | Wetland	Lower montane coniferous forest, upper montane coniferous forest, meadows and seeps.	Mesic sites, streamsides, sometimes calcareous. 1245-2440 m.	No suitable habitat is present on site. **This species is not present.**
Pebble Plains	Pebble Plains	Herbaceous	None	None		Pavement plain			**This is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Perideridia parishii ssp. parishii	Parish's yampah	Dicots	None	None	2B.2	Lower montane coniferous forest | Meadow & seep | Upper montane coniferous forest	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest.	Damp meadows or along streambeds- prefers an open pine canopy. 1470-2530 m.	No suitable habitat is present on site. **This species is not present.**
Petalonyx linearis	narrow-leaf sandpaper-plant	Dicots	None	None	2B.3	Mojavean desert scrub | Sonoran desert scrub	Mojavean desert scrub, Sonoran desert scrub.	Sandy or rocky canyons. -30-1090 m.	No suitable habitat is present on site. **This species is not present.**
Phlox dolichantha	Big Bear Valley phlox	Dicots	None	None	1B.2	Pavement plain | Upper montane coniferous forest	Pebble plains, upper montane coniferous forest.	Sloping hillsides, in shade under pines and Quercus kelloggii, with heavy pine litter; also in openings. 1980-2805 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Physaria kingii ssp. bernardina	San Bernardino Mountains bladderpod	Dicots	Endangered	None	1B.1	Limestone | Lower montane coniferous forest | Pinon & juniper woodlands | Subalpine coniferous forest	Pinyon and juniper woodland, lower montane coniferous forest, subalpine coniferous forest.	Dry sandy to rocky carbonate soils. 1980-2590 m.	No suitable habitat is present on site. **This species is not present.**
Poa atropurpurea	San Bernardino blue grass	Monocots	Endangered	None	1B.2	Meadow & seep | Wetland	Meadows and seeps.	Mesic meadows of open pine forests and grassy slopes, loamy alluvial to sandy loam soil. 1255-2655 m.	No suitable habitat is present on site. **This species is not present.**
Pyrrocoma uniflora var. gossypina	Bear Valley pyrrocoma	Dicots	None	None	1B.2	Meadow & seep | Pavement plain	Pebble plain, meadows and seeps.	Meadows, meadow edges, and along streams in or near pebble plain habitat. 2040-2280 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Ribes divaricatum var. parishii	Parish's gooseberry	Dicots	None	None	1A	Riparian woodland	Riparian woodland.	Salix swales in riparian habitats. 65-300 m.	No suitable habitat is present on site. **This species is not present.**
Riversidian Alluvial Fan Sage Scrub	Riversidian Alluvial Fan Sage Scrub	Scrub	None	None		Coastal scrub			No suitable habitat is present on site. **This species is not present.**
Sidalcea hickmanii ssp. parishii	Parish's checkerbloom	Dicots	None	Rare	1B.2	Chaparral | Cismontane woodland | Lower montane coniferous forest	Chaparral, cismontane woodland, lower montane coniferous forest.	Disturbed burned or cleared areas on dry, rocky slopes, in fuel breaks and fire roads along the mountain summits. 1095-2135 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Sidalcea malviflora ssp. dolosa	Bear Valley checkerbloom	Dicots	None	None	1B.2	Lower montane coniferous forest | Meadow & seep | Riparian woodland | Upper montane coniferous forest | Wetland	Meadows and seeps, riparian woodland, lower montane coniferous forest, upper montane coniferous forest.	Known from wet areas within forested habitats. Affected by hydrological changes. 1575-2590 m.	No suitable habitat is present on site. **This species is not present.**
Sidalcea neomexicana	salt spring checkerbloom	Dicots	None	None	2B.2	Alkali playa | Chaparral | Coastal scrub | Lower montane coniferous forest | Mojavean desert scrub | Wetland	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub.	Alkali springs and marshes. 3-2380 m.	No suitable habitat is present on site. **This species is not present.**
Sidalcea pedata	bird-foot checkerbloom	Dicots	Endangered	Endangered	1B.1	Meadow & seep | Pavement plain | Wetland	Meadows and seeps, pebble plains.	Vernally mesic sites in meadows or pebble plains. 1840-2305 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	Riparian	None	None		Riparian forest			**This is not present.**
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	Riparian	None	None		Riparian forest			**This is not present.**
Southern Mixed Riparian Forest	Southern Mixed Riparian Forest	Riparian	None	None		Riparian forest			**This is not present.**
Southern Riparian Forest	Southern Riparian Forest	Riparian	None	None		Riparian forest			**This is not present.**
Southern Riparian Scrub	Southern Riparian Scrub	Riparian	None	None		Riparian scrub			**This is not present.**
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	Riparian	None	None		Riparian woodland			**This is not present.**
Southern Willow Scrub	Southern Willow Scrub	Riparian	None	None		Riparian scrub			**This is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Streptanthus bernardinus	Laguna Mountains jewelflower	Dicots	None	None	4.3	Chaparral | Lower montane coniferous forest | Upper montane coniferous forest	Chaparral, lower montane coniferous forest.	Clay or decomposed granite soils; sometimes in disturbed areas such as streamsides or roadcuts. 1440-2500 m.	No suitable habitat is present on site. **This species is not present.**
Streptanthus campestris	southern jewelflower	Dicots	None	None	1B.3	Chaparral | Lower montane coniferous forest | Pinon & juniper woodlands	Chaparral, lower montane coniferous forest, pinyon and juniper woodland.	Open, rocky areas. 605-2590 m.	No suitable habitat is present on site. **This species is not present.**
Streptanthus juneae	June's jewelflower	Dicots	None	None	1B.2	Chaparral | Lower montane coniferous forest	Lower montane coniferous forest, chaparral (montane).	Openings. 2155-2370 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Symphyotrichum defoliatum	San Bernardino aster	Dicots	None	None	1B.2	Cismontane woodland | Coastal scrub | Lower montane coniferous forest | Marsh & swamp | Meadow & seep | Valley & foothill grassland	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland.	Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m.	No suitable habitat is present on site. **This species is not present.**
Taraxacum californicum	California dandelion	Dicots	Endangered	None	1B.1	Meadow & seep | Wetland	Meadows and seeps.	Mesic meadows, usually free of taller vegetation. 1620-2590 m.	No suitable habitat is present on site. **This species is not present.**
Thelypodium stenopetalum	slender-petaled thelypodium	Dicots	Endangered	Endangered	1B.1	Meadow & seep | Wetland	Meadows and seeps.	Seasonally moist alkaline clay soils; associated with seeps and springs in the pebble plains. 2045-2240 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Rare Plant Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Thelypteris puberula var. sonorensis	Sonoran maiden fern	Ferns	None	None	2B.2	Meadow & seep | Wetland	Meadows and seeps.	Along streams, seepage areas. 60-930 m.	No suitable habitat is present on site. **This species is not present.**
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	Dicots	None	None	2B.1	Marsh & swamp | Meadow & seep | Riparian forest | Vernal pool | Wetland	Marshes and swamps, riparian forest, meadows and seeps, vernal pools.	Mud flats of vernal lakes, drying river beds, alkali meadows. 5-435 m.	No suitable habitat is present on site. **This species is not present.**
Viola pinetorum ssp. grisea	grey-leaved violet	Dicots	None	None	1B.2	Meadow & seep | Subalpine coniferous forest | Upper montane coniferous forest	Subalpine coniferous forest, upper montane coniferous forest, meadows and seeps.	Dry mountain peaks and slopes. 1580-3700 m.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Accipiter cooperii	Cooper's hawk	Birds	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Cismontane woodland | Riparian forest | Riparian woodland | Upper montane coniferous forest	Woodland, chiefly of open, interrupted or marginal type.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	No suitable habitat is present on site. **This species is not present.**
Agelaius tricolor	tricolored blackbird	Birds	None	Threatened	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Freshwater marsh | Marsh & swamp | Swamp | Wetland	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California.	Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	No suitable habitat is present on site. **This species is not present.**
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	Birds	None	None	CDFW_WL-Watch List	Chaparral | Coastal scrub	Resident in Southern California coastal sage scrub and sparse mixed chaparral.	Frequents relatively steep, often rocky hillsides with grass and forb patches.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Anniella stebbinsi	Southern California legless lizard	Reptiles	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Broadleaved upland forest | Chaparral | Coastal dunes | Coastal scrub	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County.	Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	No suitable habitat is present on site. **This species is not present.**
Antrozous pallidus	pallid bat	Mammals	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Chaparral | Coastal scrub | Desert wash | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Riparian woodland | Sonoran desert scrub | Upper montane coniferous forest | Valley & foothill grassland	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Suitable habitat is present on site. **This species has potential to be present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Aquila chrysaetos	golden eagle	Birds	None	None	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | CDFW_WL-Watch List | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest | Cismontane woodland | Coastal prairie | Great Basin grassland | Great Basin scrub | Lower montane coniferous forest | Pinon & juniper woodlands | Upper montane coniferous forest | Valley & foothill grassland	Rolling foothills, mountain areas, sage-juniper flats, and desert.	Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	No suitable habitat is present on site. **This species is not present.**
Arizona elegans occidentalis	California glossy snake	Reptiles	None	None	CDFW_SSC-Species of Special Concern		Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California.	Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Artemisiospiza belli belli	Bell's sage sparrow	Birds	None	None	CDFW_WL-Watch List | USFWS_BCC-Birds of Conservation Concern	Chaparral | Coastal scrub	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range.	Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.	No suitable habitat is present on site. **This species is not present.**
Aspidoscelis hyperythra	orange-throated whiptail	Reptiles	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern | USFS_S-Sensitive	Chaparral | Cismontane woodland | Coastal scrub	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats.	Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	No suitable habitat is present on site. **This species is not present.**
Aspidoscelis tigris stejnegeri	coastal whiptail	Reptiles	None	None	CDFW_SSC-Species of Special Concern		Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas.	Ground may be firm soil, sandy, or rocky.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Athene cunicularia	burrowing owl	Birds	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Coastal prairie | Coastal scrub | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub | Valley & foothill grassland	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation.	Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Suitable habitat is present on site. **This species has potential to be present.**
Bombus caliginosus	obscure bumble bee	Insects	None	None	IUCN_VU-Vulnerable		Coastal areas from Santa Barbara County to north to Washington state.	Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	No suitable habitat is present on site. **This species is not present.**
Bombus crotchii	Crotch bumble bee	Insects	None	None			Coastal California east to the Sierra-Cascade crest and south into Mexico.	Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Bombus morrisoni	Morrison bumble bee	Insects	None	None	IUCN_VU-Vulnerable		From the Sierra-Cascade ranges eastward across the intermountain west.	Food plant genera include Cirsium, Cleome, Helianthus, Lupinus, Chrysothamnus, and Melilotus.	No suitable habitat is present on site. **This species is not present.**
Buteo regalis	ferruginous hawk	Birds	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Great Basin grassland | Great Basin scrub | Pinon & juniper woodlands | Valley & foothill grassland	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats.	Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	No suitable habitat is present on site. **This species is not present.**
Buteo swainsoni	Swainson's hawk	Birds	None	Threatened	BLM_S-Sensitive | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Great Basin grassland | Riparian forest | Riparian woodland | Valley & foothill grassland	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees.	Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Catostomus santaanae	Santa Ana sucker	Fish	Threatened	None	AFS_TH-Threatened | IUCN_VU-Vulnerable	Aquatic | South coast flowing waters	Endemic to Los Angeles Basin south coastal streams.	Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	No suitable habitat is present on site. **This species is not present.**
Chaetodipus californicus femoralis	Dulzura pocket mouse	Mammals	None	None	CDFW_SSC-Species of Special Concern	Chaparral | Coastal scrub | Valley & foothill grassland	Variety of habitats including coastal scrub, chaparral and grassland in San Diego County.	Attracted to grass-chaparral edges.	No suitable habitat is present on site. **This species is not present.**
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	Mammals	None	None	CDFW_SSC-Species of Special Concern	Chaparral | Coastal scrub	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County.	Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Charina umbratica	southern rubber boa	Reptiles	None	Threatened	USFS_S-Sensitive	Meadow & seep | Riparian forest | Riparian woodland | Upper montane coniferous forest | Wetland	Known from the San Bernardino and San Jacinto mtns; found in a variety of montane forest habitats. Snakes resembling C. umbratica reported from Mt. Pinos and Tehachapi mtns group with C. bottae based on mtDNA. Further research needed.	Found in vicinity of streams or wet meadows; requires loose, moist soil for burrowing; seeks cover in rotting logs, rock outcrops, and under surface litter.	No suitable habitat is present on site. **This species is not present.**
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	Threatened	Endangered	BLM_S-Sensitive | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Riparian forest	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Crotalus ruber	red-diamond rattlesnake	Reptiles	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Chaparral | Mojavean desert scrub | Sonoran desert scrub	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains.	Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	No suitable habitat is present on site. **This species is not present.**
Cypseloides niger	black swift	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | NABCI_YWL-Yellow Watch List | USFWS_BCC-Birds of Conservation Concern		Coastal belt of Santa Cruz and Monterey counties; central and southern Sierra Nevada; San Bernardino and San Jacinto mountains.	Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	No suitable habitat is present on site. **This species is not present.**
Diadophis punctatus modestus	San Bernardino ringneck snake	Reptiles	None	None	USFS_S-Sensitive		Most common in open, relatively rocky areas. Often in somewhat moist microhabitats near intermittent streams.	Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous veg.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Diplectrona californica	California diplectrona n caddisfly	Insects	None	None		Aquatic			No suitable habitat is present on site. **This species is not present.**
Dipodomys merriami parvus	San Bernardino kangaroo rat	Mammals	Endangered	Candidate Endangered	CDFW_SSC-Species of Special Concern	Coastal scrub	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains.	Needs early to intermediate seral stages.	No suitable habitat is present on site. **This species is not present.**
Dipodomys stephensi	Stephens' kangaroo rat	Mammals	Endangered	Threatened	IUCN_EN-Endangered	Coastal scrub | Valley & foothill grassland	Primarily annual and perennial grasslands, but also occurs in coastal scrub and sagebrush with sparse canopy cover.	Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	No suitable habitat is present on site. **This species is not present.**
Elanus leucurus	white-tailed kite	Birds	None	None	BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern	Cismontane woodland | Marsh & swamp | Riparian woodland | Valley & foothill grassland | Wetland	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland.	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Empidonax traillii extimus	southwestern willow flycatcher	Birds	Endangered	Endangered	NABCI_RWL-Red Watch List	Riparian woodland	Riparian woodlands in Southern California.		No suitable habitat is present on site. **This species is not present.**
Emys marmorata	western pond turtle	Reptiles	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	Aquatic | Artificial flowing waters | Klamath/North coast flowing waters | Klamath/North coast standing waters | Marsh & swamp | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Eremophila alpestris actia	California horned lark	Birds	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Marine intertidal & splash zone communities | Meadow & seep	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills.	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	No suitable habitat is present on site. **This species is not present.**
Euchloe hyantis andrewsi	Andrew's marble butterfly	Insects	None	None		Lower montane coniferous forest	Inhabits yellow pine forest near Lake Arrowhead and Big Bear Lake, San Bernardino Mtns, San Bernardino Co, 5000-6000 ft.	Hostplants are Streptanthus bernardinus and Arabis holboellii var pinetorum; larval foodplant is Descurainia richardsonii.	No suitable habitat is present on site. **This species is not present.**
Eugnosta busckana	Busck's gallmoth	Insects	None	None		Coastal dunes | Coastal scrub			No suitable habitat is present on site. **This species is not present.**
Eumops perotis californicus	western mastiff bat	Mammals	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | WBWG_H-High Priority	Chaparral | Cismontane woodland | Coastal scrub | Valley & foothill grassland	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.	Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Suitable habitat is present on site. **This species has potential to be present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Glaucomys oregonensis californicus	San Bernardino flying squirrel	Mammals	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Broadleaved upland forest | Lower montane coniferous forest	Known from black oak or white fir dominated woodlands between 5200 - 8500 ft in the San Bernardino and San Jacinto ranges. May be extirpated from San Jacinto range.	Needs cavities in trees/snags for nests and cover. Needs nearby water.	No suitable habitat is present on site. **This species is not present.**
Haliaeetus leucocephalus	bald eagle	Birds	Delisted	Endangered	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Lower montane coniferous forest | Oldgrowth	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water.	Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Halictus harmonius	haromonius halictid bee	Insects	None	None			Known only from the foothills of the San Bernardino Mts., possibly also the San Jacinto Mts.		No suitable habitat is present on site. **This species is not present.**
Icteria virens	yellow-breasted chat	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Riparian forest | Riparian scrub | Riparian woodland	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses.	Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	No suitable habitat is present on site. **This species is not present.**
Lanius ludovicianus	loggerhead shrike	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest | Desert wash | Joshua tree woodland | Mojavean desert scrub | Pinon & juniper woodlands | Riparian woodland | Sonoran desert scrub	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes.	Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Lasiurus xanthinus	western yellow bat	Mammals	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | WBWG_H-High Priority	Desert wash	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats.	Roosts in trees, particularly palms. Forages over water and among trees.	Suitable habitat is present on site. **This species has potential to be present.**
Leptonycteris yerbabuenae	lesser long-nosed bat	Mammals	Delisted	None	CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | WBWG_H-High Priority	Mojavean desert scrub | Sonoran desert scrub | Upper Sonoran scrub	Arid regions such as desert grasslands and shrub land. Suitable day roosts (caves, mines) and suitable concentrations of food plants (columnar cacti, agaves) are critical resources. No maternity roosts known from California; may only be vagrant.	Caves and mines are used as day roosts. Caves, mines, rock crevices, trees and shrubs, and abandoned buildings are used as night roosts for digesting meals. Nectar, pollen, and fruit eating bat; primarily feeding on agaves, saguaro, and organ pipe cactus.	Suitable habitat is present on site. **This species has potential to be present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Lepus californicus bennettii	San Diego black-tailed jackrabbit	Mammals	None	None	CDFW_SSC-Species of Special Concern	Coastal scrub	Intermediate canopy stages of shrub habitats and open shrub / herbaceous and tree / herbaceous edges.	Coastal sage scrub habitats in Southern California.	No suitable habitat is present on site. **This species is not present.**
Neolarra alba	white cuckoo bee	Insects	None	None			Known only from localities in Southern California.	Cleptoparasitic in the nests of perdita bees.	No suitable habitat is present on site. **This species is not present.**
Neotamias speciosus speciosus	lodgepole chipmunk	Mammals	None	None		Chaparral | Upper montane coniferous forest	Summits of isolated Piute, San Bernardino, and San Jacinto mountains. Usually found in open-canopy forests.	Habitat is usually lodgepole pine forests in the San Bernardino Mts and chinquapin slopes in the San Jacinto Mts.	No suitable habitat is present on site. **This species is not present.**
Neotoma lepida intermedia	San Diego desert woodrat	Mammals	None	None	CDFW_SSC-Species of Special Concern	Coastal scrub	Coastal scrub of Southern California from San Diego County to San Luis Obispo County.	Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Nyctinomops femorosaccus	pocketed free-tailed bat	Mammals	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | WBWG_M-Medium Priority	Joshua tree woodland | Pinon & juniper woodlands | Riparian scrub | Sonoran desert scrub	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc.	Rocky areas with high cliffs.	Suitable habitat is present on site. **This species has potential to be present.**
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	Fish	Endangered	None	AFS_EN-Endangered	Aquatic | South coast flowing waters	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County).	Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	No suitable habitat is present on site. **This species is not present.**
Onychomys torridus ramona	southern grasshopper mouse	Mammals	None	None	CDFW_SSC-Species of Special Concern	Chenopod scrub	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Perognathus alticola alticola	white-eared pocket mouse	Mammals	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | USFS_S-Sensitive	Lower montane coniferous forest | Mojavean desert scrub | Pinon & juniper woodlands	Ponderosa and Jeffrey pine habitats; also in mixed chaparral and sagebrush habitats in the San Bernardino Mountains.	Burrows are constructed in loose soil.	No suitable habitat is present on site. **This species is not present.**
Perognathus longimembris brevinasus	Los Angeles pocket mouse	Mammals	None	None	CDFW_SSC-Species of Special Concern	Coastal scrub	Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin.	Open ground with fine, sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	No suitable habitat is present on site. **This species is not present.**
Phrynosoma blainvillii	coast horned lizard	Reptiles	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Chaparral | Cismontane woodland | Coastal bluff scrub | Coastal scrub | Desert wash | Pinon & juniper woodlands | Riparian scrub | Riparian woodland | Valley & foothill grassland	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Plegadis chihi	white-faced ibis	Birds	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Marsh & swamp | Wetland	Shallow freshwater marsh.	Dense tule thickets for nesting, interspersed with areas of shallow water for foraging.	No suitable habitat is present on site. **This species is not present.**
Polioptila californica californica	coastal California gnatcatcher	Birds	Threatened	None	CDFW_SSC-Species of Special Concern | NABCI_YWL-Yellow Watch List	Coastal bluff scrub | Coastal scrub	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California.	Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	No suitable habitat is present on site. **This species is not present.**
Progne subis	purple martin	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Broadleaved upland forest | Lower montane coniferous forest	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine.	Nests in old woodpecker cavities mostly; also in human-made structures. Nest often located in tall, isolated tree/snag.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Rana draytonii	California red-legged frog	Amphibians	Threatened	None	CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Aquatic | Artificial flowing waters | Artificial standing waters | Freshwater marsh | Marsh & swamp | Riparian forest | Riparian scrub | Riparian woodland | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Rana muscosa	southern mountain yellow-legged frog	Amphibians	Endangered	Endangered	CDFW_WL-Watch List | IUCN_EN-Endangered | USFS_S-Sensitive	Aquatic	Disjunct populations known from southern Sierras (northern DPS) and San Gabriel, San Bernardino, and San Jacinto Mtns (southern DPS). Found at 1,000 to 12,000 ft in lakes and creeks that stem from springs and snowmelt. May overwinter under frozen lakes.	Often encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development.	No suitable habitat is present on site. **This species is not present.**
Rhinichthys osculus ssp. 8	Santa Ana speckled dace	Fish	None	None	AFS_TH-Threatened | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Aquatic | South coast flowing waters	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system.	Requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	No suitable habitat is present on site. **This species is not present.**
Salvadora hexalepis virgultea	coast patch-nosed snake	Reptiles	None	None	CDFW_SSC-Species of Special Concern	Coastal scrub	Brushy or shrubby vegetation in coastal Southern California.	Require small mammal burrows for refuge and overwintering sites.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Setophaga petechia	yellow warbler	Birds	None	None	CDFW_SSC-Species of Special Concern | USFWS_BCC-Birds of Conservation Concern	Riparian forest | Riparian scrub | Riparian woodland	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada.	Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	No suitable habitat is present on site. **This species is not present.**
Spea hammondii	western spadefoot	Amphibians	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	Cismontane woodland | Coastal scrub | Valley & foothill grassland | Vernal pool | Wetland	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands.	Vernal pools are essential for breeding and egg-laying.	No suitable habitat is present on site. **This species is not present.**
Spinus lawrencei	Lawrence's goldfinch	Birds	None	None	IUCN_LC-Least Concern | NABCI_YWL-Yellow Watch List | USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest | Chaparral | Pinon & juniper woodlands | Riparian woodland	Nests in open oak or other arid woodland and chaparral, near water. Nearby herbaceous habitats used for feeding.	Closely associated with oaks.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Taxidea taxus	American badger	Mammals	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Alkali marsh | Alkali playa | Alpine | Alpine dwarf scrub | Bog & fen | Brackish marsh | Broadleaved upland forest | Chaparral | Chenopod scrub | Cismontane woodland | Closed-cone coniferous forest | Coastal bluff scrub | Coastal dunes | Coastal prairie | Coastal scrub | Desert dunes | Desert wash | Freshwater marsh | Great Basin grassland | Great Basin scrub | Interior dunes | Ione formation | Joshua tree woodland |	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	No suitable habitat is present on site. **This species is not present.**

Scientific Name	Common Name	Taxon Group	Federal List	State List	Other Status	Habitats	General Habitat	Micro Habitat	Presence/ Absence
Thamnophis hammondii	two-striped gartersnake	Reptiles	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Marsh & swamp | Riparian scrub | Riparian woodland | Wetland	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation.	Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	No suitable habitat is present on site. **This species is not present.**
Vireo bellii pusillus	least Bell's vireo	Birds	Endangered	Endangered	IUCN_NT-Near Threatened | NABCI_YWL-Yellow Watch List	Riparian forest | Riparian scrub | Riparian woodland	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.	Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	No suitable habitat is present on site. **This species is not present.**

APPENDIX C

Neighboring drainage offsite near southern border of site. View looking southeast.

Disturbed habitat on site with no vegetation. View looking north.

Disturbed habitat on site where project impacts will occur. Fence in the center of site and residential area to the east in the distance. View looking east.

Hernandez Environmental Services

Residential area in the distance. View looking southeast.

Developed area with ornamental trees. View looking east.

Vacant barn onsite. View looking north.

Hernandez Environmental Services

View inside vacant barn.

Vacant buildings on site. View looking north.

Hernandez
Environmental
Services

APPENDIX D

Soil Map—San Bernardino County Southwestern Part, California
(Property Boundary)

Map Scale: 1:1,050 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County Southwestern Part, California
Survey Area Data: Version 13, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 1, 2018—Jun 30, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RmC	Ramona sandy loam, 2 to 9 percent slopes, MLRA 19	3.9	81.4%
ShF	Saugus sandy loam, 30 to 50 percent slopes	0.9	18.6%
Totals for Area of Interest		**4.8**	**100.0%**

APPENDIX E

June 2021

MATERIAL CULTURE
CONSULTING

Submitted to:

Premium Land Development, LLC
35109 Avenue C
Yucaipa, CA 92399

CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT

3rd Street Residential Project

City of Yucaipa, San Bernardino County, California

Material Culture Consulting™

PHASE I CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT: 3rd STREET RESIDENTIAL PROJECT (TTM 19900) CITY OF YUCAIPA, SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:
Premium Land Development
35109 Avenue C
Yucaipa, CA 92399

Principal Investigators/Authors:
Tria Marie Belcourt, M.A., Registered Professional Archaeologist
Jennifer Kelly, M.Sc., Geology, Professional Paleontologist
Erika McMullin, B.A.

June 2021

Type of Study: Cultural and Paleontological resources assessment
Cultural/ Paleontological Resources within Area of Potential Impact: Yes
Paleontological Formations: younger Quaternary alluvium, older Quaternary alluvium
USGS 7.5-minute Quadrangle(s): Section 1 of Township 2 S, Range 2 W, Yucaipa
Survey Area: 5 acres
APN(s): 0319-112-03
Date of Fieldwork: December 23, 2020
Key Words: Archaeology, Paleontology, CEQA, Phase I Survey, Positive Report, Younger Quaternary Alluvium, Quaternary Alluvium, Low Paleontological Sensitivity, Moderate Paleontological Sensitivity, San Bernardino County, City of Yucaipa

MANAGEMENT SUMMARY

The 3rd Street Residential Project (TTM 19900) (hereto after referred to as Project or Project Area), proposes the development of 150 senior homes on a mostly undeveloped parcel with three existing structures present. The Project Area is located on 5 acres of land bounded by Mission Way to the north, 4th Street to the west, 3rd Street to the east and Bella Vista Drive to the south, in the City of Yucaipa, San Bernardino County, California. Material Culture Consulting, Inc. (MCC) was retained by the Premium Land Development (PLD) to conduct a Phase I cultural and paleontological resource investigation of the Project Area. These assessments were conducted in accordance with the California Environmental Quality Act (CEQA), along with local regulations and guidelines. This assessment included a California Historical Resources Information System (CHRIS) records search at the South Central Coastal Information Center (SCCIC), and background/literature research, a locality search at the Natural History Museum of Los Angeles County (LACM), an examination of geological maps and paleontological literature, a search of the Sacred Lands File (SLF) by the Native American Heritage Commission (NAHC), outreach efforts with nineteen Native American tribal representatives, and an intensive-level pedestrian survey of the Project Area.

A search of the California Historical Resource Information System (CHRIS) was conducted by staff members at the South Central Coastal Information Center (SCCIC), California State University, Fullerton, Fullerton, California. The cultural resources records search identified twenty-four prior cultural resources investigations within a 1-mile radius of the Project Area. None of these studies intersects the Project Area. A total of five previously recorded cultural resources were identified within a 1-mile radius of the Project Area, however none of these are documented directly within the Project Area. A review of historical aerial photographs and topographic maps indicate that prior to the 1950s, the Project Area was used for agricultural purposes. By the 1990s, the surrounding area saw increased commercial and residential development that has continued up to the present day. During this same time period, the Project Area was a used as a ranch with a dirt lot, and it has continued to exist as one until present day.

The SLF search was positive for previously known tribal cultural resources or sacred lands within the Project Area or within a mile of the Project Area. The NAHC provided MCC with contact information for San Manuel Band of Mission Indians, in addition to 19 other tribes/individuals to reach out to for additional information on November 24, 2020. MCC sent letters on December 2, 2020 to all nineteen Native American contacts, requesting any information related to cultural resources or heritage sites within or adjacent to the Project Area. Additional attempts at contact by letter, email or phone call were made on December 21, 2020 and December 29, 2020. As a result of this outreach effort, MCC received seven responses from tribes/contacts, including Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Mission Indians, Quechan Tribe of the Fort Yuma Reservation, Ramona Band of Cahuilla, San Manuel Band of Mission Indians, Soboba Band of Luiseno Indians, and Torres-Martinez Desert Cahuilla Indians. Of these responses, four Native American Tribes stated an interest in the Project and provided comments, however, none of the tribes shared specific information regarding tribal cultural resources within the Project Area or immediate vicinity of the Project Area. MCC did not conduct formal consultation with any of the Native American representatives.

The majority of the Project Area is comprised of older Quaternary alluvium dating to the Pleistocene era. No previously recorded fossil localities are located within one mile of the Project Area.

MCC Archaeologist and Cross-Trained Paleontologist Scott De La Torre conducted the cultural and paleontological

survey of the Project Area on December 23, 2020. During fieldwork, survey conditions were generally good, with high visibility. A total of three historic-era structures and a historic feature were identified during the survey and background research. A separate historic-era built environment review is being conducted by Clair Teeters of the Yucaipa Historical Society to address all historic-era built environment resources located within the Project Area. A historic, concrete feature, *MCC-YUC-001,* was observed during the field survey. A Department of Parks and Recreation (DPR) 523 series report can be found in Confidential Appendix E. No additional archaeological resources and no paleontological resources were identified.

The potential for encountering significant cultural resources within the Project Area is considered moderate to high, due to a positive SLF, the undeveloped nature of the Project Area, and presence of historic-era structures throughout the Project Area. MCC recommends full time archaeological monitoring during initial ground-disturbance activities, such as site preparation, demolition of historic structures, and grading up to three feet below surface, in order to quickly assess any discoveries of cultural resources during project implementation.

The potential for encountering significant paleontological resources within the Project Area is considered moderate due to the presence of the paleontologically sensitive older Quaternary sediments. MCC recommends that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area, should these be unearthed during ground disturbance within the Project Area.

A copy of this report will be permanently filed with the SCCIC at California State University, Fullerton. All notes, photographs, correspondence and other materials related to this Project are located at MCC, in Pomona, California.

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INTRODUCTION

The 3rd Street Residential Project (TTM 19900) (hereto after referred to as Project or Project Area), proposes the development of 150 senior homes on a mostly undeveloped parcel with three existing structures. The Project Area is located on 5 acres of land on the northwest corner of the intersection of 3rd Street and Mission Way in the City of Yucaipa, San Bernardino County, California. Material Culture Consulting, Inc. (MCC) was retained by Premium Land Development (PLD) to conduct a Phase I cultural and paleontological resource investigation of the Project Area. These assessments were conducted in accordance with the California Environmental Quality Act (CEQA), along with local regulations and guidelines. This assessment included a California Historical Resources Information System (CHRIS) records search at the South Central Coastal Information Center (SCCIC), and background/literature research, a locality search at the Natural History Museum of Los Angeles County (LACM), an examination of geological maps and paleontological literature, a search of the Sacred Lands File (SLF) by the Native American Heritage Commission (NAHC), outreach efforts with 19 Native American tribal representatives, and an intensive-level pedestrian survey of the Project Area.

PROJECT LOCATION AND DESCRIPTION

The proposed Project Area is located at the northwest corner of 3rd Street and Mission Way, in the City of Yucaipa, San Bernardino County, California (Figures 1 and 2). The Project Area is bounded by Mission Way to the north, 4th Street to the west, 3rd Street to the east and Bella Vista Drive to the south (Figure 3). The Project Area may be found on the Yucaipa, California, U.S. Geological Survey (USGS) 7.5' Quadrangle in the southwest quarter of Section 01 in Township 02 South, Range 02 West, San Bernardino Base and Meridian (Figure 2). The Project is a planned residential development on a 5 acre site consisting of 150 senior living homes. The development site consists of one parcel, identified as Assessor's Parcel Numbers (APNs) 0319-112-03, and currently exists as a small ranch with three structures. Residential neighborhoods surround the area, and an irrigation canal is present to the south.

PROJECT PERSONNEL

Tria Belcourt, M.A., RPA, President of MCC, served as the Project Manager and Principal Archaeologist for the study. Ms. Belcourt oversaw the project and performed editorial review of this report. Belcourt is a Registered Professional Archaeologist (RPA) with a M.A. in Anthropology from the University of Florida, a B.A. in Anthropology from the University of California at Los Angeles, and over 17 years of experience in California archaeology and 12 years of experience overseeing paleontological assessments in California (See Appendix A). Jennifer Kelly, M.S., served as the Principal Investigator for Paleontology for the study. Ms. Kelly conducted the paleontological resource literature and map reviews, oversaw the field study, and prepared the paleontological sections of the report. Ms. Kelly has a M.Sc. in Geology from California State University, Long Beach, and has over 14 years of experience in environmental and paleontological compliance in California (See Appendix A). MCC Cultural Resource Assistant Project Manager Erika McMullin, B.A., provided co-authorship of the report and managed the field survey. MCC Archaeologist and Cross-trained Paleontologist Scott De La Torre, B.A., conducted the field survey. MCC Cultural Resource Project Manager and GIS Specialist Julia Carvajal, M.A., provided GIS support for this study.

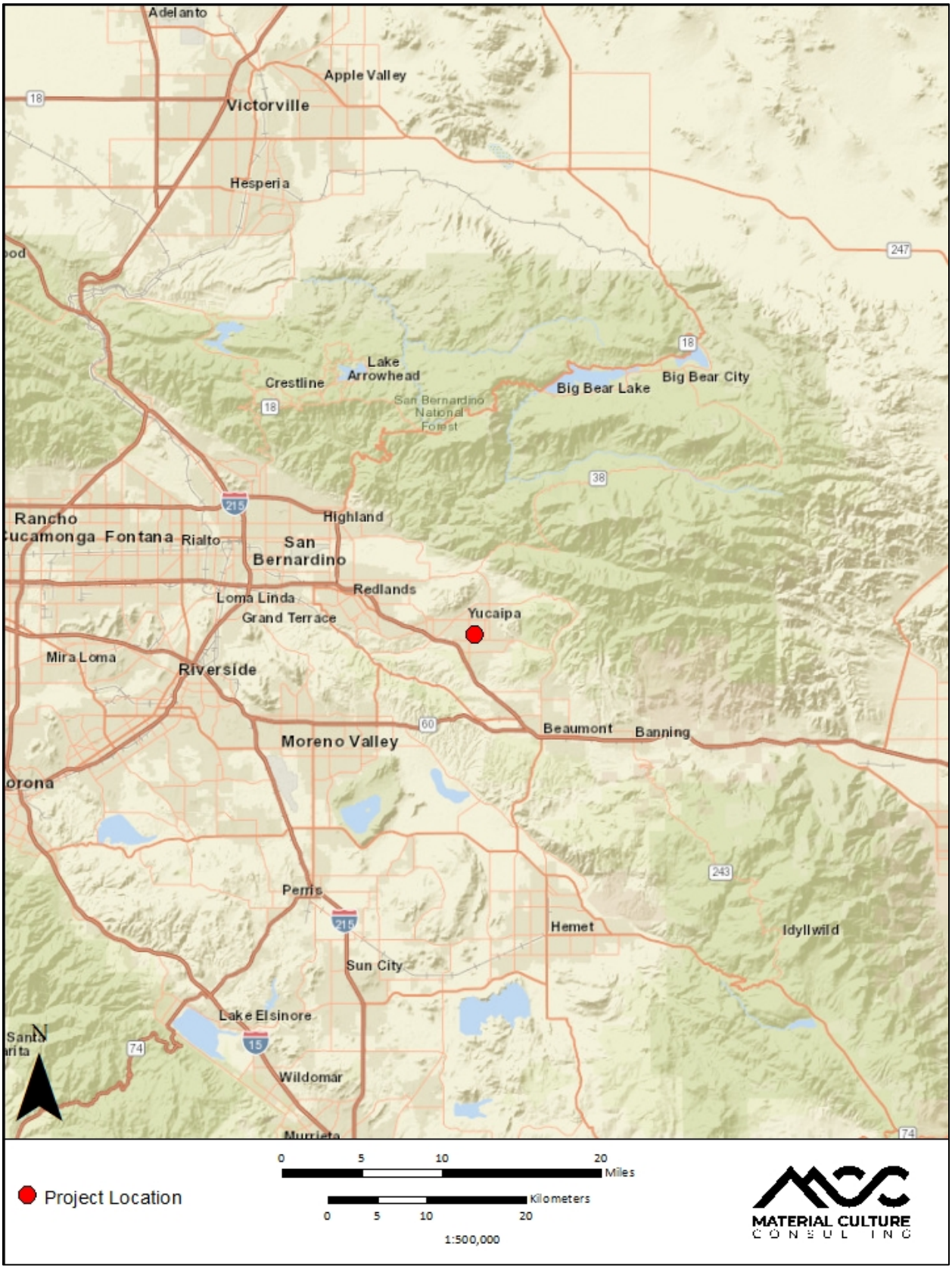

Figure 1. 3rd Street- Residential TTM19900 Project Location (1:500,000)

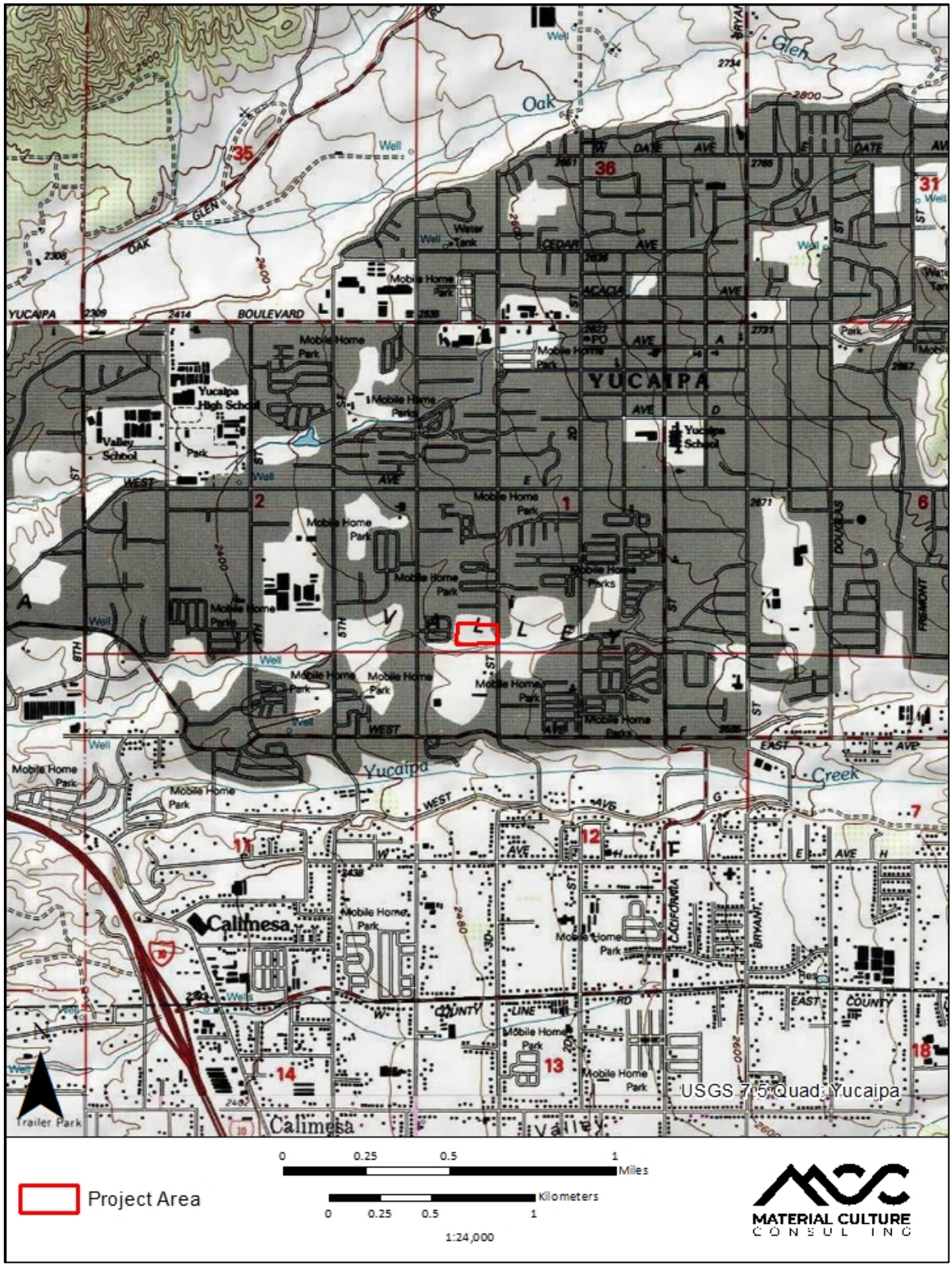

Figure 2. 3rd Street Residential TTM19900 Project Area (1:24,000, as depicted on Yucaipa USGS 7.5-Minute Quadrangle)

Figure 3. 3rd Street Residential TTM19900 Project Area (1:1,500, as depicted on aerial photograph)

REGULATORY ENVIRONMENT

The current study is subject to local and state laws and regulations regarding cultural and paleontological resources. These regulations require the identification of cultural and paleontological resources within the Project Area which should be considered during the planning stage of new Projects; include application review for Projects that would potentially involve land disturbance; provide Project-level standard conditions of approval that address unanticipated discoveries; and provide requirements to develop specific mitigation measures if resources are encountered during any development activity. Specific governing legislation and regulations include the following:

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

CEQA declares that it is state policy to "take all action necessary to provide the people of this state with...historic environmental qualities". It further states that public or private Projects financed or approved by the state are subject to environmental review by the state. All such Projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental impacts of a proposed Project. If a Project is determined to have a potential significant environmental impact, CEQA requires that alternative plans and mitigation measures be considered. CEQA includes historic and archaeological resources as integral features of the environment.

CEQA requires a designated lead agency to determine whether a Project may have a significant impact on historical resources. A historical resource is defined as a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (Section 21084.1); a resource included in a local register of historical resources (Section 15064.5(a)(2)); or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (Section 15064.5 (a)(3)). Public Resources Code (PRC) Section 5024.1, Section 15064.5 of the Guidelines, and Sections 21083.2 and 21084.1 of the Statutes of CEQA were used as one of the basic guidelines for the current cultural resources study. PRC Section 5024.1 directs evaluation of historical resources to determine their eligibility for listing on the CRHR.

The purpose of the register is to maintain listings of the state's historical resources. The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing on the National Register of Historic Places (NRHP), enumerated above, and require similar protection to what NHPA Section 106 mandates for historic properties. According to Public Resources Code (PRC) Section 5024.1(c)(1-4), a resource is considered historically significant if it meets at least one of the following criteria:

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

In addition to having significance, resources must retain integrity. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance. Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains

the potential to yield significant scientific or historical information or specific data. Note that California Historical Landmarks with numbers 770 or higher are automatically included in the CRHR.

Under CEQA, if an archeological site is not a significant "historical resource" but meets the definition of a "unique archeological resource" as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A unique archaeological resource is defined in PRC Section 21083.2(g) 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:

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

Resources that neither meet any of these criteria for listing on the NRHP or CRHR nor qualify as a "unique archaeological resource" under CEQA PRC Section 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 Section 21083.2(h)].

Impacts to historical resources that alter the characteristics that qualify the historical resource for listing on the CRHR are considered a significant impact. Impacts to a historical resource are considered significant if the Project activities physically destroy or damage all or part of a resource; change the character of the use of the resource or physical feature within the setting of the resource which contribute to its significance; or introduce visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource. If it can be demonstrated that a Project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2 (a), (b), and (c)).

TRIBAL CULTURAL RESOURCES

Assembly Bill (AB) 52 (Gatto; Stats. 2014, ch. 532), enacted in September 2014, sets forth both procedural and substantive requirements for analysis of tribal cultural resources as defined in Public Resources Code (PRC) Section 21074, and consultation with California Native American tribes. Tribal cultural resources include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a tribe. A tribal cultural resource is one that is either: (1) listed on, or eligible for listing on the CRHR or local register of historical resources (see section below); or (2) a resource that the CEQA lead agency, at its discretion and supported by substantial evidence, determines is significant pursuant to the criteria in PRC Section 5024.1, subdivision (c) (see PRC Section 21074). Further, because tribes traditionally and culturally affiliated with a geographic area may have specific expertise concerning their tribal cultural resources, AB 52 sets forth requirements for notification and invitation to government to government consultation between the CEQA lead agency and geographically affiliated tribes (PRC Section 21080.3.1[a]). Under AB 52, lead agencies must avoid damaging effects to tribal cultural resources, when feasible, regardless of whether consultation occurred or is required.

Tribal cultural resources per PRC 21074 (A)–(B) are defined as either of the following:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

a) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

b) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

2) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

a) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

CALIFORNIA HISTORICAL LANDMARKS AND POINTS OF HISTORICAL INTEREST

Historical landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. In order to be considered a California Historical Landmark, the landmark must meet at least one of the following criteria:

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

If a site is primarily of local or countywide interest, it may meet the criteria for the California Point of Historical Interest Program. Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

1. The first, last, only, or most significant of its type in the local geographic region (city or county);
2. Associated with an individual or group having a profound influence on the history of the local area;
3. A prototype of, or an outstanding example of, a period, style, architectural movement or construction; or
4. One of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a Landmark and a Point of Interest. If a Point of Interest is subsequently granted status as a Landmark, the Point of Interest designation will be retired.

PALEONTOLOGY

The State of California Public Resources Code (Chapter 1.7), Sections 5097.5 and 30244, includes additional state level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on state lands, define the removal of paleontological “sites” or “features” from state lands as a misdemeanor, and prohibit the removal of any

paleontological "site" or "feature" from State land without permission of the jurisdictional agency. These protections apply only to State of California land, and thus apply only to portions of the Project, if any, which occur on State land.

As defined by Society for Vertebrate Paleontology (SVP), paleontological resources are fossilized remains, traces, or imprints of prehistoric plants and/or animals which are preserved in or on the earth's crust that can provide information about the history of past life on the planet (2009). Generally, any resource greater than 5,000 years old is considered to be a fossil and are considered a nonrenewable resource that are subject to impacts from land development (SVP, 2010). Paleontological resources are important scientific and educational resources because they are used to:

1) Document the evolutionary history of now extinct organisms to study any associated evolution patterns and/or speciation;
2) Reconstruct the environments, climate change, and/or paleoecological relationships these organisms lived in; and
3) Determine the relative geologic age of the strata in which the resources occur and any geological events that resulted in the deposition of the sediments that formed the strata.

Fossil resources vary widely in their relative abundance and distribution and not all are regarded as significant. Vertebrate fossils, whether preserved remains or trackways, are classed as significant by most state and federal agencies and professional groups (and are specifically protected under the California Public Resources Code). In some cases, fossils of plants or invertebrate animals are also considered significant and can provide important information about ancient local environments. Assessment of significance is also subject to the California Environmental Quality Act (CEQA) criterion that the resource constitutes a "unique paleontological resource or site." A significant paleontological resource is considered to be of scientific interest if it is a rare or previously unknown species, it is of high quality and well-preserved, it preserves a previously unknown anatomical or other characteristic, provides new information about the history of life on earth, or has an identified educational or recreational value. Paleontological resources that may be considered not to have scientific significance include those that lack provenience or context, lack physical integrity due to decay or natural erosion, or that are overly redundant or are otherwise not useful for research. Vertebrate fossil remains and traces include bone, scales, scutes, skin impressions, burrows, tracks, tail drag marks, vertebrate coprolites (feces), gastroliths (stomach stones), or other physical evidence of past vertebrate life or activities (BLM, 2007). The full significance of fossil specimens or fossil assemblages cannot be accurately predicted before they are collected, and in many cases, before they are prepared in the laboratory and compared with previously collected material.

Pre-construction assessment of significance associated with an area or formation must be made based on previous finds, characteristics of the sediments, and other methods that can be used to determine paleoenvironmental conditions. A separate issue is the potential of a given geographic area or geologic unit to preserve fossils. Information that can contribute to assessment of this potential includes:

1) The existence of known fossil localities or documented absence of fossils nearby and in the same geologic unit (e.g. "Formation" or one of its subunits);
2) Observation of fossils within the Project vicinity;
3) The nature of sedimentary deposits in the area of interest, compared with those of similar deposits known elsewhere (size of particles, clasts and sedimentary structures conducive or non-conducive to fossil inclusion) that may favor or disfavor inclusion of fossils; and
4) Sedimentology details, and known geologic history, of the sedimentary unit of interest in terms of the environments in which the sediments were deposited, and assessment of the favorability of those environments for the probable preservation of fossils.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003; Scott et al. 2004).

CITY OF YUCAIPA GENERAL PLAN

The City of Yucaipa General Plan Chapter 4 – Parks, Recreation, Trails, and Open Space outlines its goals and policies to protect and preserve Yucaipa's paleontological and archaeological resources. The General Plan states the city has assessed the area's present geologic units according to the Potential Fossil Yield Classification (PFYC) scale of 1-5, extremely low to very high likelihood of fossil localities.

Policies

- PR-6.1 Historic Resource Program. Establish a formal historic and cultural resources program, in partnership with community groups, whereby the City can become a Certified Local Government.
- PR-6.2 Resource Identification. Work with the Yucaipa Valley Historical Society to inventory cultural resources (archaeological and historical); prepare site records for identified resources.
- PR-6.3 Cultural Resources Overlay. Require developers of qualified projects to adhere to requirements of the cultural resources overlay district and applicable laws that require the identification, preservation of, and mitigation of potential impacts to cultural resources.
- PR-6.4 Resource Preservation. Actively cooperate with Yucaipa Valley Historical Society and partners to preserve historic buildings, structures, districts, sites, objects, landscapes, and natural resources.
- PR-6.5 Cultural Reminders. Seek to incorporate reminders of Yucaipa's culture in the built and natural environment through adaptive reuse, signage, markers, and other reminders of Yucaipa's cultural heritage.
- PR-6.6 Native American Consultation. Continue to offer and conduct consultations with the Native American Heritage Commission on development proposals in accordance with state and federal law.
- PR-6.7 Education. Encourage public awareness of Yucaipa's history through cooperative efforts with Yucaipa Valley Historical Society, county and local museums, Yucaipa Cultural Arts Center, Crafton Hills College, and others.

BACKGROUND

ENVIRONMENTAL SETTING

The Project Area is located in the City of Yucaipa at the northwest corner of 3rd Street and Mission Way, in the City of Yucaipa, San Bernardino County, California. The Project Area is bounded by Mission Way to the north, 4th Street to the west, 3rd Street to the east and Bella Vista Drive to the south. The City of Yucaipa is located within a transition zone between the valley floors and hills of San Bernardino National Forest. It is situated on an alluvial plain with Crafton Hills to the west and San Timoteo Canyon to the south. Vegetation within the city includes coastal sage scrub, montane scrub, Ceanothus chaparral, scrub oak chaparral, and chamise chaparral, and woodlands areas. The Project Area is mostly flat with a slope of less than five degrees and elevations averaging approximately 760 meters (m) (2,500 ft.) above mean sea level (AMSL). The Project Area has been disturbed by the present three residential structures, and the ranching that occurred historically. Currently, vegetation within the Project Area consisted of annual grasses and weeds.

PALEONTOLOGICAL SETTING

The Project Area is situated on an alluvial flood plain of the Yucaipa River and surrounding mountain ranges in the Transverse Ranges province. This province is comprised of a series of mountain ranges that run transverse to most mountain ranges in southern California – roughly east/west trending. The mountains within the province, including the San Gabriel and San Bernardino mountains to the north and northeast, were uplifted by tectonic activity, and provide a major sedimentary source for the alluvium basins of the adjacent areas (Critelli et al. 1995). The geologic units underlying this Project Area are old surficial deposits, specifically old alluvial-fan deposits (Qof_1) with nearby old axial-valley deposits (Qoa_1) and very young axial-valley deposits (Qvya) (Figure 4; Matti et al. 2003). Old surficial deposits are sedimentary units that are moderately consolidated and slightly to moderately dissected. Alluvial-fan deposits are gravelly, but include sand and silt, whereas axial-valley deposits are sandy with minor gravel inclusions (Matti et al. 2003). Color profiles of these sediments range from yellowish brown and light yellowish brown to light brown and dark brown, but can be yellowish red (Matti et al. 2003). As mapped in the City of Yucaipa's General Plan, these sediments are considered to have moderate sensitivity for paleontological resources (Figure 5).

Old alluvial-fan deposits, unit 1 (Qof_1) are late to middle Pleistocene-aged alluvial fan deposits. The sediments are moderately to well consolidated silt, sand, and gravel (Matti et al. 2003). Units of a similar age and sedimentary profile have produced significant fossil resources in southern California, including remains of horse, bison, and camel, as well as other smaller vertebrates and invertebrates (Scott and Springer 2003). This unit should be considered to have a moderate (PFYC 3) potential to produce paleontological resources.

Old axial-valley deposits, unit 1 (Qoa_1) are late to middle Pleistocene-aged axial-valley surficial deposits. The sediments are dominated by sand with minor gravel. (Matti et al. 2003). Units of a similar age and sedimentary profile have produced significant fossil resources in southern California, including remains of horse, bison, and camel, as well as other smaller vertebrates and invertebrates (Scott and Springer 2003). This unit should be considered to have a moderate (PFYC 3) potential to produce paleontological resources.

Very young axial-valley deposits (Qvya) are very young deposits dating to as late as Holocene epoch. The sediments are recently traveled and deposited into channels, washes, and on alluvial fan and valley surfaces. Soil profile is non-existent to minimal. These units are unlikely to produce significant paleontological resources.

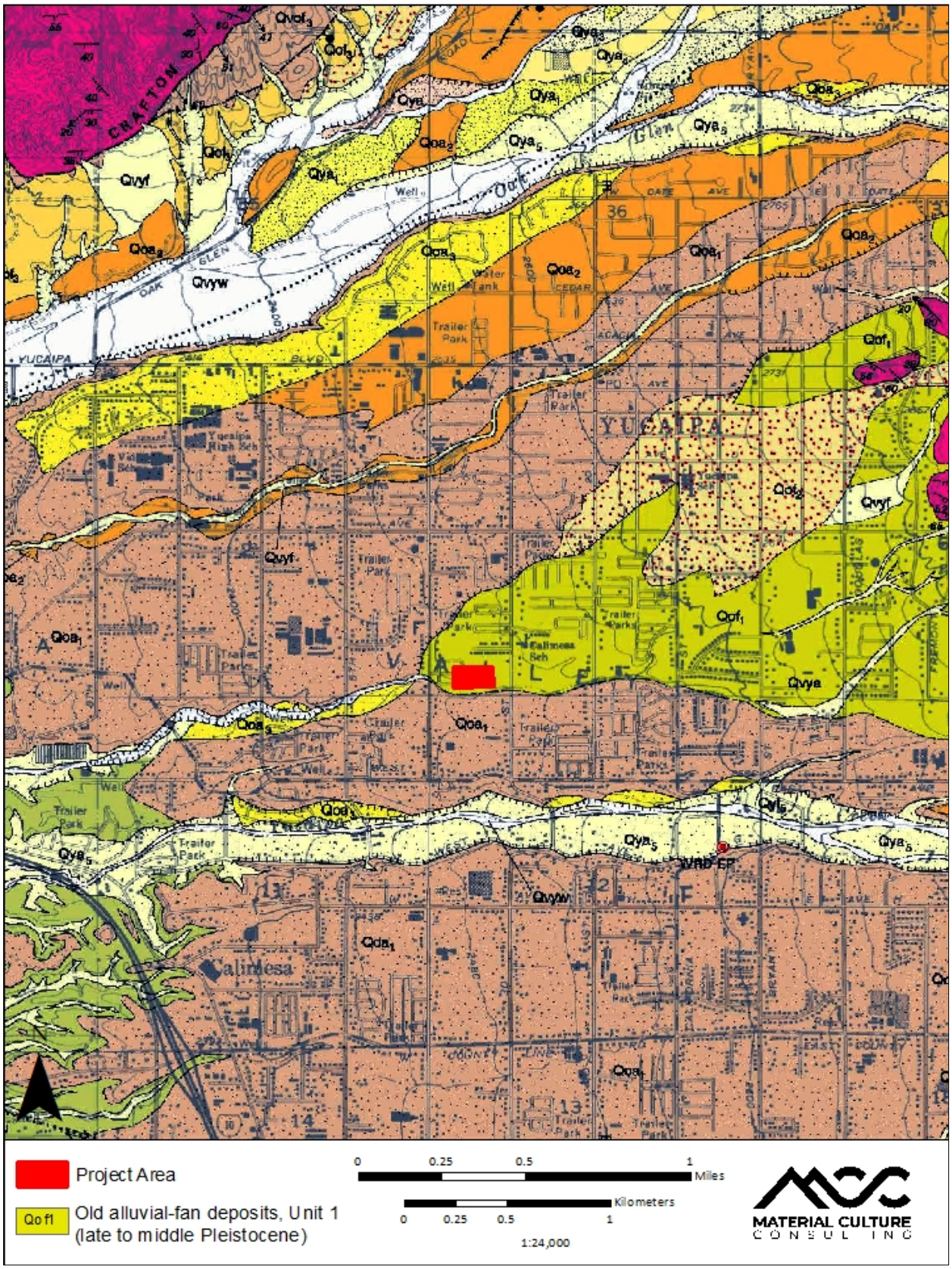

Figure 4. Geological Map of Project Area (1:24,000; Matti et al. 2003)

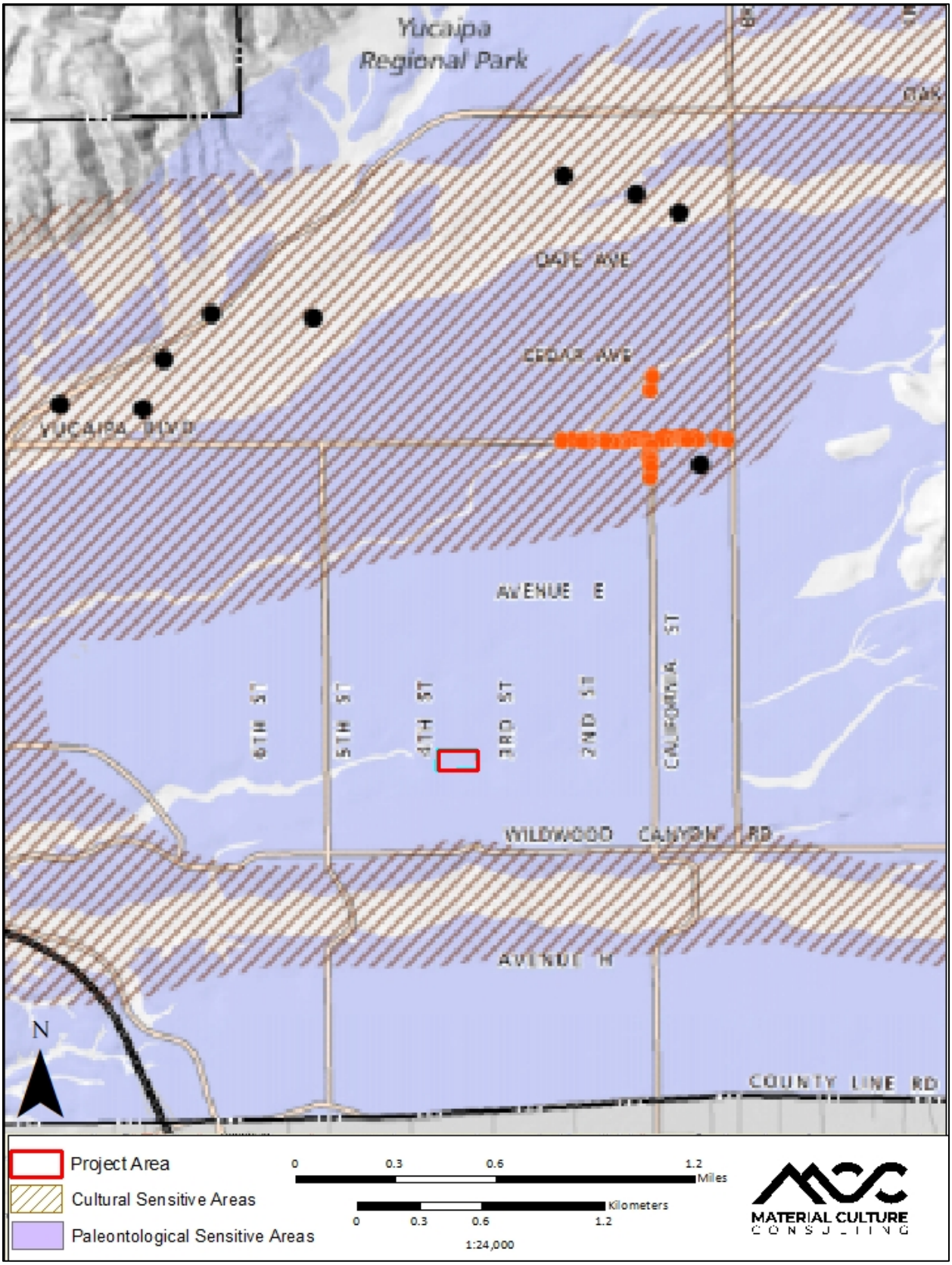

Figure 5. Additional geological map of Project Area (1:24,000; City of Yucaipa 2016).

PREHISTORIC CONTEXT

Most researchers agree that the earliest occupation for the Yucaipa area dates to the early Holocene (11,000 to 8,000 years ago). The following discussion of the cultural history of San Bernardino County references the San Dieguito Complex, the Milling Stone Horizon, the Encinitas Tradition, the La Jolla Complex, the Pauma Complex, and the San Luis Rey Complex, since these culture sequences have been used to describe archaeological manifestations in the region. The Late Prehistoric component in the area of San Bernardino County was represented by the Serrano, Cahuilla, and Luiseño Indians. Absolute chronological information, where possible, will be incorporated into this discussion to examine the effectiveness of continuing to use these terms interchangeably.

The Paleo Indian Period

The Paleo Indian Period is associated with the terminus of the late Pleistocene (12,000 to 10,000 YBP). The environment during the late Pleistocene was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands (Moratto 1984). However, by the terminus of the late Pleistocene, the climate became warmer, which caused glaciers to melt, sea levels to rise, greater coastal erosion, large lakes to recede and evaporate, extinction of Pleistocene megafauna, and major vegetation changes (Moratto 1984; Martin 1967, 1973; Fagan 1991). Paleo Indians were likely attracted to multiple habitat types, including mountains, marshlands, estuaries, and lakeshores. These people likely subsisted using a more generalized hunting, gathering, and collecting adaptation, utilizing a variety of resources including birds, mollusks, and both large and small mammals (Erlandson and Colten 1991; Moratto 1984; Moss and Erlandson 1995). The earliest sites known in the area are attributed to the San Dieguito culture, which consists of a hunting culture with flaked stone tool industry (Warren 1967). The material culture related to this time included scrapers, hammer stones, large flaked cores, drills, and choppers, which were used to process food and raw material.

Milling Stone Period

Around 8,000 years ago, subsistence patterns changed, resulting in a material complex consisting of an abundance of milling stones (for grinding food items) with a decrease in the number of chipped stone tools. The material culture from this time period includes large, bifacially worked dart points and grinding stones, handstones and metates. Archaeologists initially designated this period as the “Millingstone Horizon” (Wallace 1955). Later, the Millingstone Horizon was redefined as a cultural tradition named the Encinitas Tradition (Warren 1967) with various regional expressions including Topanga and La Jolla. Use by archaeologists varied as some adopted a generalized Encinitas Tradition without regional variations, while others continued to use Millingstone Horizon, and still others used Middle Holocene (the geologic time period) to indicate this observed pattern (Sutton and Gardner 2010:1-2). Recently, this generalized terminology was criticized by Sutton and Gardner (2010) as suppressing the identification of cultural, spatial, and temporal variation, as well as the movement of peoples throughout space and time. It is these factors that are believed to be critical to an understanding of prehistoric cultural adaptation and change in this portion of southern California (Sutton and Gardner 2010:1-2).

The Encinitas Tradition characteristics include abundant metates and manos, crudely-made core and flake tools, bone tools, shell ornaments, very few projectile points, indicating a subsistence pattern focused on hunting and gathering a variety of floral resources. Faunal remains vary by location but include marine mammals, fish, and shellfish, as well as terrestrial animals, reptiles, and birds (Sutton and Gardner 2010:7). The Encinitas Tradition has been redefined to have four patterns (Sutton and Gardner 2010: 8-25). These include the Topanga Pattern in coastal Los Angeles and Orange counties, the La Jolla Pattern in coastal San Diego County, and the Sayles or Pauma cultures in inland San Diego County extending into western San Bernardino County, where the project is located. At approximately 3,500 years ago, Pauma

groups in the general Project vicinity adopted new cultural traits which transformed the archaeological site characteristics - including mortar and pestle technology. This indicated the development of food storage, largely acorns, which could be processed and saved for the leaner, cooler months of the year.

Late Prehistoric Period

At approximately 1,500 years before present, bow and arrow technology started to emerge in the archaeological record, which also indicates new settlement patterns and subsistence systems. The local population retained the subsistence methods of the past but incorporated new materials into their day-to-day existence, as evidenced by the archaeological record. The Palomar Tradition is attributed to this time and is comprised of larger two patterns: The Peninsular Pattern in the inland areas of the northern Peninsular Ranges (e.g., San Jacinto and Santa Rosa mountains) and the northern Coachella Valley (Sutton 2010), and the San Luis Rey pattern of the project area Archaeological sites from this time period are characterized by soapstone bowls, arrowhead projectile points, pottery vessels, rock paintings, and evidence of cremation sites. The shift in material culture assemblages is largely attributed to the emergence of Shoshonean (Takic-speaking) people who entered California from the east.

ETHNOGRAPHY

At least three known Serrano villages are located within Yucaipa Valley. The prehistoric culture in this region is Yukaipa't, a group of villages of the Yucaipaiem clan (City of Yucaipa 2016). In addition to the Serrano, the Cahuilla and Luiseno consider the valley to be within their Traditional Tribal Land area.

Serrano

The Serrano has been defined as a Northern Uto-Aztecan language sub-family which resided in the mountains and deserts of interior southern California, known as the Mountain Serrano and the Desert Serrano (Sutton and Earle 2017). The Serrano's traditional use area is believed to located from the Cajon Pass of the San Gabriel/San Bernardino Mountains, as far east as Twentynine Palms, as far south as to Yucaipa, and as far north as Barstow (Bean and Smith 1978). Gifford (1918) categorizes the Serrano as a clan and moiety-oriented, or local lineage-oriented, group tied to traditional territories or use areas. Typically, a "village" consisted of a collection of families centered about a ceremonial house, with individual families inhabiting willow-framed huts with tule thatching. Considered hunter-gatherers, the Serrano exhibited sophisticated technologies devoted to hunting small animals and gathering roots, tubers and seeds of various kinds. Principal game animals included were deer, mountain sheep, antelope, rabbits, small rodents, and various birds (Bean and Smith 1978). The Serrano spoke a language that belongs to the Takic subfamily of the Uto-Aztecan language family, with some evidence of similarity with the Gabrielino (of the Los Angeles Basin) (Miller 1984).

European influence on the Serrano was limited until 1819, with the establishment of an asistencia near present-day Redlands (Bean and Smith 1978). By 1834, most of the western Serrano population had been displaced, with those located northeast of San Gorgonio Pass continued to thrive. Today, Serrano descendants are found mostly on the Morongo and San Manuel reservations, which are a modern-day culmination of Serrano, Cahuilla, and Cupeno lineages.

Figure 6. Traditional Tribal Areas in Southern California with Project Area demarcated (Los Angeles Almanac 2019)

Cahuilla

The Cahuilla territory was bounded by the San Bernardino Mountains to the north, the Orocopia Mountains to the east, the Santa Ana River/the San Jacinto Plain and the eastern portion of Palomar Mountains to the west, and Borrego Springs and the Chocolate Mountains to the south (Bean 1978). The Project Area falls within the western region of the tribe's traditional territory, denoted by the San Gorgonio Pass. The Cahuilla existed within the most geographically diverse region, having exploited more than 500 native and non-native plants (Bean and Saubel 1972). The Cahuilla spoke a language that belongs to the Cupan group of the Takic subfamily of the Uto-Aztecan language family, a language family that includes the Shoshonean groups of the Great Basin (Bean and Shipek 1978).

The prehistoric Cahuilla occupation is characterized by structures within permanent villages that ranged from small brush shelters to dome-shaped or rectangular dwellings. Villages were situated near water sources, in the canyons near springs, or on alluvial fans at man-made walk-in wells (Bean 1972). There appears to be slight difference in subsistence tools between the Desert, Pass, or Mountain Cahuilla groups. The Desert Cahuilla used deep, wooden mortars with a long pestle whereas San Gorgonio Pass Cahuilla utilized shallower mortars with basketry rims (Kroeber 1908: 40, 43). Cahuilla granaries were usually raised on pole platforms two to four feet high, which resembled birds' nests, and were used to store mesquite (Kroeber 1908: 42).

In comparison with other Southern California tribes, the Cahuilla appear to have had a lower population density and a less rigid social structure. The Cahuilla are patrilineal, with closely related patrilineages that share an assumed common ancestor which is important socially and ceremonially (Hudlow 2007). The office of lineage leader, also known as a *nét*, directed subsistence activities, settled conflicts, represented the clan regionally and was responsible for correct performances of ceremonies, with the official role of the chief passed from father to eldest son (Bean 1978; Hudlow 2007).

Initial contact with European explorers with the Cahuilla most likely occurred during the expedition of Juan Bautista de Anza in 1777 (Napton and Greathouse 1982). The presence of the San Gabriel Mission in the early 1800s led to more contact via baptisms (Napton and Greathouse 1982). It also led to the Native Americans moving away from traditional habitation sites to separate themselves from the influence of the Mission (Brumgardt 1977). The Cahuilla traditions may have been relatively stable until mission secularization in 1834, due to the policy of the Catholic Mission fathers, or padres, to maintain imported European traditional style settlement and economic patterns (Bean and Shipek 1978). After 1877, when the United States government established Indian reservations in the region and religious missionaries began conversion of the Native American populations in the region, traditional cultural practices were prohibited. Presently, the Cahuilla reside in nine separate reservations in Southern California, located in Imperial, Riverside and San Diego counties (Bean 1978).

Luiseño

The Spanish name Luiseño was used to identify Native Americans who were associated with the Mission San Luis Rey, since the Luiseño most likely had no known native term for their own nationality (Bean and Shipek 1978). Extensive research has been accumulated that gives detailed accounts of the Luiseño (DuBois 1908, Sparkman 1908, Kroeber 1976, White 1963, and Bean and Shipek 1978). At the time of these ethnographies, the Luiseño maintained a sophisticated political organization structure, and their lands extended from western San Jacinto to the Pacific Ocean along several major waterways, including Temecula, Santa Margarita, and San Luis Rey Rivers (Bean and Shipek 1978). Neighboring tribes included the Cahuilla to the east, the Serrano to the north, and the Gabrielino to the west. Each of these groups are of the same Uto-Aztecan linguistic subfamily of Takic-speakers. The boundaries for territories fluctuate as new information evolves in ethnographic and ethnohistoric research, so there is a likelihood that there was quite a bit of overlap and intermarriage between groups over time.

The Luiseño organized themselves according to family groups or lineages, rather than forming exogamous moieties. Each lineage occupied land that they held in common, and they lived socially and politically separately from others (Bean and Shipek 1978). They typically resided in villages near reliable water sources and maintained special purpose camps close to the main villages. In the springtime, families would replenish food supplies by gathering local fruit, seeds, bulbs and roots. In the fall, families would move into the upland areas to gather acorns, prickly pear, toyon berries, and yucca. The Luiseño territory contained several species of oak that produced edible acorns. Acorns were stored and processed as needed by breaking the shell, grinding the meat into a powder, and leaching the tannic acid from the nut by using water. A porridge was made from the leached nuts and cooked with water using hot stones in baskets. The Luiseño used a wide variety of tools, including manos and metates, bone and shellfish hooks, stone and shell ornaments, bone awls, wooden throwing sticks, hammer stones, handstones, pestles, mortars, and drills, which are evident in late Prehistoric archaeological sites. Presently, there are six federally recognized Luiseño tribes with associated reservations within Southern California.

HISTORICAL SETTING

The process of exploration and colonization of Alta California began in 1769, led by Spaniard Gaspar de Portola and Franciscan Fray (or Father) Junipero Serra. Once the first European exploration of California occurred, the region underwent immense change. As early as 1827, Anglo-Americans were migrating into Southern California. In the decades to come, California would be taken by the United States with the close of the Mexican-American War and subsequent events such as the Civil War and California Gold Rush would continue to shape the history of California.

Spanish Period (1769 to 1821) to Mexican Period (1821 to 1848)

The Spanish period began in 1769 with Captain Gaspar de Portolá's land expedition and ended in 1821 with Mexican Independence. During the Spanish Period, the establishment of the Mission San Gabriel Arcángel (1771) was influential throughout the surrounding regions, using the area for cattle grazing (Mission San Gabriel Arcángel 2021). An asistencia was established nearby in Redlands in 1819 and helped facilitate the Mission's control and colonization of the surrounding area. The satellite property for the San Gabriel Mission brought agriculture to the area. During the mission period, most of the Serrano were relocated to nearby missions or forcibly relocated to other reservations (Mission San Gabriel Arcángel 2021). After control of the area shifted to Mexico, secularization began throughout the area and the missions and their associated ranches began to decline. The Mexican government proceeded to push settlements of Mexican populations from the south by deeding large grants to individuals who promised to employ settlers(Yucaipa Valley Historical Society 2019). While many Mexican land grants were located within the Inland Empire, the Project Area was part of Mexican land grant, Rancho Yucaipa also referred to as Rancho San Jacinto y San Gorgonio (Figure 7). Rancho Yucaipa lands were given to Antonio Maria Lugo in 1842 as part of a land grant (Yucaipa Valley Historical Society 2019) . Later in the year, Lugo's cousin by marriage, Diego Sepulveda built an adobe on the

lands, Rancho Yucaipa (aka Yucaipa Adobe). Lugo used the land surrounding the adobe for agriculture and grazing for cattle (Yucaipa Valley Historical Society 2019).

American Period (1848 to present)

The Gold Rush of 1849 saw a tremendous influx of Americans and Europeans flooding into Southern California. The passing of the Homestead Act of 1862 continued this increase of settlers within the region. In 1851, a group of Mormon settlers from Salt Lake City established San Bernardino, near present-day San Bernardino and Redlands (Alexandrowicz et al. 1992). Completion of both the Southern Pacific Railroad in the mid-1870s and the competing Atchison, Topeka and Santa Fe Railway in the 1880s, ushered in a land boom which swept through much of southern California, especially within the San Bernardino Valley (Encarnación et al. 2008). In 1869, John Dunlap, a Texas cattleman, purchased Rancho Yucaipa (San Bernardino County Museum 2018). The family moved into the Yucaipa Adobe where they continued to use the land for cattle grazing and growing grain and alfalfa. The Dunlap family owned the adobe and surrounding area until most of the property was sold in the 1950s.

Figure 7. Yucaipa Adobe, California Historical Landmark #558 (San Bernardino County Museum 2018)

Settlers were enticed by Yucaipa Valley by the prospects of gold. Gold was only found at one quartz mine in Crafton Hills. Instead, the area thrived by producing agriculture and supporting ranching. Apple orchards dominated the orchards spanning over 4,000 acres across the valley. Cultivation of apples expanded to other fruit such as citrus, peaches, and plums (Yucaipa Valley Historical Society 2019). Ranching and orchards continued as the main economy until the early 1900s. It allowed for the development of Yucaipa expanding past the downtown district. Soon streets, homes, churches and businesses opened (Yucaipa Valley Historical Society 2019). In the mid-century, further development continued with the establishment of a new hospital, fire house, roadways, and parks (Yucaipa Valley Historical Society 2019). The expansion of Interstate-10 in the 1960s furthered suburbanization for the city. In December 1989, Yucaipa was incorporated as a city (Yucaipa Valley Historical Society 2019).

Figure 8. Label of "U-KI-PA" brand apples, date unknown (City of Yucaipa 2016)

METHODS

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

In February 2021, staff at the CHRIS at the SCCIC, located at the California State University, Fullerton, Orange County, conducted a records search. The search covered any previously recorded cultural resources and investigations within a 1-mile radius of the Project Area. MCC conducted a review of the NRHP, the CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Inventory of Historic Resources. Additional background research included historical aerial photos and a search of the Bureau of Land Management General Land Office Records.

NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH

MCC requested a Sacred Lands File search from the Native American Heritage Commission (NAHC) on November 11, 2020. The NAHC responded on November 24, 2020, stating the SLF search was positive for previously known tribal cultural resources or sacred lands within the Project Area or within a mile of the Project Area. The NAHC provided MCC with contact information for San Manuel Band of Mission Indians, in addition to 19 other tribes/individuals to reach out to for additional information on November 24, 2020. MCC sent letters on December 2, 2020 to all 19 Native American contacts, requesting any information related to cultural resources or heritage sites within or adjacent to the Project Area. Additional attempts at contact by letter, email or phone call were made on December 21, 2020 and December 29, 2020. MCC did not conduct formal consultation with any of the Native American representatives.

PALEONTOLOGICAL RECORDS SEARCH

The literature review included an examination of geologic maps of the Project Area and a review of relevant geological and paleontological literature to determine which geologic units are present within the project area and whether fossils have been recovered from those geologic units elsewhere in the region. As geologic units may extend over large geographic areas and contain similar lithologies and fossils, the literature review includes areas well beyond the Project Area. The results of this literature review include an overview of the geology of the project areas and a discussion of the paleontological sensitivity (or potential) of the geologic units within the Project Area. The purpose of a locality search is to establish the status and extent of previously recorded paleontological resources within and adjacent to the study area for a given project. On December 11, 2020, a locality search was conducted through the Natural History Museum of Los Angeles County (LACM). This search identified any vertebrate localities in the LACM records that exist near the Project Area in the same or similar deposits.

CULTURAL AND PALEONTOLOGICAL FIELD SURVEY

The survey stage is important in a Project's environmental assessment phase to verify the exact location of each identified cultural or paleontological resource, the condition or integrity of the resource, and the proximity of the resource to areas of cultural resources sensitivity. In addition, the field survey provides invaluable information on the type of sediment present within the Project Area, which informs the assessment of paleontological sensitivity. Scott De La Torre, MCC Archaeologist and cross-trained Paleontologist, conducted a site visit of the proposed Project Area on December 23, 2020. The survey consisted of walking in parallel transects spaced at approximately 10-meter intervals over the Project parcels that were accessible, while closely inspecting the ground surface. All undeveloped ground surface areas within the ground disturbance portion of the Project Area were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics). Existing ground disturbances (e.g. cutbanks, ditches, animal burrows, etc.) were visually inspected. Representative photographs were taken of the entire Project Area and are included in the Results section below.

RESULTS

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

PREVIOUS CULTURAL RESOURCE INVESTIGATIONS

The CHRIS records search identified a total of 24 cultural resources investigations previously conducted within the Project Area's 1-mile radius buffer (see Table 1). None of the previously conducted cultural studies are within the Project Area. The 24 studies conducted within the one-mile buffer search area date between 1976 and 2016 and include 14 residential/commercial development, four utility projects, four telecommunication projects, one roadwork project, and one unknown type projects.

Table 1. Previous Conducted Resources Investigations within 1 -mile Radius of Project Area

CHRIS Report Number	Year	Author	Title of Study	Affiliation	Distance from Project Area
SB-00359	1976	Smith, Gerald A.	*New Church Site On West Side Of Bryant About 670' North Of Avenue "F"*	San Bernardino County Museum Association	Within 1-mile
SB-00446	1976	Hearn, Joseph E.	*Yucaipa Park And Recreation District, Archaeological - Historical Resources Assessment Of Land At Seventh And Avenue "E"*	San Bernardino County Museum Association	Within 1-mile
SB-01594	1986	Swope, Karen K.	*Environmental Impact Evaluation: An Archaeological Assessment Of Tentative Tract 13438, Yucaipa Valley Area Of San Bernardino County, California*	Archaeological Research Unit, UCR	Within 1-mile
SB-03258	1997	Love, Bruce	*Cultural Resources Report: An Archaeological Survey & Monitoring, 33958 Avenue H, City Of Yucaipa, San Bernardino County, Ca. 9pp*	CRM Tech	Within 1-mile
SB-03613	1998	Bonner, Wayne H.	*Cultural Resource Record Search & Survey Report For A Pacific Bell Mobile Services Telecommunications Facility: Cm 220-01, City Of Yucaipa, Ca. 5pp*	Chambers Group, Inc	Within 1-mile
SB-03618	2000	Duke, Curt	*Cultural Resource Assessment For Sprint Pcs Facility Sb97xc910d (Calimesa Park #2 Site). 5pp*	LSA	Within 1-mile
SB-03683	1998	Maxon, Patrick O.	*Excavation Of A Small Archaeological Deposit & Monitoring Of Grading On The Higgans Ranch Property For Polygon Communities, Inc, Chino Hills, Ca. 58pp*	RMW Paleo	Within 1-mile
SB-03765	2002	Smallwood, Josh	*Wildwood Canyon Villas Project, Parcel 2, Tpm 15698, City Of Yucaipa, San Bernardino, Ca. 19pp*	CRM Tech	Within 1-mile

CHRIS Report Number	Year	Author	Title of Study	Affiliation	Distance from Project Area
SB-04108	2004	Alexandrowicz, John Stephen	*Historical Resources Monitoring At Tract No. 16538, City Of Yucaipa, San Bernardino County, Ca. 17pp*	ACS	Within 1-mile
SB-04112	2002	Douglass, John G.	*Archaeological Monitoring At Yucaipa Crest Project. 4pp*	Statistical Research	Within 1-mile
SB-04113	2001	White, Laurie S.	*Records Search Results For Sprint Pcs Facility Sb37xc910f (Arnett's Trucking), City Of Yucaipa, San Bernardino County, Ca. 6pp*	Michael Brandman Associates	Within 1-mile
SB-04121	2001	White, Laurie S.	*Cultural Resource Assessment For Sprint Pcs Facility Sb54xc419b (Rental Yard), City Of Yucaipa, San Bernardino County, Ca. 16pp*	Michael Brandman Associates	Within 1-mile
SB-04835	2005	Heidelberg, Kurt And Bricker, David	*For Low-Water Crossing Improvements On 35d Street At Wildwood Creek In The City Of Yucaipa, San Bernardino Federal Project Id #Brlks-5457(008) Agreement #08-5457*	Unknown	Within 1-mile
SB-04837	2006	Hogan, Michael	*Archaeological Monitoring Of Earth-Moving Activities Tentative Tract No. 16694 City Of Yucaipa, San Bernardino County, California CRM Tech Contract No. 1767*	Unknown	Within 1-mile
SB-04843	2005	Cotterman, Cary D., Evelyn N. Chandler, And Koral Ahmet	*Cultural Resources Survey For The Yucaipa Valley Water District 30-Inch Potable Water Pipelines, Yucaipa, San Bernardino County, California.*	Unknown	Within 1-mile
SB-05159	2006	Bholat, Sara And Evelyn Chandler	*Cultural Resources Investigation Of A 12.3- Acre Property Located Between 3rd And 4th Street (Tract 16030), City Of Yucaipa, San Bernardino County, California.*	Unknown	Within 1-mile
SB-05789	2007	Hogan, Michael	*Archaeological Monitoring Of Grading Operations, Assessor's Parcel Number 622-103-002, City Of Yucaipa, San Bernardino County, California.*	Unknown	Within 1-mile
SB-06137	2009	Hogan, Michael	*Archaeological Monitoring Of Earth-Moving Activities, Storm Drain And Street Improvements, Chicken Springs Wash, City Of Yucaipa, San Bernardino County, California.*	Unknown	Within 1-mile
SB-06627	Unknown	Unknown	*Unknown*	Unknown	Within 1-mile

CHRIS Report Number	Year	Author	Title of Study	Affiliation	Distance from Project Area
SB-06661	2009	Billat, Lonra	*Yucaipa Fire Station BTS, La3217a*	EarthTouch, Inc.	Within 1-mile
SB-06834	2011	Hudlow, Scott	*A Phase I Cultural Resources Survey for Yucaipa Senior Terrace, City Of Yucaipa, California.*	Unknown	Within 1-mile
SB-06925	2011	Bonner, W and Sarah Williams	*Cultural Resources Records Search and Site Visit Results For T-Mobile USA Candidate IE25255-A (Assisted Living), 33951 Colorado Avenue, Yucaipa, San Bernardino County, CA*	MBA	Within 1-mile
SB-08050	2016	Hogan, Michael	*Archaeological Survey Report Low Water Crossing Replacement Project*	CRM Tech	Within 1-mile
SB-08077	2016	Hogan, Michael And Terri Jacquemain	*Archaeological Survey Report Low Water Crossing Replacement Project*	CRM Tech	Within 1-mile

PREVIOUSLY RECORDED ARCHAEOLOGICAL RESOURCES

The records search did not identify any previously recorded archaeological resources within the boundaries of the Project Area; however, it did identify five archaeological resources within the one-mile search buffer. These resources include one prehistoric resource, three historic resources, and one multicomponent site (See Table 2). The prehistoric resources include bedrock milling features, lithic scatters, and ceramic scatters. Nearest to the Project Area is prehistoric archaeological isolate P-36-020183 (prehistoric chipped stone tool), located ½-mile northwest of the Project Area (ACS 2004).

Table 2. Previously Recorded Cultural Resources within 1-mile Radius of Project Area

Primary Number	Trinomial	Age	Attributes	Year and Author	Distance from Project Area
P-36-000428	CA-SBR-000428/H	Prehistoric; Historic	AH04; AP02 (lithic scatter); AP03 (ceramic scatter); AP04 (Bedrock milling feature)	1934 (Smith); 1965 (Shepard); 2015 (Hogan, CRM Tech)	Within 1-mile
P-36-010822	CA-SBR-010822H	Historic	AH06 (water conveyance system)	2002 (Ballester, CRM Tech)	Within 1-mile
P-36-014468	CA-SBR-012969H	Historic	AH04 (privies/dumps/trash scatters)	2008 (Porter)	Within 1-mile
P-36-020183	n/a	Prehistoric	AP16 (Other)	2004 (ACS)	Within ½-mile
P-36-023097	n/a	Historic	HP06 (1-3 story commercial building)	2011 (Hudlow; CRS)	Within 1-mile

The complete results of the CHRIS resources records searches are included as Confidential Appendix B of this report.

ADDITIONAL HISTORICAL RECORDS

MCC reviewed supplemental additional sources for historical records to understand the general sensitivity of the project area, and its vicinity, for cultural resources, whether extant or buried (Table 3). The search identified three

structures that were developed in the 1950s, further details pertaining to the structures are explained in the historic aerial review. Additional sources did not identify significant potential for historic-era or prehistoric cultural resources.

Table 3. Additional Sources Consulted for the Project

Source	Results
National Register of Historic Places (1979-2002 & supplements)	Negative
Historical United States Geological Survey topographic maps (USGS 2012)	Negative
Historical United States Department of Agriculture aerial photos	Positive; residential development observed since the 1950s.
California Register of Historical Resources (1992-2010)	Negative
California Inventory of Historic Resources (1976-2010)	Negative
California Historical Landmarks (1995 & supplements to 2010)	Negative
California Points of Historical Interest (1992 to 2010)	Negative
Local Historical Register Listings	Negative
Bureau of Land Management General Land Office Records (BLM GO 2008)	Positive; Serial Patent CACAAA 080618 for unknown buyer for purchase of 6410.05 acres of land, date 1872 (image not available)

A review of historical aerial photographs shows a progression of development within and surrounding the Project Area since the 1950s. A historic aerial from 1959 (Figure 9) shows agricultural development throughout the Project Area along with three structures present. The area appears to have been used as a ranch. These structures remain present on subsequent historic aerials and are today still standing within in the Project Area. The Project Area and surrounding land remained unchanged until the 1990s (Figure 10). During the 1990s, residential housing development began and continued until 2016 (Figures 11 and 12). Today, residential housing is present in all directions of the Project Area. Further research of the single-family residence located at 12836 3rd Street concluded the house was built in 1948. It is a 1 bedroom, 1 bath home comprising of 768 square feet (Melissa Lookups 2020).

Figure 9. Project Area with agricultural development (as depicted on 1959 aerial photograph)

Figure 10. Project Area with increased residential development (as depicted on 1995 aerial photograph)

Figure 11. Project Area with continued residential development in surrounding area (as depicted on 2014 aerial photograph)

Figure 12. Project Area with increased residential developments (as depicted on 2016 aerial photograph)

NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH

As a result of the effort to contact the nineteen Native American Tribes or individuals identified by the NAHC, MCC received seven responses. These responses came in the form of letters, emails and phone calls. Below is a summary of the responses provided by Native American Tribes.

On December 14, 2020, MCC received an email from Jill McCormick, Preservation Officer for the Quechan Tribe of the Fort Yuma Reservation. Ms. McCormick stated the tribe does not wish to comment and defers to local tribes.

On December 15, 2020, MCC received an email from Victoria Martin, Tribal Secretary for the Augustine Band of Cahuilla Mission Indians, stating "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 please contact our office immediately for further evaluation."

On December 23, 2020 MCC received an email from Ryan Nordness, Cultural Resources Analyst for San Manuel Band of Mission Indians (SMBMI). Mr. Nordness informed MCC that the Project Area lies within ancestral territory and therefore, is of interest to the tribe. The tribe requests language be put into the project/plan/permit (See Attachment B). The Tribe's level of recommendations will be better defined once the Lead Agency has consulted with the SMBMI.

On December 30, 2020, MCC received an email from Lacy Padilla, Archaeologist for Agua Caliente Band of Cahuilla Indians (ACBCI). Ms. Padilla stated that the Project is located with ACBCI's Traditional Use Area and requests a cultural inventory of the Project Area by a qualified archaeologist prior to any development activities in the area, a copy of the record search with associated survey reports and sites records from the information center, and copies of any cultural resource documentation generated in connection with the Project.

On February 17, 2021, MCC received an email containing a letter from Joseph Ontiveros, Tribal Historic Preservation Officer for the Soboba Band of Luiseño Indians (Soboba). Mr. Ontiveros stated that the project area is considered sensitive by the people of Soboba, as there are existing sites in the surrounding areas. Mr. Ontiveros conducted an in-house database search that identified multiple areas of potential impact and specifics will be discussed in direct consultation with the lead agency. The tribe requests that their letter be forwarded to the lead agency and summarized in the final report.

On December 29, 2020, MCC spoke to Alicia Reed of Torres-Martinez Desert Cahuilla Indians via phone call. Ms. Reed stated the City of Yucaipa is out of the tribe's jurisdiction and defers to more local tribes.

As of May 13,2021, MCC has not received any additional responses from the remaining NAHC-listed groups or individuals we contacted for information. Should MCC receive additional responses once the final report is submitted, the information will be passed on to PLD to be added to the report as an addendum. NAHC and Native American correspondence materials, including our communication attempts, are provided as Appendix C.

PALEONTOLOGICAL RECORDS SEARCH

The locality search at LACM did not yield any fossil localities within the Project Area and no fossil localities within one mile of the Project Area (See Appendix D) (Bell 2020). The closest vertebrate fossil locality from similar basin sediments is LACM 7618,-7622, which is located in San Timoteo Badlands approximately 6.5 miles southwest of the Project Area. This locality produced a fossil specimen of *Equidae* and *Camelidae* at an unknown depth from the San Timoteo Formation (Bell 2020). Additional literature was consulted, including The University of California Museum of Paleontology (UCMP)'s Miocene Mammal Mapping Project (MioMap), and published reports in journals, resulting in no recorded fossil localities within the area of the Project (Carrasco et al. 2005). See Table 4 below for a complete list of the closest known localities from the LACM record search results.

Table 4. LACM Paleontological Resources Record Search Results

Locality Number	Location	Formation	Taxa	Depth (bgs)
LACM VP 7618 - 7622,	San Timoteo Badlands; East of Moreno & NW of Eden Hot Springs	San Timoteo Formation	Horse family (Equidae); Camel family (Camelidae)	Unknown
LACM VP 1715	San Jacinto River; about 9 mi East of Hemet	Unknown formation (Pleistocene)	Horse (*Equus bautistensis*)	Unknown
LACM IP 437	West side of Gunsight Pass	Unknown formation	Invertebrates	Unknown
LACM VP 7261	Skinner Reservoir, Auld Valley	Unknown formation (Pleistocene, arenaceous silt)	Elephant family (Proboscidea); unspecified ungulate (Ungulata)	Unknown
LACM VP 6059	Overflow area just east-southeast of Lake Elsinore	Unknown formation (Pleistocene)	Camel (Camelidae)	Unknown

VP- Vertebrate Paleontology; IP-Invertebrate Paleontology; bgs- below ground surface

CULTURAL AND PALEONTOLOGICAL FIELD SURVEY RESULTS

During the course of fieldwork, survey conditions were good (Figures 13 to 26). The Project Area consists of a small ranch, with three residential structures and roaming livestock. MCC was granted full access to the property so all areas were subjected to an intensive pedestrian survey. Ground visibility was excellent (90-100%) within the Project Area. Vegetation consisted of dried grasses, peppertrees, palm tree, and other trees. Soil observed was brown sandy loam with granitic pebble sized inclusions noted, confirming the presence of alluvial sediments. The Project Area is located on a relatively flat alluvial plain. A 20-degree south facing slope is located near the southern boundary of the area. The slope leads to the irrigation canal. Disturbances to the Project Area include bioturbation from farm animals, modern road toss refuse, grading from bobcat dozer, and residential refuse. A wash is located in the southern border of the APE. Portions of it are paved. A total of three historic structures were identified during the survey and background research (Figures 19-21). In addition, one historic concrete feature was observed, MCC-YUC-001 (Figures 24-25). See below for further details regarding MCC-YUC-001. A separate historic-era built environment review is being conducted by Clair Teeters of the Yucaipa Historical Society to address all historic-era built environment resources located within the Project Area. In conclusion, three historic structures and one historic feature was observed. No additional archaeological resources and no paleontological resources were observed during the survey.

MCC-YUC-001

MCC-YUC-001 is a historic concrete feature. The feature is likely associated with the ranching that took place on the property. The feature measures 17 4/16 inches tall x 17 4/16 inches diameter. Eight iron brackets on outside of the feature. Seven of brackets measure 3 2/16 inches long x 2 2/16 inches wide. The southern facing bracket measures 4 8/16 inches long x 3 14/16 inches wide.

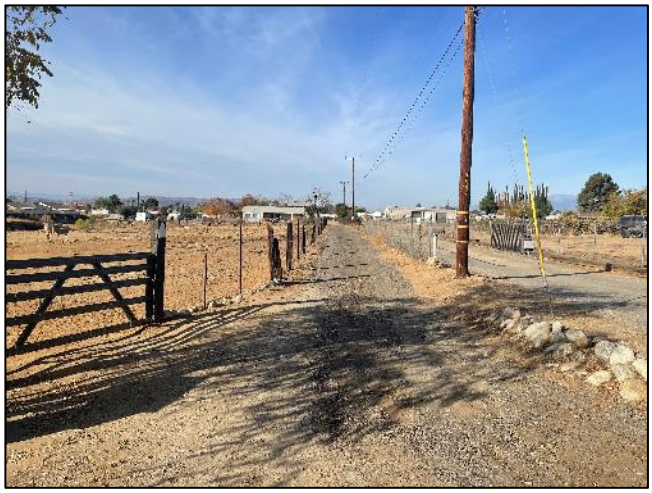

Figure 13. Overview from road, facing west

Figure 14. Overview from the southern boundary, facing west

Figure 15. Overview of wash, south of Project Area, facing southwest

Figure 16. Overview from end of driveway, facing southwest

Figure 17. Overview from northwest corner with historic structure in background, facing east

Figure 18. Overview from the western boundary, facing northeast

Figure 19. Overview from southwest corner, facing northeast

Figure 20. Overview of MCC-YUC-001, historic feature, facing north

Figure 21. Overview of MCC-YUC-001, historic feature, facing west

Figure 22. Overview of Structure A, facing west

Figure 23. Overview of Structure B, facing north

Figure 24. Overview of Structure C, facing northeast

Figure 25. Representative photograph of vegetation and soil, plan view

Figure 26. Representative photograph of soil, plan view

CONCLUSIONS AND RECOMMENDATIONS

CULTURAL RESOURCES CONCLUSIONS

The Phase I cultural resource assessment of the Project Area included a CHRIS records search, NAHC outreach, background research, and a field pedestrian survey. The cultural resource records and background search identified 24 previously conducted cultural investigations and five previously documented archaeological resources within a one-mile radius of the Project Area. None of these five archaeological sites are located within the Project Area itself, with the records search results indicated no previously recorded resources within the Project Area. The closest resource, a prehistoric isolate, is located ½- mile northwest of the Project Area. Review of historic aerials and topographic maps show that agricultural and residential development has been occurring within the area since the 1950s. During NAHC outreach efforts, four Native American tribes/contacts identified cultural sensitivity issues regarding the location of the Project and its proximity to known sites and requested consultation and/or monitoring for cultural resources during ground disturbance activities associated with the Project. During the field survey, three historic-era built environment resources and one historic feature resources were observed in the Project Area. A separate historic built environment assessment is being conducted by Clair Teeters of the Yucaipa Historical Society to assess the potential for impacts to all historic built environment resources located within the Project Area.

CULTURAL RESOURCES RECOMMENDATIONS

The potential for encountering significant cultural resources within the Project Area is considered moderate to high, due to the undeveloped nature of the Project Area, a positive SLF review, and presence of historic-era built environment resources throughout the Project Area. Two Native American tribes requested to proceed with AB-52 consultation proceedings regarding the Project with the Lead Agency. MCC recommends that the consultation process be initiated as soon as possible, to avoid unnecessary delays to Project development and implementation. Prior to the start of construction, a cultural resources management plan (CRMP) should be prepared and implemented. It is recommended the Project's CRMP implement the following procedures:

- Archaeological monitoring during all ground-disturbance activities, such as site preparation, demolition of historic structures, and grading up to three feet below surface, in order to quickly assess any discoveries of cultural resources during project implementation.
- Development of an inadvertent discovery plan in place to expediently address archaeological and / or tribal cultural resource discoveries should these be encountered during any phase of development associated with the Project. In the event that these resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).
- Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e). According to the provisions in CEQA, should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The San Bernardino County Coroner shall be immediately notified and must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will in turn, notify the person they identify as the Most-Likely-Descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or

the descendent may request mediation by the NAHC.

PALEONTOLOGICAL RESOURCES CONCLUSIONS

The Phase I paleontological resource assessment of the Project Area included a locality records search, literature review, and a field pedestrian survey. No significant paleontological resources were identified within the Project Area during the locality search or the field survey. While these deposits typically do not contain significant vertebrate fossils within the uppermost layers, it is likely there are underlaying sediments of older Quaternary deposits. There are nearby localities from similar sedimentary deposits found within the proposed Project Area. MCC recommends the Project Area be considered moderate sensitivity to have the potential for construction activities of the proposed project to impact underlying paleontological resources.

PALEONTOLOGICAL RESOURCES RECOMMENDATIONS

Excavation has the potential to impact the paleontologically sensitive older Quaternary sediments. MCC recommends that a paleontological resource management program (PRMP) be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area, should these be unearthed during ground disturbance within the Project Area. It is recommended the Project's PRMP implement the following procedures:

- A trained and qualified paleontological monitor should perform monitoring of any excavations on the Project that have the potential to impact paleontological resources. The monitor will have the ability to redirect construction activities to ensure avoidance of adverse impacts to paleontological resources.
- The Project paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from Lead Agency and Client representatives.
- Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and SVP professional standards.
- Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.
- A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, will be prepared and submitted to the appropriate personnel.

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JURISDICTIONAL DELINEATION
FOR
RIVERWALK SENIOR APARTMENTS
CASE NO. 21-045/GPA/LUCR

CITY OF YUCAIPA
SAN BERNARDINO COUNTY,
CALIFORNIA

Prepared for:
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MARCH 2022

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APPENDICES

1.0 Introduction

Hernandez Environmental Services (HES) was contracted by MBTK Homes, to prepare a jurisdictional delineation (JD) for the approximate 5-acre project site located within the City of Yucaipa of San Bernardino County, California.

1.1 Purpose

The purpose of this JD is to:

- Determine if any state or federal jurisdictional waters are present within the project site boundaries;
- Quantify any impacts to jurisdictional waters due to the proposed project, if possible;
- Determine if the project will require state or federal permits for impacts to jurisdictional waters; and,
- Recommend mitigation measures to offset impacts to state or federal jurisdictional waters.

1.2 Project Site Location

The project site is located at 12836 3rd Street on the west side of 3rd Street, between Avenue E and Wildwood Canyon Road in the City of Yucaipa, San Bernardino County, California (Figures 1 and 2). Specifically, the project site is located within Section 1, Township 2 South, Range 2 West, San Bernardino Base Meridian (SBBM), on the *Yucaipa* United States Geological Survey (USGS) 7.5-minute topographic quadrangles. The Project site center point latitude and longitude are 34°01'12.7660" North and 117°02'55.1021" West.

1.3 Project Description

The project proposes a General Plan Amendment (GPA) to upzone the existing land use of the property from an RM-72C (Multiple Residential) designation to an RM-24 (High Density Multiple Residential) designation in order to facilitate for the development of a 150-unit, three story, age-restricted senior housing apartment complex for individuals 55 years and older. Additionally, the proposed GPA, under the RM-24 designation, could also allow for the property to develop up to a maximum of 120 units of non-age restricted use.

2.0 Regulatory Background

2.1 California Department of Fish and Wildlife Lake and Streambed Alteration Agreement

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the California Fish and Game Code (F&GC), requires that the CDFW be consulted if a proposed

development project has the potential to detrimentally effect a river, stream, or lake and thereby fish or wildlife resources that depend on a river, stream, or lake for continued viability (F&GC Division 2, Chapter 5, section 1600-1616). A Section 1602 Lake or Streambed Alteration Agreement is required, should the CDFW determine that the proposed project may do one or more of the following:

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or
- Deposit debris, waste or other materials that could pass into any river, stream or lake.

For the purposes of clarification, a stream is defined by CDFW as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators." The historic hydrologic regime is defined as circa 1800 to the present (CDFW 2010).

2.2 United States Army Corps of Engineers Clean Water Act 404 Permit

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under Section 404 of the CWA, the United States Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into WUS, including wetlands. Section 404 requires a permit from the USACE or authorized state for the discharge of dredged or fill material into WUS, including wetlands.

On April 21, 2020, U.S. Environmental Protection Agency (EPA) and the USACE published the Navigable Waters Protection Rule in the Federal Register to finalize a revised definition of WUS under the CWA. The rule became effective on June 22, 2020. In this final rule, the agencies interpret the term WUS to encompass the following:

- The territorial seas and traditional navigable waters;
- perennial and intermittent tributaries that contribute surface water flow to such waters;
- certain lakes, ponds, and impoundments of jurisdictional waters; and,
- wetlands adjacent to other jurisdictional waters.

The final rule specifically clarifies that "waters of the United States" do not include the following:

- Groundwater, including groundwater drained through subsurface drainage systems;
- ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools;

- diffuse stormwater runoff and directional sheet flow over upland;
- ditches that are not traditional navigable waters, tributaries, or that are not constructed in adjacent wetlands, subject to certain limitations;
- prior converted cropland;
- artificially irrigated areas that would revert to upland if artificial irrigation ceases;
- artificial lakes and ponds that are not jurisdictional impoundments and that are constructed or excavated in upland or non-jurisdictional waters;
- water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel;
- stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater runoff;
- groundwater recharge, water reuse, and wastewater recycling structures constructed or excavated in upland or in non-jurisdictional waters; and
- waste treatment systems.

For purposes of Section 404 of the CWA, the lateral limits of jurisdiction over non-tidal WUS extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. Under 33 CFR 328.3(e), the USACE defines the term OHWM as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

According to the EPA and USACE, "wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Water saturation (hydrology) largely determines how the soil develops and the types of plant and animal communities living in and on the soil. Wetlands may support both aquatic and terrestrial species. The prolonged presence of water creates conditions that favor the growth of specially adapted plants (hydrophytes) and promote the development of characteristic wetland (hydric) soils. The EPA and the Corps use the 1987 Corps of Engineers Wetlands Delineation Manual and Regional Supplements to define wetlands for the CWA Section 404 permit program. To qualify for wetlands status, vegetation, soils, and hydrologic parameters must all be met.

For the purposes of this section, the term "fill" is defined as material placed in waters of the United States where the material has the effect of:

- Replacing any portion of a WUS with dry land; or
- Changing the bottom elevation of any portion of a WUS.

Examples of such fill material include, but are not limited to rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and materials used to create any structure or infrastructure in the WUS. The term fill material does not include trash or garbage.

The definition of "discharge of dredged material" is defined as any addition of dredged material into, including redeposit of dredged material other than incidental fallback within, the WUS. The term includes, but is not limited to, the following:

- The addition of dredged material to a specified discharge site located in WUS;
- The runoff or overflow, associated with a dredging operation, from a contained land or water disposal area; and
- Any addition, including redeposit other than incidental fallback, of dredged material, including excavated material, into WUS which is incidental to any activity, including mechanized land clearing, ditching, channelization, or other excavation.

The term discharge of dredged material does not include the following:

- Discharges of pollutants into WUS resulting from the onshore subsequent processing of dredged material that is extracted for any commercial use (other than fill). These discharges are subject to section 402 of the CWA even though the extraction and deposit of such material may require a permit from the Corps or applicable State.
- Activities that involve only the cutting or removing of vegetation above the ground (e.g., mowing, rotary cutting, and chain-sawing) where the activity neither substantially disturbs the root system nor involves mechanized pushing, dragging, or other similar activities that redeposit excavated soil material.

- Incidental fallback.

2.3 Regional Water Quality Control Board Clean Water Act /Porter-Cologne Act

The State Water Resources Control Board (State Water Board) and the Regional Water Quality Control Board (RWQCB) (collectively Water Boards) have the authority to regulate discharges of dredged or fill material to waters of the state under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne). CWA Section 401 water quality certifications are issued to applicants for a federal license or permit for activities that may result in a discharge into WUS, including but not limited to the discharge or dredged or fill material (as defined in Section 2.2 above). Waste discharge requirements under Porter-Cologne are issued for discharges of dredged or fill material to waters of the state.

In accordance with Porter-Cologne (Water Code, § 13000 et seq.), the Water Boards are authorized to regulate discharges of waste, which includes discharges of dredged or fill material, that may affect the quality of waters of the state. The Water Code defines waters of the state broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the state." Waters of the state includes all WUS. On April 2, 2019, the State Water Board adopted State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), which contained a wetland definition and wetland delineation procedures. The Procedures state that "an area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation." The following wetlands are waters of the state:

1. Natural wetlands;
2. Wetlands created by modification of a surface water of the state;
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b. Specifically identified in a water quality control plan as a wetland or other water of the state;
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape;

d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):

   i. Industrial or municipal wastewater treatment or disposal,

   ii. Settling of sediment,

   iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,

   iv. Treatment of surface waters,

   v. Agricultural crop irrigation or stock watering,

   vi. Fire suppression,

   vii. Industrial processing or cooling,

   viii. Active surface mining – even if the site is managed for interim wetlands functions and values,

   ix. Log storage,

   x. Treatment, storage, or distribution of recycled water, or

   xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits);

   xii. Fields flooded for rice growing.

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.

3.0 Methodology

3.1 Literature Review

Prior to the site visit, a literature review was conducted to aid in determining the potential for permanent, intermittent, or ephemeral drainages, wetlands and riparian vegetation. Project background documents, topographic maps, satellite imaging, soils maps, and land use maps were examined to establish an accurate project site location, project description, potential for onsite drainages and wetlands, records of on-site vegetation, watershed, soils, and surrounding land uses.

3.2 Field Survey

On November 9, 2021, HES conducted a field survey of the 5-acre project site. Field surveys were conducted to delineate jurisdictional limits of WUS, waters of the State, CDFW resources, and riparian or wetlands resources associated with jurisdictional drainages.

Jurisdictional drainages were identified by looking for features such as a bed, bank or channel. Where riparian vegetation was present, the drip line of the outer edge of the vegetation was used as the measuring criteria. Furthermore, the presence of an OHWM was recorded. Where the presence of an OHWM was evident, a measurement was taken for the width of the OHWM and the measurement was recorded. Where changes in plant community composition were apparent, the area was examined for the possibility of wetlands. Whether or not adjacent to WUS, the potential wetland area was evaluated for the presence of the three wetland indicators: hydrology, hydric soils and hydrophytic vegetation.

4.0 Results

4.1 Environmental Setting

The project site is located within the city of Yucaipa of San Bernardino County, California. The project site is bordered by single family residences to the north and east, a trailer park to the west, and a disturbed open field to the south. The existing abandoned buildings were also surveyed. Onsite elevations range from 2,487 feet above mean sea level (ASML) to 2,513 feet ASML.

4.2 Existing Hydrological Features

The 5.0-acre property is currently developed with existing residential structures and pastures which were used for livestock. It is predominantly a flat agricultural parcel with two abandoned residential structures, and an old barn. The surrounding land uses are single family residences to the north and east, a trailer park to the west, and a disturbed open field to the south. A large portion of the project site appears to have been used for livestock. The property contains a small 0.04 acres riparian area of Fremont cottonwood series vegetation. This small area is located on the south eastern corner of the property. It is created by the hydrology associated with an unnamed tributary to Yucaipa Creek. This vegetative series is dominated by Fremont cottonwood (*Populus fremontii*). Other associated species are mulefat (*Baccharis salicifolia*), arroyo willow (*Salix lasiolepsis*), and red willow (*Salix laevigata*).

4.3 Soils

Two soil classes are identified to occur on the project site by the USDA Web Soil Survey (Appendix B, *Soils Map*). Soils at the project site are classified as follows:

- Ramona sandy loam (RmC), 2 to 9 percent slopes;

- Saugus sandy loam (ShF), 30 to 50 percent slopes

The soils above are not classified as hydric soils.

4.4 Hydrology

The drainage on the property is located in the Oak Glen hydrologic subarea, the San Timoteo hydrologic area, and the Santa Ana hydrologic unit. The drainage is an unnamed ephemeral tributary to Yucaipa Creek, which is tributary to San Timoteo Creek, which is tributary to the Santa Ana River. The Santa Ana River is a major tributary to the Pacific Ocean a traditional navigable water (TNW) of the United States.

4.5 California Department of Fish and Wildlife Jurisdiction

The property contains approximately 0.04 acre of an unnamed ephemeral drainage which is under the jurisdiction of the CDFW. The 0.04 acre of ephemeral drainage is dominated by Fremont cottonwood series vegetation. The jurisdiction for the CDFW extends out to the outside drip-lines of the riparian vegetation and includes the banks. The proposed development does not include this jurisdictional area. Work activities will occur within 10 feet of the CDFW jurisdictional area (Figure 3). However, CDFW jurisdiction only extends outside drip-lines of the riparian vegetation and work will not affect drainage or riparian vegetation.

4.6 Waters of the United States

The property contains approximately 0.01 acres of waters of the United States (Figure 4). The waters of the United States (WOUS) are located in the unnamed ephemeral drainage located in the south-east corner of the property. The WOUS were delineated by identifying the OHWM, which was visible as a line established by fluctuations of water along the ephemeral drainage banks. The ephemeral drainage is a non-relatively permanent water, that has a significant nexus with a TNW (Pacific Ocean). The ephemeral drainage, by conveying water to Yucaipa Creek, which flows to San Timoteo Creek, which flows to the Santa Ana River, which is a major tributary to the Pacific Ocean, has a biological, physical, and chemical connection to a TNW. The proposed development does not include this jurisdictional area and all work will be done outside the 10-foot buffer from waters of the United States; therefore, no impacts will occur.

4.7 Regional Water Quality Control Board Jurisdiction

The property contains approximately 0.02 acres of RWQCB (Figure 5). The RWQCB are located in the unnamed ephemeral drainage located in the south-east corner of the property. These RWQCB are under the jurisdiction of the Santa Ana Regional Water Quality Control Board and the beneficial uses of these waters are regulated under the Santa Ana River Basin

Plan. The proposed development does not include this jurisdictional area and all work will be done outside the 10-foot buffer from RWQCB; therefore, no impacts will occur.

5.0 Recommendation

CDFW, and RWQCB jurisdictional waters are regulated by state and local governments under a no-net-loss policy, and all impacts are considered significant and should be avoided to the greatest extent possible. Impacts to jurisdictional waters and associated riparian vegetation require mitigation through habitat creation, restoration, or enhancement or the purchase of credits at an established conservation bank. Mitigation will be determined by consultation with the regulatory agencies during the permitting process. Any impacts to CDFW jurisdictional waters associated riparian vegetation, such as the Fremont cottonwood along the drainage (Appendix A), would require a 1602 Streambed Alteration Agreement from the CDFW. Work will occur within ten feet of CDFW the jurisdictional area (Figure 3) and will remain outside 10 feet from waters of the State and from the RWQCB (Figures 4 and 5). Any impacts to waters of the State would require 401 State Water Quality Certification and a WDR under Porter-Cologne from the RWQCB. The proposed development for this project will avoid all impacts to jurisdictional areas.

6.0 Certification

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

DATE 03/23/22 SIGNED _____

Project Manager

Fieldwork Performed By:

Juan J. Hernandez

Principal Biologist

7.0 References

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FIGURES

Figure 1

Location Map
APN 319-112-03
San Bernardino County, California

Legend

Project Site Boundary

N

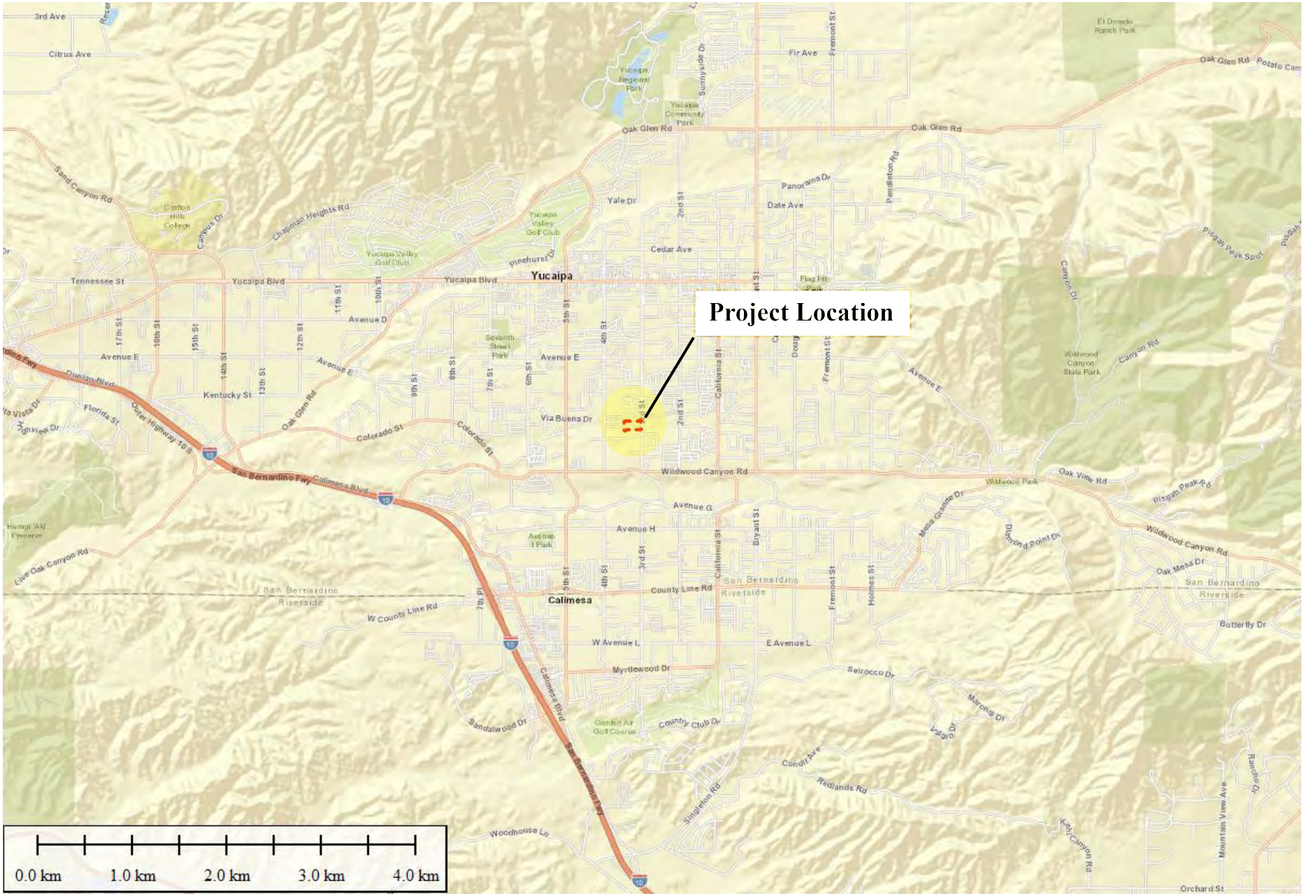


Figure 2

Vicinity Map
APN 319-112-03
San Bernardino County, California

Legend

Project Site Boundary

N

Figure 3

CDFW Map
APN: 319-112-03
San Bernardino County, California

Legend

- Project Site Boundary
- CDFW (0.04 acres)
- 10-foot buffer

N

Hernandez Environmental Services

Figure 4

Waters of the US Map
APN: 319-112-03
San Bernardino County, California

Legend

- Project Site Boundary
- Waters of the U.S. (0.01 acres)
- 10-foot buffer

N

Hernandez Environmental Services

Figure 5

RWQCB Waters
APN: 319-112-03
San Bernardino County, California

Legend

Project Site Boundary

RWQCB (0.02 acres)

N

Hernandez Environmental Services

APPENDIX A

Neighboring drainage offsite near southern border of site. Fremont cottonwood trees (*Populus fremontii*) along drainage. View looking southeast.

View of fence and drainage along southern border of site. Fremont cottonwood trees in distance. View looking west.

Disturbed habitat on site with no vegetation. View looking north.

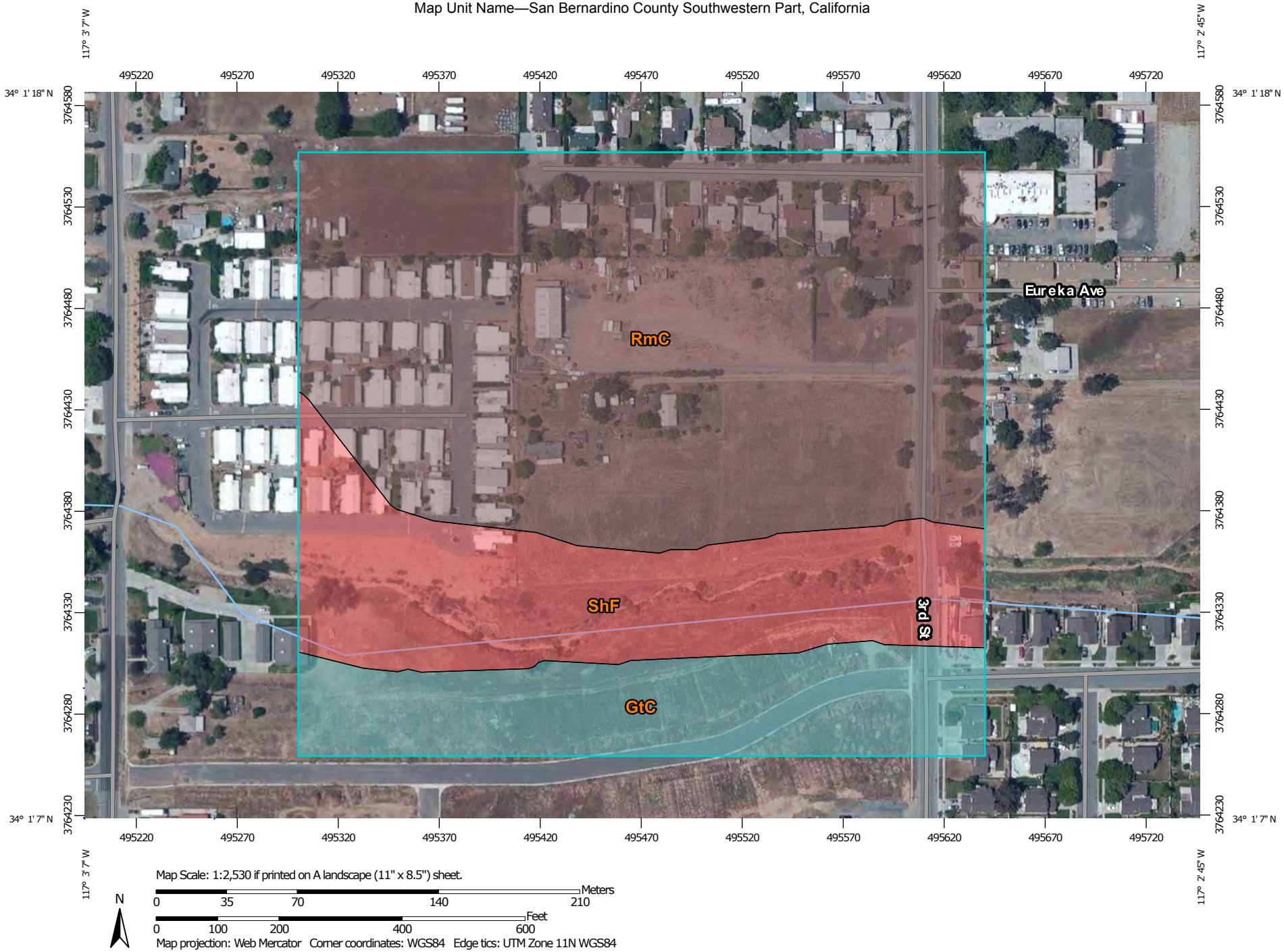
Hernandez Environmental Services

Disturbed habitat on site where project impacts will occur. Fence in the center of site and residential area to the east in the distance. View looking east.

Residential area in the distance. View looking southeast.

Hernandez Environmental Services

APPENDIX B


117° 3' 7" W
117° 2' 45" W
34° 1' 18" N
34° 1' 7" N
495220
495270
495320
495370
495420
495470
495520
495570
495620
495670
495720
3764580
3764530
3764480
3764430
3764380
3764330
3764280
3764230
RmC
ShF
GtC
Eureka Ave
3rd St
Map Scale: 1:2,530 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 35 70 140 210
Feet
0 100 200 400 600
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Greenfield sandy loam, 2 to 9 percent slopes
- Ramona sandy loam, 2 to 9 percent slopes
- Saugus sandy loam, 30 to 50 percent slopes
- Not rated or not available

Soil Rating Lines
- Greenfield sandy loam, 2 to 9 percent slopes
- Ramona sandy loam, 2 to 9 percent slopes
- Saugus sandy loam, 30 to 50 percent slopes
- Not rated or not available

Soil Rating Points
- Greenfield sandy loam, 2 to 9 percent slopes
- Ramona sandy loam, 2 to 9 percent slopes
- Saugus sandy loam, 30 to 50 percent slopes
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County Southwestern Part, California
Survey Area Data: Version 5, Dec 17, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 5, 2010—Jul 3, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Name

Map Unit Name— Summary by Map Unit — San Bernardino County Southwestern Part, California (CA677)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
GtC	Greenfield sandy loam, 2 to 9 percent slopes	Greenfield sandy loam, 2 to 9 percent slopes	4.1	16.2%
RmC	Ramona sandy loam, 2 to 9 percent slopes	Ramona sandy loam, 2 to 9 percent slopes	15.4	61.1%
ShF	Saugus sandy loam, 30 to 50 percent slopes	Saugus sandy loam, 30 to 50 percent slopes	5.7	22.6%
Totals for Area of Interest			**25.1**	**100.0%**

Description

A soil map unit is a collection of soil areas or nonsoil areas (miscellaneous areas) delineated in a soil survey. Each map unit is given a name that uniquely identifies the unit in a particular soil survey area.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

Page of | *Resource Name or #:

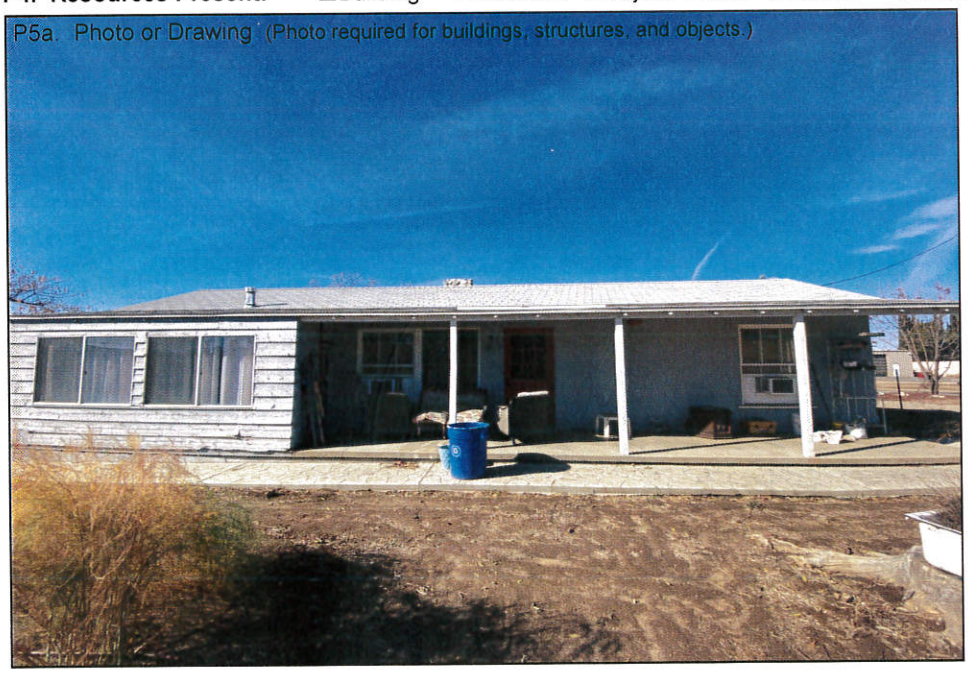
P1. Other Identifier: 12836 3rd Street
***P2. Location:** ☐ **Not for Publication** ☑ **Unrestricted** ***a. County:** San Bernardino
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad:** Yucaipa, CA **Date:** 1996 **T** 2S ; **R** 2W ; NW ¼ **of** 13 ¼ **of Sec** ; S.B. **B.M.**
c. Address: 12836 3rd Street City: Yucaipa Zip: 92399
d. UTM: Zone: 11 ; S mE/ 495,575 mN (G.P.S.) 3,764,401
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:
APN: 0319-112-03 Approx. 2480 ft. above sea level

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The existing one-story ranch-style residence was constructed around 1948 of conventional wood-style construction with stucco siding and placed on a concrete foundation. The existing accessory buildings are of wood-style construction with various unorthodox building materials such as garage doors for walls and asphalt roofing tiles or exposed/untreated wood for siding. The residence shows signs of being repainted, but no evidence of further alterations existing based off records search and site visit. The remaining portion of the property is generally dirt, having minimal vegetation with the exception of the drainage channel along the southern boundary of the property.

***P3b. Resource Attributes:** (List attributes and codes) HP2: single-family property
***P4. Resources Present:** ☑Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #)
Photo taken: February, 2021
View: looking west

***P6. Date Constructed/Age and Sources:** ☑Historic ☐Prehistoric ☐Both
1948

***P7. Owner and Address:**
MBTK Homes, LLC
11184 Walnut St
Redlands, CA 92374

***P8. Recorded by:** (Name, affiliation, and address)
Claire Marie Teeters
Yucaipa Historical Society
P.O. Box 297, Yucaipa, CA

***P9. Date Recorded:** 12/14/21
***P10. Survey Type:** (Describe)
Historic - period building evaluation

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") None.

***Attachments:** ☐NONE ☑Location Map ☐Sketch Map ☐Continuation Sheet ☑Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code

*Resource Name or # (Assigned by recorder)

B1. Historic Name:
B2. Common Name:
B3. Original Use: Residential
B4. Present Use: Residential
*B5. **Architectural Style:** Ranch-style
*B6. **Construction History:** (Construction date, alterations, and date of alterations)
Constructed in 1948; no significant alterations other than signs of residence being repainted.

*B7. **Moved?** ☑No ☐Yes ☐Unknown **Date:** **Original Location:**
*B8. **Related Features:**
N/A

B9a. Architect: Unknown
b. Builder: Unknown
*B10. **Significance: Theme:** Post-WWII
Area:
Period of Significance: 1945-1970
Property Type: Single-family property
Applicable Criteria: N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The residence was constructed during the Post-WWII boom in suburban development, which is reflective of the Yuciapa Valley's transition from the Fruit Era; however, as one of the many houses developed in the Yucaipa/Calimesa area during this time period, the subject residence and accessory structures do not demonstrate a unique, important, or close association with the pattern of events. The subject property is also not know to be closely associated with any specific historical event or recognized persons of historic significance. Architecturally, there is no evidence that the residence or accessory structure were designed by a prominent architect of that time period nor is it an exceptional example of ranch-style suburban residences. Based on the information contained within this form, it does not appear the subject property at 12836 3rd Street and the related residence and accessory structures does not appear eligible for listing in the National Register of Histroic Places or the California Register of Historical Resources.

B11. Additional Resource Attributes: (List attributes and codes)

*B12. **References:**
San Bernardino County Tax Assessment and Building and Safety Records

B13. Remarks: None.

*B14. **Evaluator:** Claire Marie Teeters

* **Date of Evaluation:** 12/14/2021 Claire M. Teeters

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

*Required information

May 6, 2022

Mr. Randy Citlau
PREMIER LAND DEVELOPMENT
12460 California Street, Suite 240
Yucaipa, California 92399

RE: Riverwalk Yucaipa Senior Housing Project Level of Service & Vehicle Miles Traveled Screening Analysis
Project No. 19421

Dear Mr. Citlau:

Ganddini Group, Inc. is pleased to provide this Level of Service & Vehicle Miles Traveled Screening Analysis for the proposed Riverwalk Yucaipa Senior Housing Project. We trust the findings of this analysis will aid you and the City of Yucaipa in assessing the project.

PROJECT DESCRIPTION

The 7.86-acre project site is located at the southwest corner of 3rd Street and Mission Way in the City of Yucaipa, California. The project site is currently occupied by one single-family detached residential dwelling unit. Figure 1 shows the project location map.

The proposed project involves construction of a three-story, age-restricted (55 years and older) senior housing apartment complex with up to 150 dwelling units. In addition, the project involves a General Plan Amendment (GPA) to change the current land use designation from RM-72C (Multiple Residential) to RM-24 (High Density Multiple Residential) to facilitate development of the proposed project. The proposed RM-24 designation could also allow for the property to develop up to a maximum of 120 units of non-age restricted use. Vehicular access is proposed for full access at 3rd Street via two project driveways. The proposed project is anticipated to be constructed and fully operational by year 2023. Figure 2 illustrates the project site plan.

PROJECT TRIP GENERATION

Project trip generation was calculated for both the project specific land use (senior housing) and the potential non-age restricted residential use associated with the proposed GPA RM-24 land use designation (high density multiple residential).

Table 1 shows the project specific trip generation and Table 2 shows the GPA RM-24 land use trip generation. Trip generation rates were obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021). Based on review of the ITE land use descriptions, trip generation rates for Senior Adult Housing - Multifamily (ITE Land Use Code 252) and Multifamily Housing (Low-Rise) (ITE Land Use Code 220) were determined to adequately represent the proposed/potential uses and were used for calculating the project trip generation forecast. The trip generation forecasts was determined by multiplying the trip generation rates by the land use quantities.

As shown in Table 1, the proposed project (senior housing) is forecast to generate approximately 486 daily vehicle trips, including 31 vehicle trips during the AM peak hour and 38 vehicle trips during the PM peak hour.

As shown in Table 2, the proposed GPA RM-24 land use is forecast to generate approximately 809 daily vehicle trips, including 48 vehicle trips during the AM peak hour and 62 vehicle trips during the PM peak hour.

CRITERIA FOR THE PREPARATION OF TRAFFIC IMPACT ANALYSES

According to the City of Yucaipa *Traffic Impact Analysis Guidelines* (August 2020) "[City TIA Guidelines"], certain types of projects, because of their size, nature, or location, are exempt from the requirement of preparing a traffic impact analysis.

Level of Service (LOS) Analysis

The City of Yucaipa has established guidelines for Level of Service (LOS) impact for General Plan operational compliance. As specified in the City TIA Guidelines, a traffic impact analysis must be prepared when a proposed change in land use, development project, or at local discretion, a group of projects are forecast to equal or exceed the Congestion Management Program (CMP) threshold of 250 two-way peak hour trips generated, based on trip generation rates published for the applicable use or uses in the Institute of Transportation Engineers' Trip Generation Manual or other approved data source. Pass-by trips shall not be considered in the threshold determination. Additionally, industrial, warehousing, and truck-oriented projects must convert vehicle trip forecasts to passenger car equivalent (PCE) trips before applying the above threshold.

As specified in the City TIA Guidelines, the need for and level of analysis required is determined as follows:

- When either the AM or PM peak hour trip generation is expected to exceed 100 vehicle trips from the proposed development.
- Projects that will add 51 or more trips during either the AM or PM peak hours to any intersection.
- Any project where variations from the standards and guidelines provided in this manual are being proposed.
- When determined by the City Traffic Engineer that existing or proposed traffic conditions in the project vicinity have unique characteristics that warrant evaluation.

Presuming project access will be designed in accordance with applicable engineering standards, the proposed project (senior housing) is forecast to generate fewer than 50 AM or PM peak hour trips and therefore satisfies the City-established exemption criteria for preparation of a traffic analysis with Level of Service analysis.

The proposed GPA RM-24 land use is forecast to generate fewer than 100 AM or PM peak hour trips from the proposed development, and once distributed onto 3rd Street north to Avenue E and south to Wildwood Canyon Road, the proposed GPA RM-24 land use is forecast to add fewer than 51 or more trips to any intersection during either the AM or PM peak hours. Therefore, the proposed GPA RM-24 land use satisfies the City-established exemption criteria for preparation of a traffic analysis with Level of Service analysis.

Vehicle Miles Traveled (VMT) Analysis

The project VMT impact has also been assessed in accordance with the City TIA Guidelines. The City TIA Guidelines establish screening thresholds for certain types of projects that may be presumed to cause a less than significant VMT impact based on substantial evidence provided in the Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018).

The City TIA Guidelines specify the following three screening steps: 1) Transit Priority Area (TPA) Screening; 2) Low VMT Area Screening; and 3) Low Project Type Screening.

Transit Priority Area (TPA) Screening

Projects located within a TPA (half mile area around an existing major transit stop or an existing stop along a high-quality transit corridor) may be presumed to have a less than significant impact absent substantial evidence to the contrary. This presumption may not be appropriate if the project:

1. Has a Floor Area Ratio (FAR) of less than 0.75;
2. Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking)
3. Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency with input from the Metropolitan Planning Organization): or
4. Replaces affordable residential units with a smaller number of moderate or high-income residential units.

The San Bernardino Council Transportation Authority (SBCTA) VMT Screening Tool was used to determine if the project is located within a TPA. The project site is not located within a TPA based on the SBCTA VMT Screening Tool assessment. Therefore, the proposed project does not satisfy the City-established screening criteria for projects located within a TPA.

Low VMT Area Screening

Residential and office projects located within a low VMT generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area. A low VMT area is defined as an individual traffic analysis zone (TAZ) where the total daily Origin/Destination VMT per service population is lower than the City average total daily Origin/Destination VMT per service population.

For this screening in the SBCTA VMT Screening Tool, the San Bernardino Transportation Analysis Model (SBTAM) travel forecasting model was used to measure VMT performance for individual jurisdictions and for individual traffic analysis zones (TAZs). TAZs are geographic polygons similar to census block groups used to represent areas of homogenous travel behavior. Total daily VMT per service population (population plus employment) was estimated for each TAZ. This presumption may not be appropriate if the project land uses would alter the existing built environment in such a way as to increase the rate or length of vehicle trips.

The proposed project is consistent with existing residential land uses in the TAZ and there does not appear to be anything unique about the project that would otherwise be mis-represented utilizing the data from the SBCTA VMT Screening Tool. In accordance with the City TIA Guidelines, a low VMT area for residential

projects is defined as a TAZ where Origin/Destination VMT per service population does not exceed the current City of Yucaipa baseline Origin/Destination VMT per service population. Exhibit A shows the SBCTA VMT Screening Tool results for the project site.

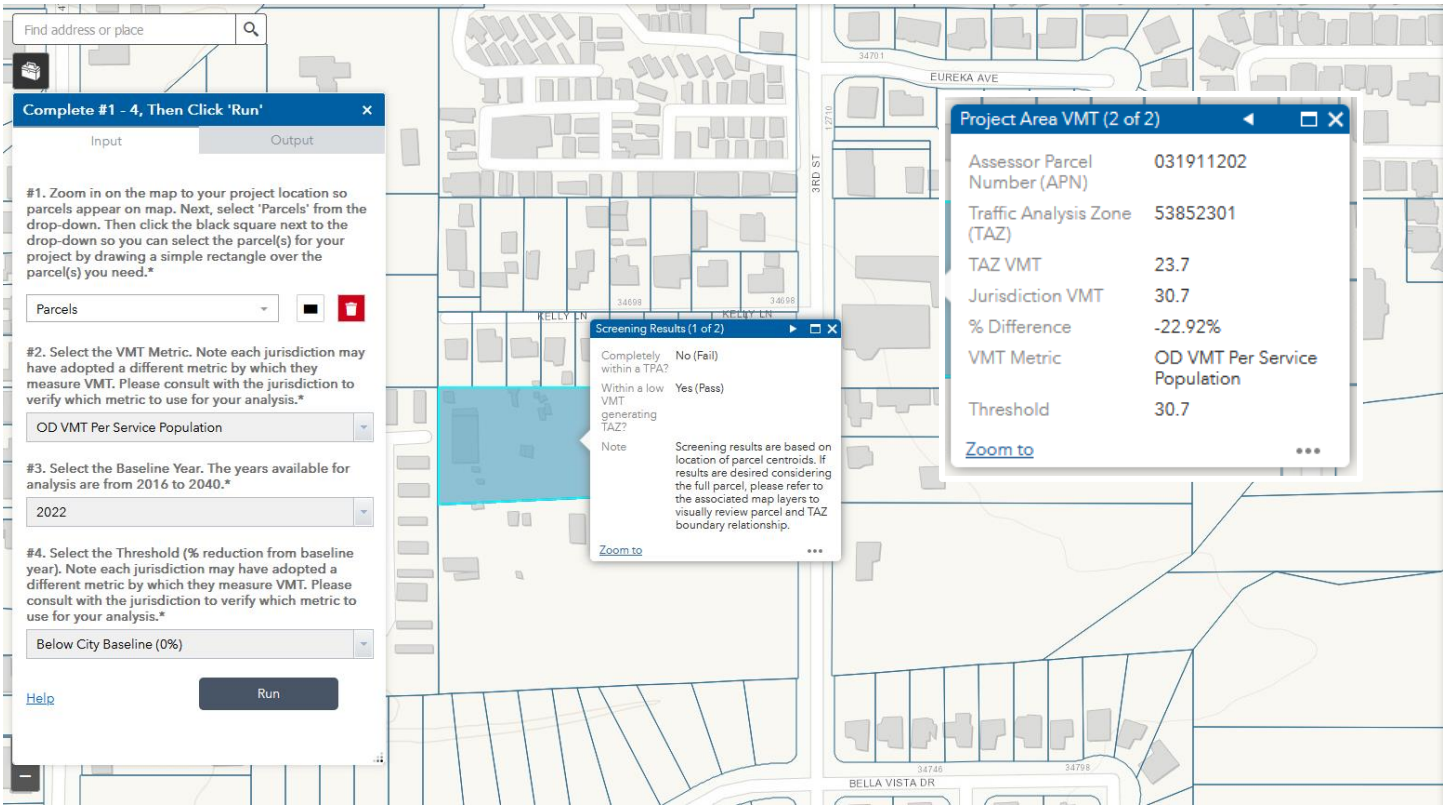


Exhibit A – SBCTA VMT Screening Tool Results for the Project

Based on the SBCTA VMT Screening Tool assessment, the proposed project is located within TAZ 53852301. The project TAZ 2022 Origin/Destination VMT per service population is equal to 23.7. The jurisdictional (Yucaipa) 2022 Origin/Destination VMT per service population is equal to 30.7. Therefore, the proposed project satisfies the City-established screening criteria for projects located in low VMT areas since the TAZ VMT is less than the City average total daily Origin/Destination VMT per service population.

Project Type Screening

Some project types have been identified as having the presumption of a less than significant impact as they are local serving by nature, or they are small enough to not warrant assessment. The following uses can be presumed to have a less than significant impact absent substantial evidence to the contrary as their uses are often local serving in nature:

- Local parks
- Day care centers
- Local-serving retail uses less than 50,000 square feet, including:

  - Gas stations
  - Banks
  - Restaurants
  - Shopping center
- Local-serving medical office less than 100,000 square feet
- Student housing projects on or adjacent to college campuses
- Local-serving assembly uses (places of worship, community organizations)
- Community institutions (Public libraries, fire stations, local government)
- Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS
- Hotels (non-destination or resort; no banquet or special event space)
- Affordable or supportive housing
- Assisted living facilities
- Senior Housing (as defined by HUD)
- Projects generating less than 400 daily vehicle trips. This generally corresponds to the following "typical" development potentials:
  - 42 single family housing units
  - 54 multi-family, condominiums, or townhouse housing units
  - 41,000 square feet of office
  - 80,000 square feet of light industrial
  - 229,000 square feet of warehousing
  - 285,000 square feet of high-cube transload and short-term storage warehouse

The proposed project (senior housing) satisfies the City-established project type screening criteria for senior housing projects and may be presumed to result in a less than significant VMT impact.

The proposed GPA RM-24 land use does not satisfy the City-established project type screening criteria for multi-family, condominium, or townhouse units since the 120 proposed dwelling units is greater than the threshold of 54 dwelling units. and may not be presumed to result in a less than significant VMT impact.

CONCLUSION

The proposed project (senior housing) is forecast to generate approximately 486 daily vehicle trips, including 31 vehicle trips during the AM peak hour and 38 vehicle trips during the PM peak hour.

The proposed GPA RM-24 land use is forecast to generate approximately 809 daily vehicle trips, including 48 vehicle trips during the AM peak hour and 62 vehicle trips during the PM peak hour.

Presuming project access will be designed in accordance with applicable engineering standards, the proposed project (Senior housing) is forecast to generate fewer than 50 AM or PM peak hour trips and therefore satisfies the City-established exemption criteria for preparation of a traffic analysis with Level of Service analysis.

The proposed GPA RM-24 land use is forecast to generate fewer than 100 AM or PM peak hour trips from the proposed development, and once distributed onto 3rd Street north to Avenue E and south to Wildwood Canyon Road, the proposed GPA RM-24 land use is forecast to add fewer than 51 or more trips to any intersection during either the AM or PM peak hours. Therefore, the proposed GPA RM-24 land use satisfies the City-established exemption criteria for preparation of a traffic analysis with Level of Service analysis.

The proposed project satisfies the City-established low VMT area and project type screening criteria for the proposed project (senior housing projects) and may presumed to result in a less than significant VMT impact.

Mr. Randy Citlau
PREMIER LAND DEVELOPMENT
May 6, 2022

The proposed project satisfies the City-established low VMT area for the proposed GPA RM-24 land use and may presumed to result in a less than significant VMT impact.

We appreciate the opportunity to assist you on this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100 x 103.

Sincerely,

GANDDINI GROUP, INC.
Bryan Crawford | Senior Associate
Giancarlo Ganddini, PE, PTP | Principal

Table 1
Project Trip Generation - Proposed Use (Senior Housing)

Trip Generation Rates									
			AM Peak Hour			PM Peak Hour			Daily
Land Use	Source[1]	Units[2]	% In	% Out	Rate	% In	% Out	Rate	Rate
Senior Adult Housing - Multifamily	ITE 252	DU	34%	66%	0.20	56%	44%	0.25	3.24

Trips Generated									
			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Units[2]	In	Out	Total	In	Out	Total	Daily
Senior Adult Housing - Multifamily	150	DU	11	20	31	21	17	38	486

Notes:

1) Sources:
ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code.

2) DU = Dwelling Units

Table 2
Project Trip Generation - Proposed GPA (RM-24)

Trip Generation Rates									
			AM Peak Hour			PM Peak Hour			Daily
Land Use	Source[1]	Units[2]	% In	% Out	Rate	% In	% Out	Rate	Rate
Multifamily Housing (Low-Rise)	ITE 220	DU	24%	76%	0.40	63%	37%	0.51	6.74

Trips Generated									
			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Units[2]	In	Out	Total	In	Out	Total	Daily
Multifamily Housing (Low-Rise)	120	DU	12	36	48	39	23	62	809

Notes:

1) Sources:
ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code.

2) DU = Dwelling Units

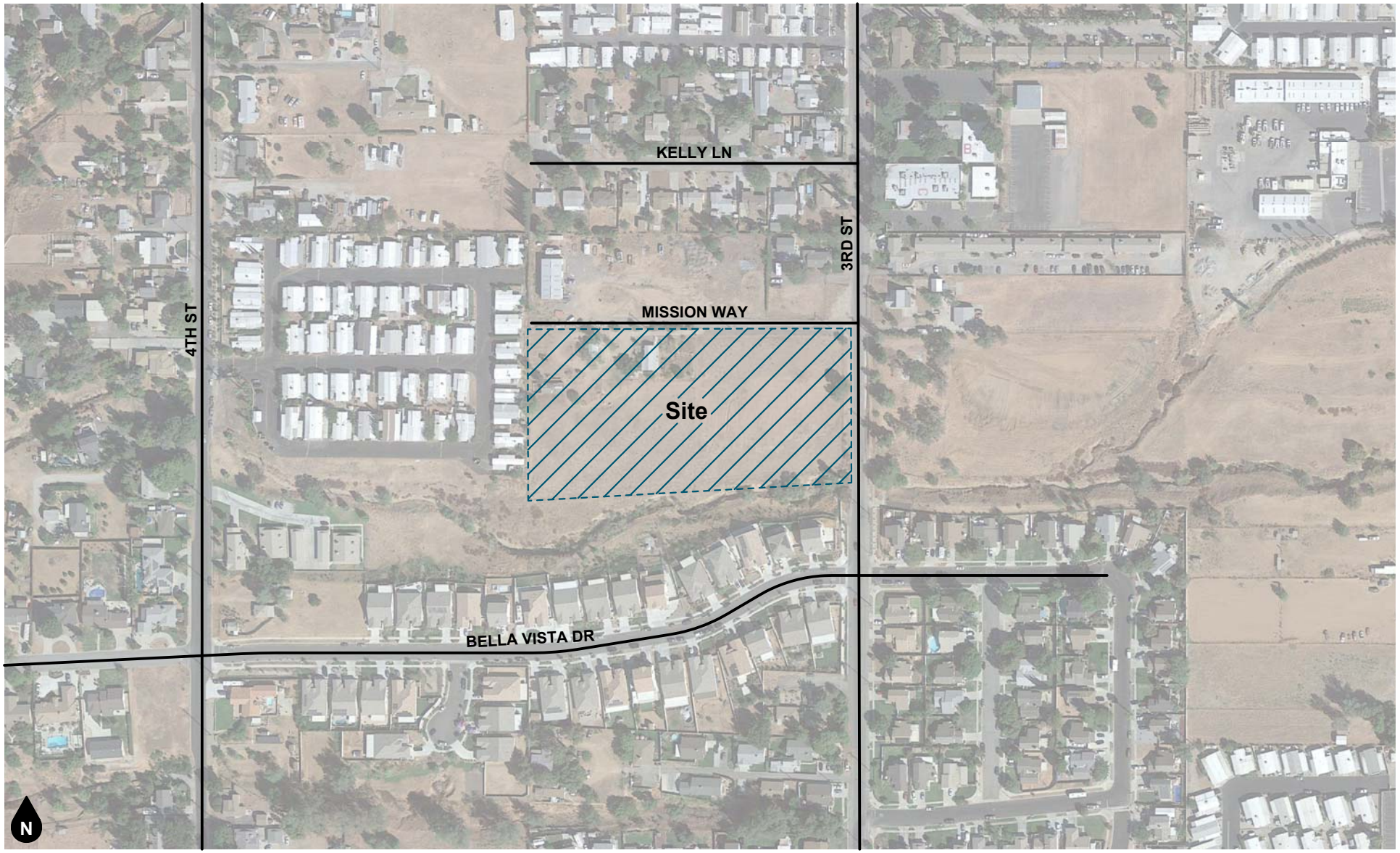


Figure 1
Project Location Map

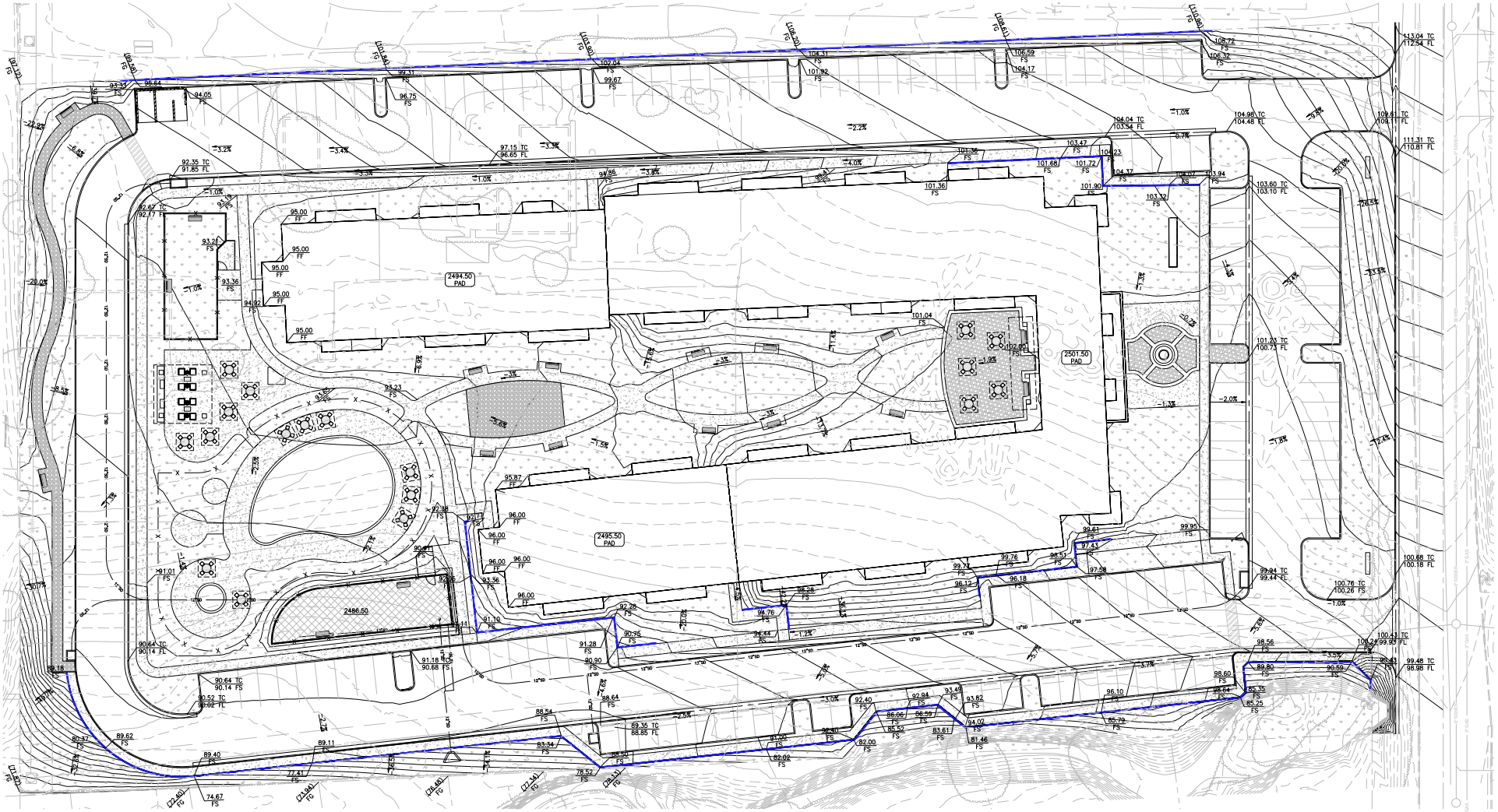


Figure 2
Site Plan

RIVERWALK YUCAIPA SENIOR HOUSING PROJECT NOISE IMPACT ANALYSIS

City of Yucaipa

November 9, 2021

gandini

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

RIVERWALK YUCAIPA SENIOR HOUSING PROJECT NOISE IMPACT ANALYSIS

City of Yucaipa

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Project No. 19421

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EXECUTIVE SUMMARY

The purpose of this report is to provide an assessment of the noise impacts associated with development and operation of the proposed Riverwalk Yucaipa Senior Housing project and to identify mitigation measures that may be necessary to reduce those impacts. The noise issues related to the proposed land use and development have been evaluated in light of applicable federal, state and local policies, including those of the City of Yucaipa.

Although this is a technical report, effort has been made to write the report clearly and concisely. A list of acronyms and glossary are provided in Appendix A and Appendix B of this report to assist the reader with technical terms related to noise analysis.

Project Location

The 4.75-acre project site is located at the southwest corner of 3rd Street and Mission Way in the City of Yucaipa, California. The project site is currently occupied by one single-family detached residential dwelling unit.

Project Description

The proposed project involves construction of a 150-dwelling unit senior housing – attached development. Vehicular access is proposed for full access at 3rd Street via two project driveways. The proposed project is anticipated to be constructed and fully operational by year 2023.

Construction Impacts

Modeled unmitigated construction noise levels ranged between 55.8 and 83.5 dBA L_{eq} at the closest sensitive receptor property lines to the project site.

Construction noise sources are regulated within the City of Yucaipa Municipal Code Section 87.0905(b) which limits construction activities to between the hours of 7:00 AM and 7:00 PM weekdays and Saturdays with no construction allowed on Sundays or Federal holidays. With compliance with the City's Municipal Code, it is assumed that construction would not occur during the noise-sensitive nighttime hours. Furthermore, per FTA daytime construction noise levels should not exceed 80 dBA L_{eq} for an 8-hour period at residential uses and 85 dBA L_{eq} for an 8-hour period at commercial uses.

Impacts would be less than significant with compliance with the City's Municipal Ordinances and implementation of the best management practices presented in Section 7 of this report.

Noise Impacts to Off-Site Receptors Due to Project Generated Trips

The roadway noise level increases from project generated vehicular traffic were modeled utilizing a computer program that replicates the FHWA Traffic Noise Prediction Model FHWA-RD-77-108.

Project generated vehicle trips are anticipated to increase roadway noise by approximately 0.10 dBA CNEL. Therefore, the change in noise level due to project generated vehicle traffic would not be audible and would be considered less than significant.

Traffic Noise Impacts to the Proposed Project

The City of Yucaipa General Plan identifies exterior noise levels up to 60 dBA CNEL and interior noise levels of up to 45 dBA CNEL as the standard for multi-family residential uses.

The project site is bound by 3rd street on the east. The City of Yucaipa General Plan Transportation Element identifies 3rd Street, in the vicinity of the project site, as a local roadway. As a local roadway, 3rd Street will not generate enough vehicle traffic to be acoustically significant. Therefore, the proposed project will not be exposed to noise levels that exceed the City's 60 dBA CNEL exterior noise standard nor the City's 45 dBA CNEL interior noise standard. Impacts to the proposed project would be less than significant.

Noise Impacts to Off-Site Receptors Due to On-Site Operational Noise

As shown in Figures 6 and 7, project operational noise is expected to range between 44 and 55 dBA Leq at nearby receptors and is not expected to exceed the City's noise level standard of 55 dBA Leq. This impact would be less than significant. No mitigation is required.

Groundborne Vibration Impacts

Existing off-site structures are located as close as approximately eight feet from the western project property line. Therefore, groundborne vibration associated with project construction has the potential to cause architectural damage to the residential structures west of the project site. A best management practice (bmp) prohibiting the use of vibratory rollers within 20 feet and large bulldozers within 12 feet of any existing residential structures to the west of the project site will reduce impacts to less than significant.

The threshold for annoyance (PPV of 0.1 in/sec at offsite sensitive structures) could be exceeded at the residential land uses to the west of the project site. Nearby residents may be temporarily annoyed by groundborne vibration during the use of vibratory equipment during grading and site preparation. However, the impact would only occur during daytime hours and will be temporary. This impact would be less than significant. Furthermore, the bmp identified above to reduce construction related vibration as they relate to potential structural impacts would help to reduce the any potential annoyance related vibration impacts.

Construction Noise Best Management Practices

In addition to adherence to the City of Yucaipa Municipal Code which limits the construction hours of operation, the following best management practices are recommended to reduce construction noise and vibrations, emanating from the proposed project:

1. During all project site excavation and grading on-site, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturer standards.

2. The contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

3. Equipment shall be shut off and not left to idle when not in use.

4. The contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.

5. Jackhammers, pneumatic equipment and all other portable stationary noise sources shall be shielded, and noise shall be directed away from sensitive receptors.

6. The project proponent shall mandate that the construction contractor prohibit the use of music or sound amplification on the project site during construction.

7. The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment.

8. Install a temporary sound barrier eight feet in height along the northern project boundary during the demolition phase of construction.

Vibration-Related Best Management Practice

1. All construction contractors will prohibit the use of vibratory rollers, or other similar vibratory equipment within 20 feet and large bulldozers within 12 feet of any existing residential dwelling unit to the west of the project site. Construction activity that must occur within the distances specified within this measure would need to be performed with smaller equipment types that do not exceed the vibratory threshold identified herein.

1. INTRODUCTION

This section describes the purpose of this noise impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

The purpose of this report is to provide an assessment of the noise impacts resulting from development of the proposed Riverwalk Yucaipa Senior Housing project and to identify mitigation measures that may be necessary to reduce those impacts. The noise issues related to the proposed land use and development have been evaluated in light of applicable federal, state and local policies, including those of the City of Yucaipa.

Although this is a technical report, effort has been made to write the report clearly and concisely. A list of acronyms and glossary are provided in Appendix A and Appendix B of this report to assist the reader with technical terms related to noise analysis.

PROJECT LOCATION

The 4.75-acre project site is located at the southwest corner of 3rd Street and Mission Way in the City of Yucaipa, California. The project site is currently occupied by one single-family detached residential dwelling unit. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The proposed project involves construction of a 150-dwelling unit senior housing – attached development. Vehicular access is proposed for full access at 3rd Street via two project driveways. The proposed project is anticipated to be constructed and fully operational by year 2023. Figure 2 illustrates the project site plan.

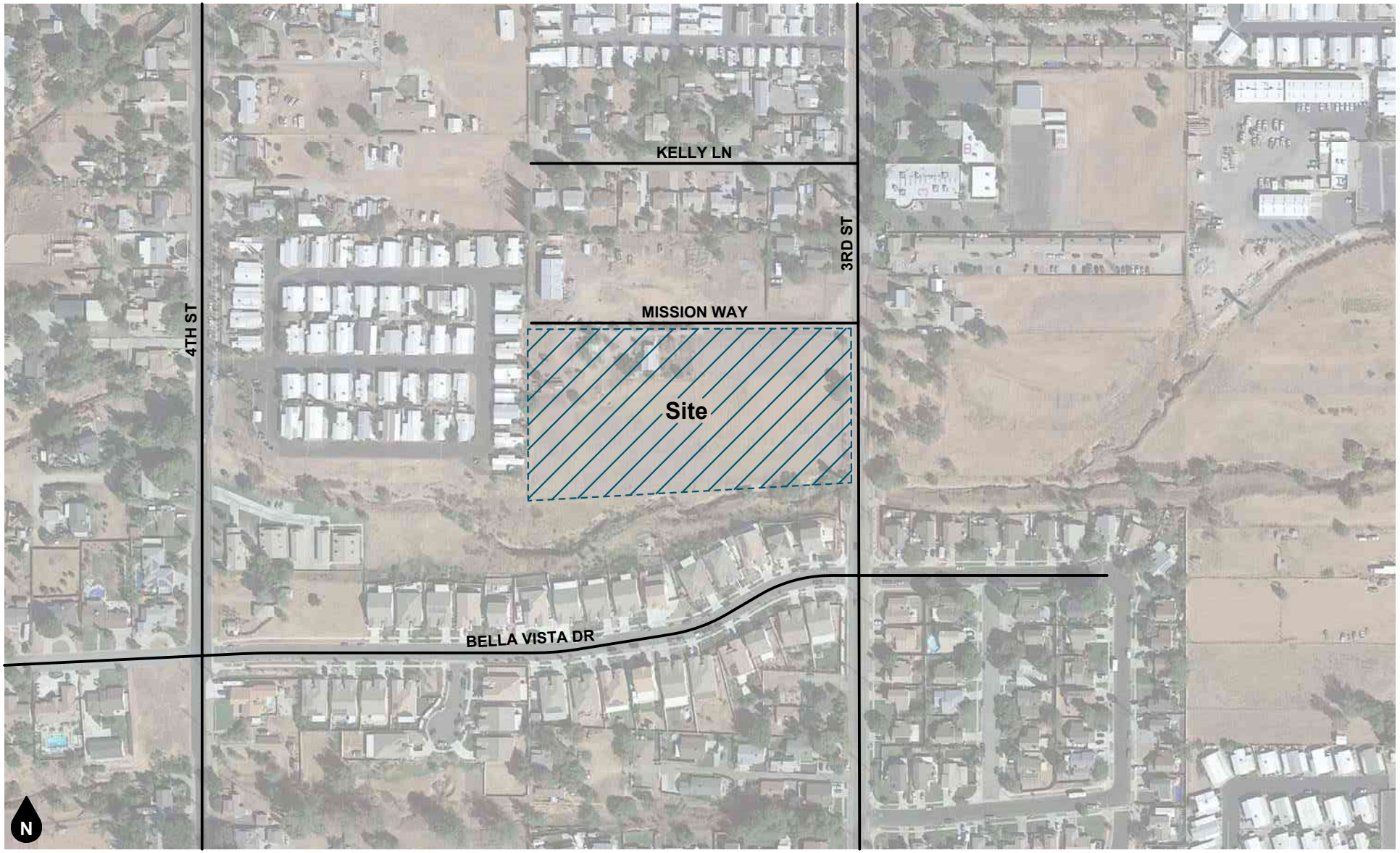


Figure 1
Project Location Map

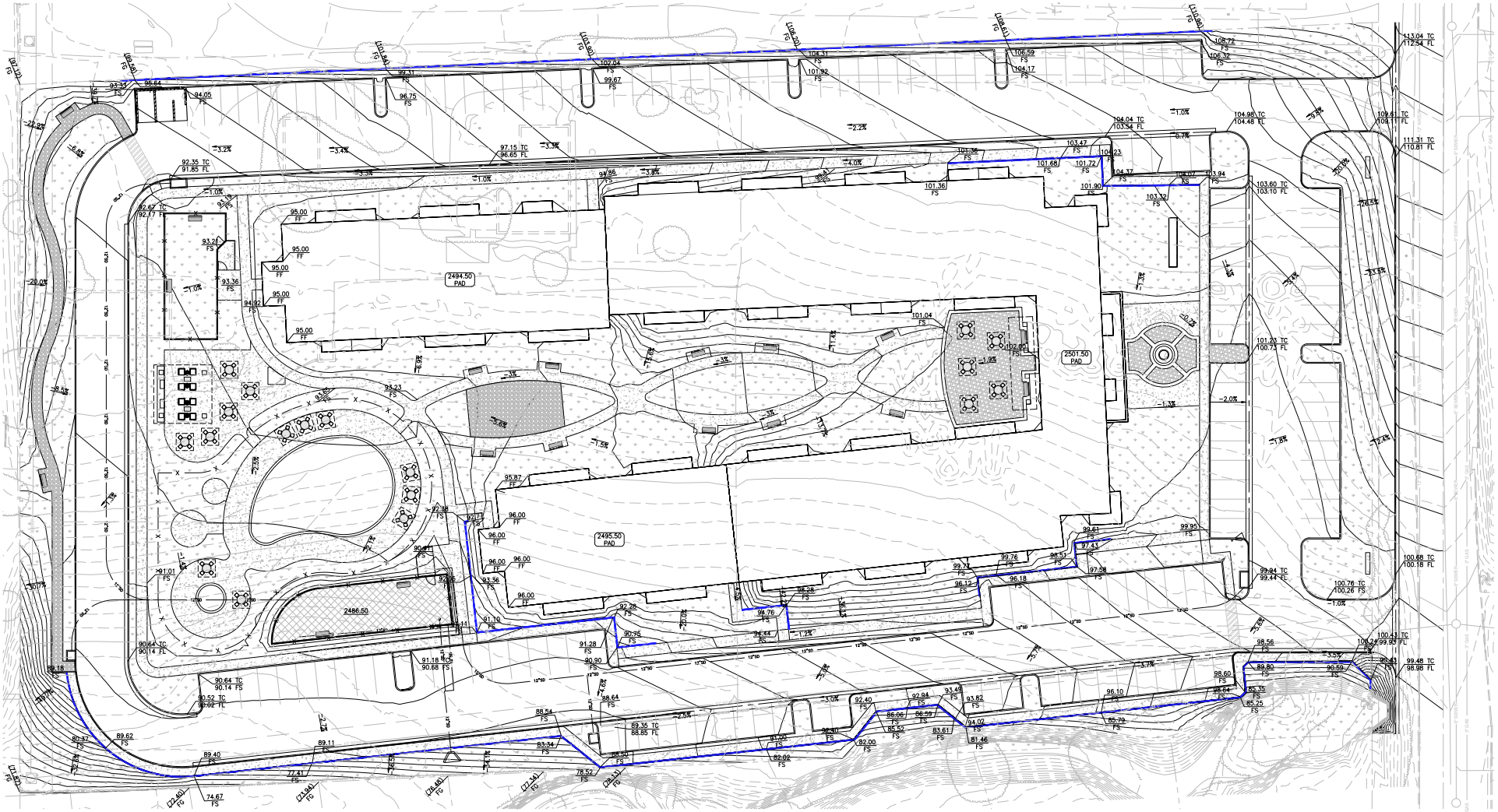


Figure 2
Site Plan

2. NOISE AND VIBRATION FUNDAMENTALS

NOISE FUNDAMENTALS

Sound is a pressure wave created by a moving or vibrating source that travels through an elastic medium such as air. Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in extreme circumstances, hearing impairment.

Commonly used noise terms are presented in Appendix B. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA.

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source as well as ground absorption, atmospheric effects and refraction, and shielding by natural and manmade features. Sound from point sources, such as air conditioning condensers, radiates uniformly outward as it travels away from the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance (dBA/DD). Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as a doubled traffic volume, would increase the noise levels by 3 dBA; halving of the energy would result in a 3 dBA decrease. Figure 3 shows the relationship of various noise levels to commonly experienced noise events.

Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, or the equivalent noise level for that period of time. For example, $L_{eq(3\text{-}hr)}$ would represent a 3-hour average. When no period is specified, a one-hour average is assumed.

Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (DNL). CNEL is a 24-hour weighted average measure of community noise. CNEL is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours. DNL is a very similar 24-hour average measure that weights only the nighttime hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud. This definition is recommended by the California Department of Transportation's Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013).

VIBRATION FUNDAMENTALS

The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which waves travel. There are three main types of vibration propagation: surface, compression and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy

along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. Compression waves, or P-waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. Shear waves, or S-waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation".

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal in inches per second. The RMS of a signal is the average of the squared amplitude of the signal in vibration decibels (VdB), ref one micro-inch per second. The Federal Railroad Administration uses the abbreviation "VdB" for vibration decibels to reduce the potential for confusion with sound decibel.

PPV is appropriate for evaluating the potential of building damage and VdB is commonly used to evaluate human response. Decibel notation acts to compress the range of numbers required in measuring vibration. Similar to the noise descriptors, L_{eq} and L_{max} can be used to describe the average vibration and the maximum vibration level observed during a single vibration measurement interval. Figure 4 illustrates common vibration sources and the human and structural responses to ground-borne vibration. As shown in the figure, the threshold of perception for human response is approximately 65 VdB; however, human response to vibration is not usually substantial unless the vibration exceeds 70 VdB. Vibration tolerance limits for sensitive instruments such as magnetic resonance imaging (MRI) or electron microscopes could be much lower than the human vibration perception threshold.

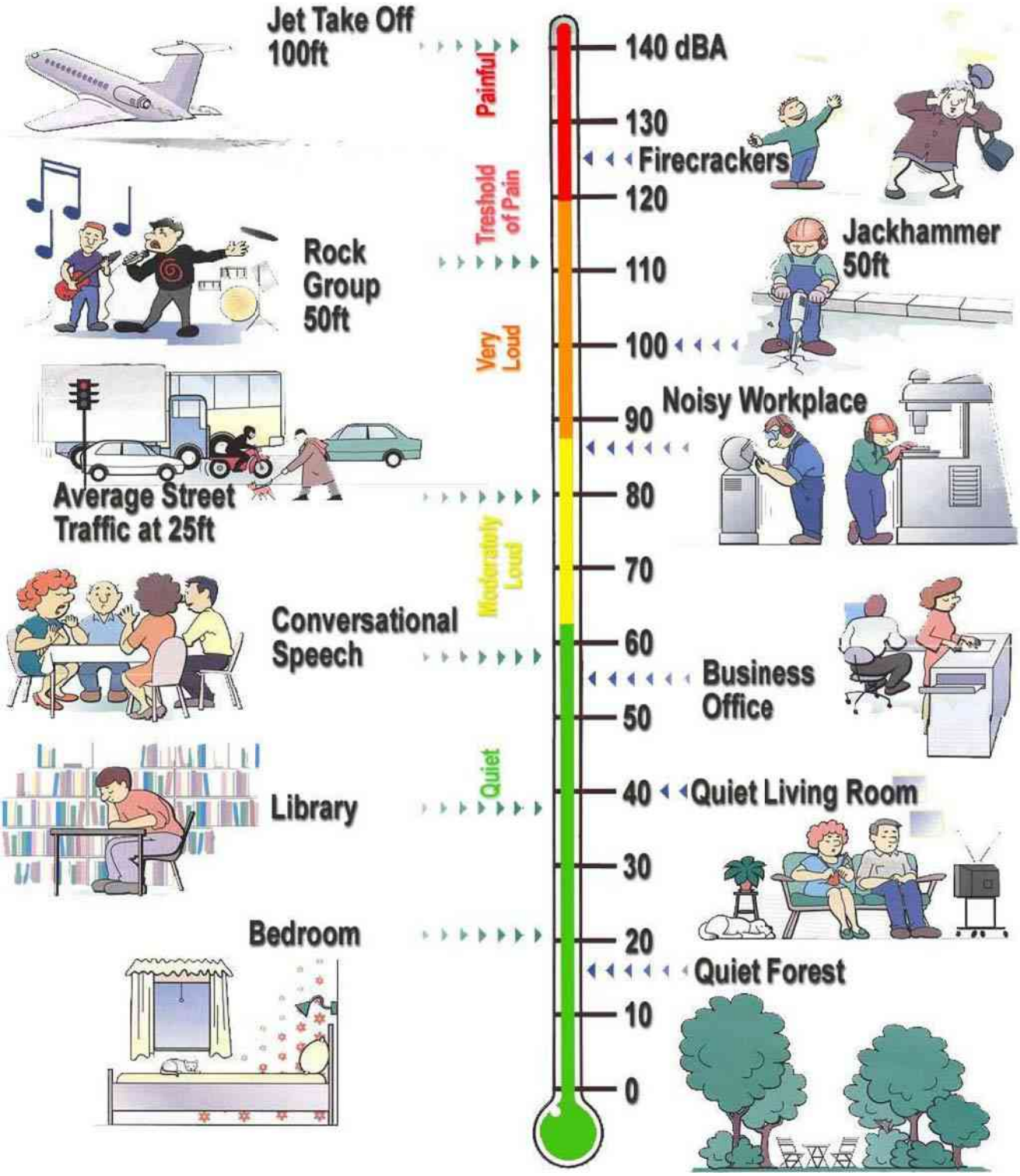
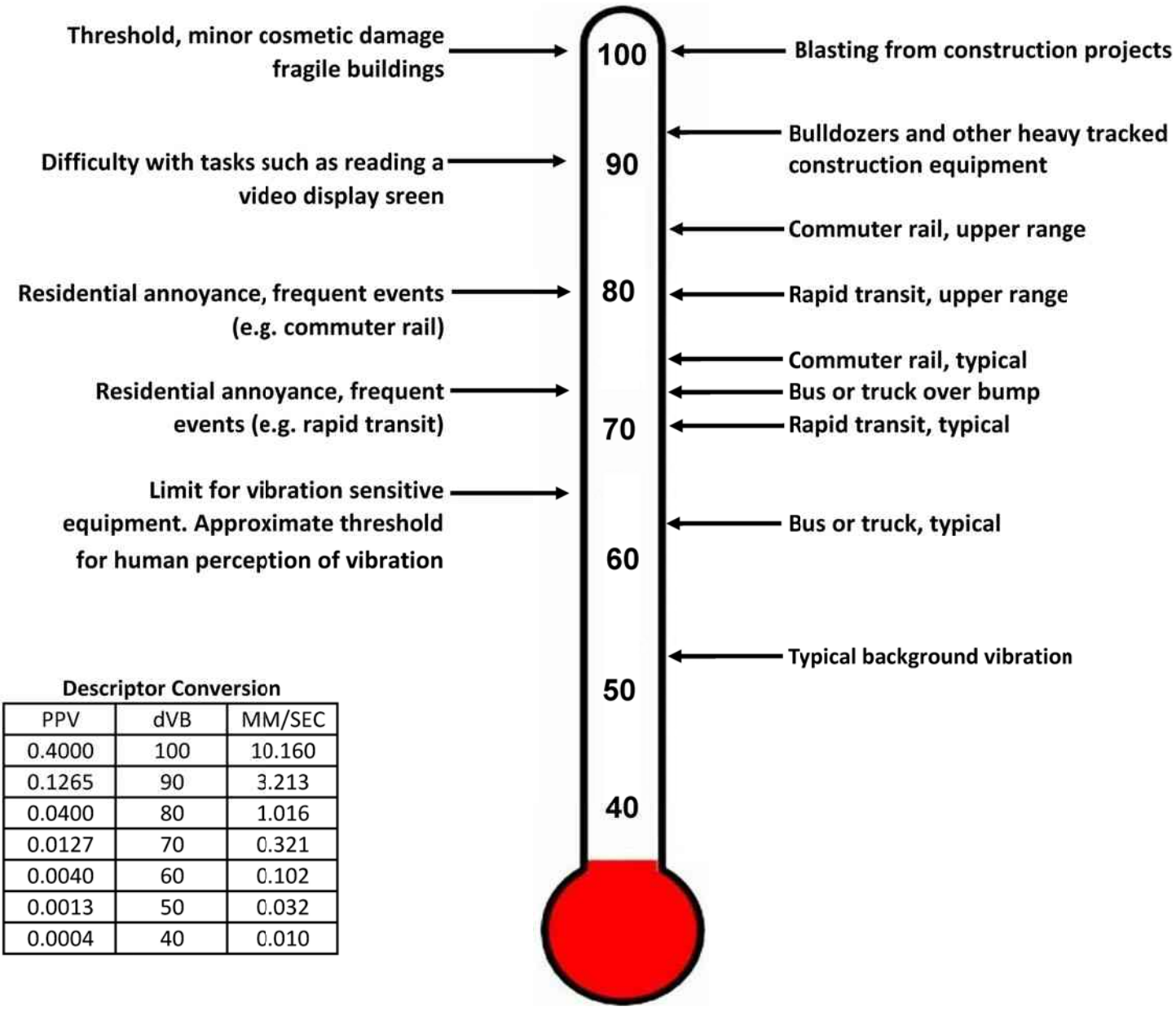


Figure 3
Weighted Sound Levels in Common Environments

Source: Bruel & Kjaer 2001



Descriptor Conversion

PPV	dVB	MM/SEC
0.4000	100	10.160
0.1265	90	3.213
0.0400	80	1.016
0.0127	70	0.321
0.0040	60	0.102
0.0013	50	0.032
0.0004	40	0.010

Source: FRA, 2012. Federal Railroad Administration High-Speed Ground Transportation Noise and Vibration Impact Assessment. Office of Railroad Policy Development, Washington, D.C. DOT/FRA/ORD-12/15. September.

Figure 4
Typical Levels of Groundborne Vibration

3. EXISTING NOISE ENVIRONMENT

EXISTING LAND USES AND SENSITIVE RECEPTORS

The project site is bordered by Mission Way to the north, 3rd Street to the east, single-family residential to the south, and a mobile home park to the west.

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Schools, libraries, churches, hospitals, single and multiple-family residential, including transient lodging, motels and hotel uses make up the majority of these areas. Existing sensitive land uses that may be affected by project noise include the mobile home park property line located adjacent to the west; the single-family residential property lines located approximately 20 feet north, 35 feet northeast, 75 feet south, and 102 feet southeast; and the multi-family residential property lines located approximately 115 feet northeast and 330 feet southwest of the project site.

AMBIENT NOISE MEASUREMENTS

An American National Standards Institute (ANSI Section SI.4 2014, Class 1) Larson Davis model LxT sound level meter was used to document existing ambient noise levels. In order to document existing ambient noise levels in the project area, four (4) 15-minute daytime noise measurements were taken between 1:11 PM and 3:36 PM on September 28, 2021. Field worksheets and noise measurement output data are included in Appendix C. As shown on Figure 5, existing ambient noise measurements were taken at the following locations:

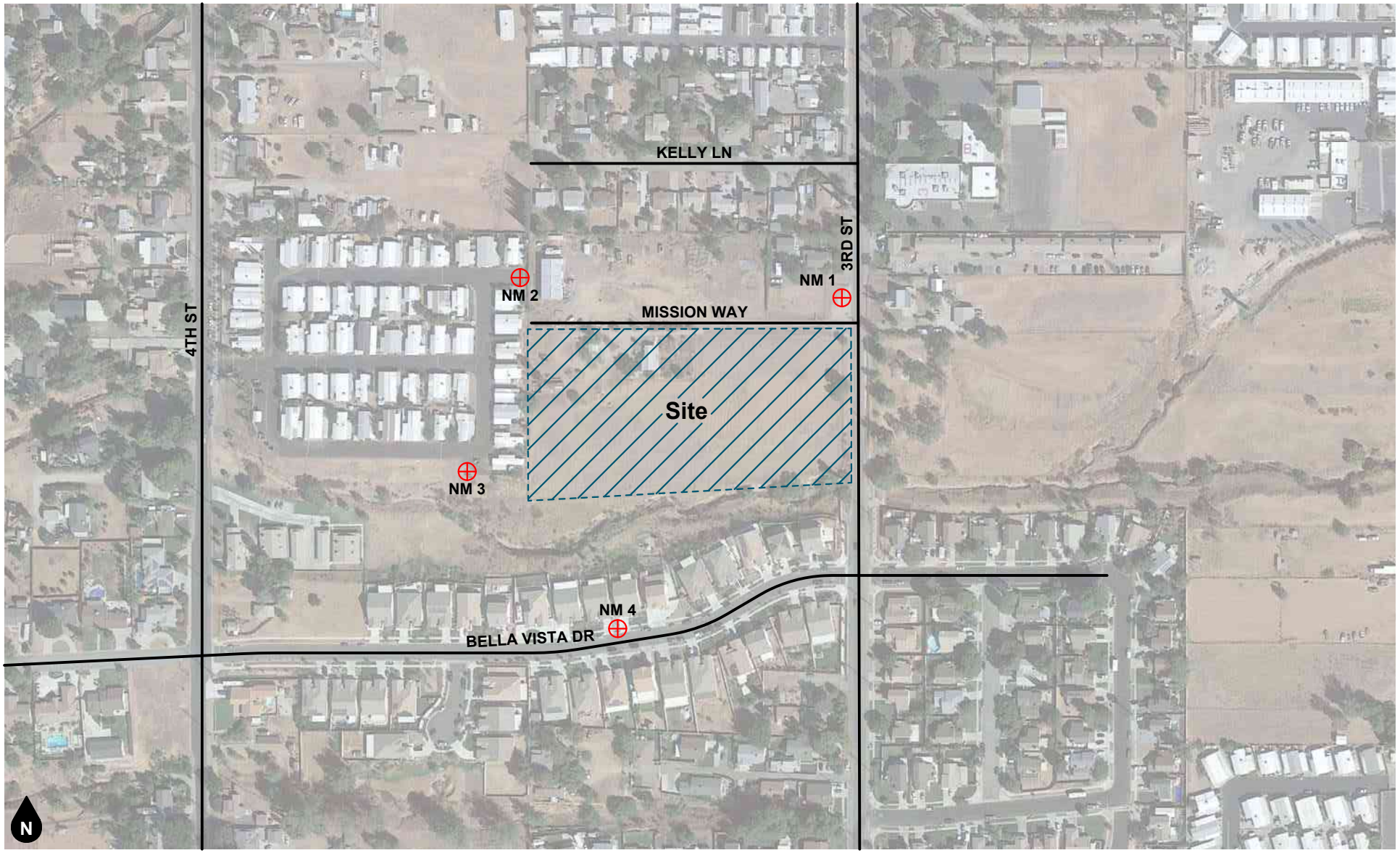
- STNM1: Noise measurement was taken near the residential uses located to the north of the project site along the western side of 3rd Street (12819 3rd Street, Yucaipa).
- STNM2: Noise measurement was taken within the mobile home park to the west of the project site at Trailer 15, two doors east of 12821 4th Street, Yucaipa (Trailer 13).
- STNM3: Noise measurement was taken within the mobile home park to the west of the project site at Trailer 24 near 12833 4th Street, Yucaipa.
- STNM4: Noise measurement was taken near the residential land uses located to the south of the project site along Bella Vista Drive (34624 Bella Vista Drive, Yucaipa).

Table 1 provides a summary of the short-term ambient noise data. Measured short-term ambient noise levels ranged between 40.1 and 68.5 dBA L_{eq}. The dominant noise source in the project vicinity was vehicle traffic associated with 3rd Street and Bella Vista Drive and residential activity such as wind chimes, water features, birds, conversation, and radio.

Table 1
Short-Term Noise Measurement Summary (dBA)

Daytime Measurements[1,2]								
Site Location	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
STNM1	1:11 PM	68.5	87.0	39.1	78.7	73.9	64.1	52.5
STNM2	1:53 PM	40.1	50.6	37.1	45.3	42.2	40.3	39.3
STNM3	2:20 PM	42.6	55.7	38.1	48.7	44.4	42.6	41.3
STNM4	3:21 PM	54.1	76.5	36.0	61.3	52.2	43.8	39.6

Notes:
(1) See Figure 5 for noise measurement locations. Each noise measurement was performed over a 15-minute duration.
(2) Noise measurements were performed on September 28, 2021.



Legend

⊕ Noise Measurement Location

NM 1

Figure 5
Noise Measurement Location Map

4. REGULATORY SETTING

FEDERAL REGULATION

Federal Noise Control Act of 1972

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In response, the EPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Levels of Environmental Noise). The Levels of Environmental Noise recommended that the Ldn should not exceed 55 dBA outdoors or 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas.

In addition, the Levels of Environmental Noise identified five (5) dBA as an "adequate margin of safety" for a noise level increase relative to a baseline noise exposure level of 55 dBA Ldn (i.e., there would not be a noticeable increase in adverse community reaction with an increase of five dBA or less from this baseline level). The EPA did not promote these findings as universal standards or regulatory goals with mandatory applicability to all communities, but rather as advisory exposure levels below which there would be no risk to a community from any health or welfare effect of noise.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to State and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, allowing more individualized control for specific issues by designated Federal, State, and local government agencies.

STATE REGULATIONS

State of California General Plan Guidelines 2017

Though not adopted by law, the State of California General Plan Guidelines 2017, published by the California Governor's Office of Planning and Research (OPR) (OPR Guidelines), provides guidance for the compatibility of projects within areas of specific noise exposure. The OPR Guidelines identify the suitability of various types of construction relative to a range of outdoor noise levels and provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. Findings presented in the Levels of Environmental Noise Document (EPA 1974) influenced the recommendations of the OPR Guidelines, most importantly in the choice of noise exposure metrics (i.e., Ldn or CNEL) and in the upper limits for the normally acceptable outdoor exposure of noise-sensitive uses.

The OPR Guidelines include a Noise and Land Use Compatibility Matrix which identifies acceptable and unacceptable community noise exposure limits for various land use categories. Where the "normally acceptable" range is used, it is defined as the highest noise level that should be considered for the construction of the buildings which do not incorporate any special acoustical treatment or noise mitigation. The "conditionally acceptable" or "normally unacceptable" ranges include conditions calling for detailed acoustical study prior to the construction or operation of the proposed project. The City of Yucaipa has adopted their own version of the State Land Use Compatibility Guidelines for land use planning and to assess potential transportation noise impacts to proposed land uses (see Table 3).

California Environmental Quality Act

The California Environmental Quality Act Guidelines (Appendix G) establishes thresholds for noise impact analysis. This noise study includes analysis of noise and vibration impacts necessary to assess the project in light of the following Appendix G Checklist Thresholds.

Would the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Substantial increases in ambient noise levels are usually associated with project construction noise (temporary) and project operational noise (permanent).

Project Construction Noise: Construction noise sources are regulated within the City of Yucaipa Municipal Code Section 87.0905(b) which limits construction activities to between the hours of 7:00 AM and 7:00 PM weekdays and Saturdays with no construction allowed on Sundays or Federal holidays.

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

The City of Yucaipa has not adopted a numerical threshold that identifies what a substantial increase would be. For purposes of this analysis, the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment (2018) criteria will be used to establish significance thresholds. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction. For residential uses, the daytime noise threshold is 80 dBA L_{eq} averaged over an 8-hour period ($L_{eq\ (8\text{-}hr)}$; and the nighttime noise threshold is 70 dBA $L_{eq\ (8\text{-}hr)}$. For commercial uses, the daytime and nighttime noise threshold is 85 dBA $L_{eq\ (8\text{-}hr)}$. In compliance with the City's Code, construction would not occur during the noise-sensitive nighttime hours.

Project Operational Noise (permanent): The proposed project has the potential to generate on-site and off-site noise. For on-site generated noise, the City of Yucaipa Municipal Code Section 87.0905 incudes a standard of 55 dBA L_{dn} at residential properties, 60 dBA L_{dn} at commercial uses, and 70 dBA L_{dn} at industrial uses.

Based on previous noise studies prepared for projects located in the City, project generated vehicle traffic is considered significant if project-related traffic increases noise levels at nearby sensitive receptors by 5 dB. Although individuals' reactions to changes in noise vary, empirical studies have shown people begin to notice changes in environmental noise levels of around 5 dBA. Thus, average changes in noise levels less than 5 dBA cannot be considered as producing adverse impacts because changes of that magnitude are imperceptible by the vast majority of persons (USEPA 1974).

b) Generate excessive groundborne vibration or groundborne noise levels?

Section 8.7.0910 of the City's Municipal Code states that no ground vibration shall be allowed which can be felt without the aid of instruments at or beyond the lot line, nor will any vibration be permitted which produces a particle velocity greater than or equal to two-tenths (0.2) inches per second. However, Section 8.7.0910 also considers temporary construction, maintenance, or demolition activities between 7:00 AM and 7:00 PM, except Sundays and Federal holidays as exempt from this standard.

As shown in Table 5, Caltrans identifies the threshold at which there is a risk to "architectural" damage to historic and some older buildings as a peak particle velocity (PPV) of 0.25 in/sec, at older residential structures as a PPV of 0.3 in/sec, and at new residential structures as a PPV of 0.5 in/sec. Table 6 shows

that, in regards to vibrational annoyance, groundborne vibration becomes distinctly perceptible at a PPV of 0.04 in/sec, strongly perceptible at a PPV of 0.1 in/sec, and severe at a PPV of 0.4 in/sec. Impacts would be significant if construction activities result in groundborne vibration of 0.3 in/sec PPV or higher at a residential sensitive receptor. Impacts related to annoyance would be considered significant if the groundborne vibration exceeded 0.1 in/sec.

California Department of Transportation (Caltrans)

The California Department of Transportation has published one of the seminal works for the analysis of ground-borne noise and vibration relating to transportation- and construction-induced vibrations and although the project is not subject to these regulations, it serves as useful tools to evaluate vibration impacts. These guidelines recommend that a standard of 0.25 inches per second (in/sec) PPV not be exceeded for the protection of historic and some old buildings (California Department of Transportation, 2020).

LOCAL REGULATIONS

City of Yucaipa General Plan

The City of Yucaipa has adopted their own version of the State Land Use Compatibility Guidelines for land use planning and to assess potential transportation noise impacts to proposed land uses (see Table 2).

The City of Yucaipa General Plan Public Safety Element contains goals and policies related to noise within the City. The General Plan goals and policies which apply to the proposed project are presented below.

Goal S-6 Noise and Vibration Safety: Appropriate community noise and vibration levels that balance the need for peaceful environments for sensitive land uses with the needs of local businesses and regional land uses.

Policy S-6.1: Noise Assessment. Assess the compatibility of proposed land uses with the noise environment when preparing, revising, or reviewing applications for development projects or land use changes.

Policy S-6.2: Acoustical Studies. Require acoustical studies for proposed projects within areas that exceed 60 dBA; discourage siting of new noise-sensitive uses in areas exceeding 65 dBA without appropriate mitigation.

Policy S-6.3: Noise Insulation and Vibration Standards. Require new projects to comply with noise insulation and vibration reduction standards in local, regional, state, and federal regulations, as applicable.

Policy S-6.4: Noise Nuisance Standards. Regulate the control of residential noise nuisances—such as parties, barking dogs, other animals, and limited agricultural operations—through the City's municipal code.

Policy S-6.5: Development Patterns. Locate new development in areas where noise levels are appropriate for the use. Limit development of noise-producing uses adjacent to noise-sensitive receptors and require that noise-producing land uses have adequate mitigation.

Policy S-6.6: Land Use-Noise Compatibility. Require mitigation of exterior and interior noise to the levels in Table 2. Encourage the use of building design, site planning, landscaping, and other features to reduce noise levels.

Policy S-6.7: Vibration Reduction. Minimize vibration impacts from construction sites, roadways, and other sources with a combination of setbacks, structural design features, and operational regulations as appropriate.

City of Yucaipa Municipal Code

Section 87.0905 Noise.

b) Noise Standards

1. Table 3 describes the noise standard for emanations from any source as it affects adjacent properties.

2. No person shall operate or cause to be operated any source of sound at any location or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person which causes the noise level, when measured on any other property, either incorporated or unincorporated, to exceed any of the following levels.

    A. The noise standard for that receiving land use [as specified in Table 3] for a cumulative period of more than 30 minutes in any hour.
    B. The noise standard plus 5 dBA for a cumulative period of more than five minutes in any hour.
    C. The noise standard plus 10 dBA for a cumulative period of more than five minutes in any hour.
    D. The noise standard plus 15 dBA for a cumulative period of more than one minute in any hour.
    E. The noise standard plus 20 dBA for any period of time

c) If the measured ambient level exceeds any of the first four noise limit categories above, the allowable noise exposure standard shall be increased to reflect said ambient noise level. If the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

d) If the alleged offense consists entirely of impact noise or simple tone noise, each of the noise levels in Table 3 shall be reduced by 5 dBA.

e) Exempt noises

1. The following noise sources are exempt.

    A. Motor vehicles not under the control of the industrial use.
    B. Emergency equipment, vehicles, and devices
    C. Temporary construction, repair, or demolition activities between 7:00 AM and 7:00 PM, except Sundays and Federal holidays.

Section 87.0910 Vibration.

a) Vibration Standard. No ground vibration shall be allowed which can be felt without the aid of instruments at or beyond the lot line, nor will any vibration be permitted which produces a particle velocity greater than or equal to two-tenths (0.2) inches per second measured at or beyond the lot line.

b) Vibration Measurement. Vibration velocity shall be measured with a seismograph or other instrument capable of measuring and recording displacement and frequency, particle velocity, or acceleration.

Readings are to be made at points of maximum vibration along any lot line next to a lot within a residential, commercial, and industrial land use district.

c) Exempt Vibrations

1. The following sources of vibration are not regulated by this Code.

    A. Motor vehicles not under the control of the subject use.
    B. Temporary construction, maintenance, or demolition activities between 7:00 AM and 7:00 PM, except Sundays and Federal holidays.

Table 2
Land Use-Noise Compatibility Standards

Category	Land Uses	Ldn (or CNEL), dB	
		Interior	Exterior
Residential	Single and Multi-family Duplex	45	60*
	Mobile Home	45	60*
	Hotel, Motel, Lodging	45	60*
Commercial	Commercial Retail, Bank, Restaurant	50	--
	Office Building, R&D, Offices	45	65
	Amphitheater, Auditorium, Theater	45	--
Institutional	Hospital, School, Church, Library	45	65
Open Space	Park and Recreational Areas	--	65

Source: City of Yucaipa General Plan Public Safety Element Table S-3, 2016.

*Note: An exterior noise level of up to 65 dBA will be allowed, provided exterior noise levels are substantially mitigated through the reasonable use of best availabel noise reduction technology and interior noise does not exceed the 45 dBA with windows and doors closed.

Table 3
Noise Standards

Affected Land Use (receiving noise)	Noise Standards	
	Noise Level (Ldn)	Time Period
Residential	55 dBA	7:00 AM to 10:00 PM
	55 dBA	10:00 PM to 7:00 AM
Professional Services	55 dBA	Anytime
Other Commercial	60 dBA	Anytime
Industrial	70 dBA	Anytime

Source: City of Yucaipa Municipal Code Section 87.0905(b)(1).

Table 4
Guideline Vibration Damage Potential Threshold Criteria

Structure Condition	Maximum PPV (in/sec)	
	Transient Sources[1]	Continuous/Frequent Intermittent Sources[1]
Extremely fragile historic buildings, ruins, anceint monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation. Transportation and Construction Vibration Guidance Manual, Chapter 7 Table 19, April 2020.

Notes:

(1) Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 5
Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation. Transportation and Construction Vibration Guidance Manual, Chapter 7 Table 20, April 2020.

Notes:

(1) Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

5. ANALYTICAL METHODOLOGY AND MODEL PARAMETERS

This section discusses the analysis methodologies used to assess noise impacts.

CONSTRUCTION NOISE MODELING

Construction noise associated with the proposed project was calculated at the sensitive receptor locations, utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Distances to receptors were based on the acoustical center of the project site. The equipment used to calculate the construction noise levels for each phase were based on the assumptions provided in the CalEEMod modeling in the Air Quality, Global Climate Change, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, Inc., 2021). For construction noise purposes, the distance measured from the project site to sensitive receptors was assumed to be the acoustical center of the project site to the property line of residential properties with existing residential buildings. Construction noise worksheets are provided in Appendix D.

FEDERAL HIGHWAY ADMINISTRATION (FHWA) TRAFFIC NOISE PREDICTION MODEL

Increases in ambient noise levels associated with project generated vehicular traffic were modeled utilizing a computer program that replicates the FHWA Traffic Noise Prediction Model FHWA-RD-77-108. The FHWA Traffic Noise Prediction Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emissions Levels.[1] Adjustments are then made to the REMEL to account for: total average daily traffic volumes, roadway classification (i.e., collector, secondary, major or arterial), the roadway active width (i.e., distance between the center of the outermost travel lanes on each side of the roadway), travel speed, truck mix (i.e., percentage of automobiles, medium trucks, and heavy trucks in the traffic volume), roadway grade and site conditions (hard or soft ground surface relating to the absorption of the ground, pavement, or landscaping). Research conducted by Caltrans identifies that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model.[2] Therefore, surfaces adjacent to all modeled roadways were assumed to have a "soft site". Possible reductions in noise levels due to intervening topography and buildings were not accounted for in this analysis.

Project traffic volumes were obtained from the trip generation provided in the Riverwalk Yucaipa Senior Housing Project Level of Service & Vehicle Miles Traveled Screening Analysis (Trip Generation & VMT Analysis), Ganddini Group, Inc. (September 7, 2021). The existing average daily trips were calculated by use of the measured ambient noise levels (utilizing STNM1, see Table 1). Vehicle/truck mixes and D/E/N splits for use in acoustical studies published by the Riverside County Department of Industrial Hygiene were utilized for noise modeling. Existing Plus Project vehicle mixes were calculated by adding the proposed project trips to existing conditions. FHWA spreadsheets are included in Appendix E.

SOUNDPLAN NOISE MODEL

The SoundPLAN acoustical modeling software was utilized to model worst-case stationary noise impacts associated with project operation at adjacent sensitive uses (e.g., residences). SoundPLAN is capable of

[1] California Department of Transportation Environmental Program, Office of Environmental Engineering. Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction. September 1995. TAN 95-03.

[2] California Department of Transportation. Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report. June 1995. FHWA/CA/TL-95/23.

evaluating stationary noise sources (e.g., parking lots, drive-thru menus, carwash equipment, vacuums, etc.) and much more. The SoundPLAN software utilizes algorithms (based on the inverse square law) to calculate noise level projections. The software allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations. In addition to the information provided below, noise modeling input and outputs assumptions are provided in Appendix F.

Sound levels associated with project operation was modeled utilizing representative sound levels in the SoundPLAN model. Modeled noise sources include parking lot noise pool and barbeque areas, dog parks, and HVAC equipment noise. All noise sources were modeled to be in full operation all of the time. This is a conservative modeling effort, given that in actuality, several of the noise sources are not in operation continuously for an entire hour.

Parking Lot Noise

Parking lot noise was calculated using SoundPLAN methodology. Specifically, the traffic volume of the parking lot is entered with the number of moves per parking, the hour and the number of parking bays. The user defines whether the parking lots are for automobiles, motorcycles, or trucks, and the emission level of a parking lot is automatically adjusted accordingly. The values for the number of parking moves for each time slice is the number of parking moves per reference unit (most often per parking bay), averaged for the hour[3].

SoundPLAN utilizes parking lot noise emission levels from the 6th revised edition of the parking lot study "Recommendations for the Calculation of Sound Emissions of Parking Areas, Motorcar Centers and Bus Stations as well as of Multi-Story Car Parks and Underground Car Parks" published by the Bavarian Landesamt für Umwelt, which provides calculation methods to determine the emissions of parking lots.

The parking lot emission table documents the reference level (Lw, ref) from the parking lot study.

Lw, ref = Lw0 + KPA + KI + KD + KStrO + 10 log(B) [dB(A)]

With the following parameters:

Lw0 = Basic sound power, sound power level of one motion / per hour on P+R areas = 63 dB(A)
KPA = Surcharge parking lot type
KI = Surcharge for impulse character
KD = Surcharge for the traffic passaging and searching for parking bays in the driving lanes 2,5 * lg (f * B - 9)
f = Parking bays per unit of the reference value
B = Reference value
KStrO = Surcharge for the road surface

Mechanical Equipment (HVAC Units) Noise

A noise reference level of 67.7 dBA at 3 feet (sound power level of 78.7 dB) was utilized to represent rooftop 5 Ton Carrier HVAC units[4]. A rooftop HVAC plan is not available at the time of this analysis so the exact location and number of units per building were estimated. A total of 46 rooftop units were modeled on the proposed rooftops. The noise source height for each HVAC unit was assumed at 1 meter above the roof top. Roof top is assumed to be approximately 42 feet above grade.

[3] SoundPLAN Essential 4.0 Manual. SoundPLAN International, LLC. May 2016.

[4] MD Acoustics, LLC Noise Measurement Data for RTU –Carrier 50TFQ0006 and car alarm.

Pool and Barbeque Area

The pool and barbeque area proposed at the western end of the project site were modeled with a sound power level representing an overall noise level within the pool and barbeque area of 68 dB Leq. This is representative of many people (1 per square meter) speaking in raised voices.

Dog Parks

A noise reference level obtained at a dog boarding facility was utilized to model noise associated with the proposed dog parks (66 dBA Leq) representative of 34 small dogs and 17 large dogs socializing and playing in a relatively small outdoor area.

6. IMPACT ANALYSIS

This impact discussion analyzes the potential for noise and/or groundborne vibration impacts to cause the exposure of a person to, or generation of, noise levels in excess of established City of Yucaipa standards related to construction, operation, and transportation noise related impacts to, or from, the proposed project.

IMPACTS RELATED TO CONSTRUCTION NOISE

The proposed project will be constructed in 5 phases including (1) demolition, (2) grading, (3) building construction, (4) paving, and (5) application of architectural coatings. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. The construction activities for the proposed project are anticipated to include: demolition of one existing single-family residential dwelling unit and associated barn structure totaling approximately 1,500 square feet; grading of approximately 4.75 acres; construction of a three-story building with 150 senior housing dwelling units totaling up to approximately 140,000 square feet (with a building footprint of approximately 42,253 square feet); paving of a parking lot with 146 parking spaces; and application of architectural coatings. The grading phase is anticipated to have approximately 4,000 cubic yards of import.

The existing residential uses located to the west, north, northeast, south, and southeast and school uses to the northeast of the project site may be affected by short-term noise impacts associated with construction noise. Construction noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work.

Noise levels are expected to vary depending on the construction phase and the type of equipment to be utilized. Construction noise levels were calculated for each phase. Anticipated noise levels during each construction phase are presented in Table 7. Worksheets for each phase are included as Appendix D.

Modeled unmitigated construction noise levels range between 55.8 and 83.5 dBA L_{eq} at the closest sensitive receptor property lines to the project site. The expected duration of each phase and the loudest sound level at the nearest receptor (residential land uses to the north) is presented below:

Phase	Number of Days	Maximum Leq
Demolition	27	83.5
Grading	12	76.9
Building Construction	305	74.7
Paving	23	74.1
Architectural Coating	24	64.6

A comparison of existing noise levels and project construction noise levels are presented in Table 7. STNM3 was chosen to represent noise levels at the property line of the mobile home park residential receptors to the west, STNM1 was chosen to represent noise levels at the property lines of the single-family residential receptors to the north and northeast and school receptors to the northeast, and STNM4 was chosen to represent noise levels at the property lines of the single-family residential uses to the south and southeast of the project site.

As discussed earlier, construction noise sources are regulated within the City of Yucaipa Municipal Code Section 87.0905(b) which limits construction activities to between the hours of 7:00 AM and 7:00 PM weekdays and Saturdays with no construction allowed on Sundays or Federal holidays. With compliance with the City's Municipal Code, it is assumed that construction would not occur during the noise-sensitive nighttime hours. FTA guidelines recommend that daytime construction noise levels do not exceed 80 dBA L_{eq} for an 8-hour period at residential uses and 85 dBA L_{eq} for an 8-hour period at commercial uses.

As shown in Table 7, project construction would exceed the residential FTA guideline of 80 dBA L_{eq} at the property line of the residential receptor to the north during the demolition phase of construction. A best management practice (bmp) requiring an eight-foot temporary noise barrier along the northern property line during demolition has been provided in Section 7 of this report. With compliance with the City's Municipal Code Section 87.0905(b), construction would not occur during the noise-sensitive nighttime hours.

Impacts related to construction noise would be less than significant with compliance with the City's Municipal Ordinances and implementation of the best management practices presented in Section 7 of this report.

Noise Impacts to Off-Site Receptors Due to Project Generated Trips

During operation, the proposed project is expected to generate approximately 555 average daily trips with 31 trips during the AM peak-hour and 39 trips during the PM peak-hour. A project generated traffic noise level was modeled utilizing the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108. As the Trip Generation & VMT Analysis (Ganddini 2021) provided for the proposed project does not include project trip distribution and in order to provide a conservative analysis, all project generated vehicle trips were assumed to travel along 3rd Street. Traffic noise levels were calculated at the right of way from the centerline of the analyzed roadway. The modeling is theoretical and does not take into account any existing barriers, structures, and/or topographical features that may further reduce noise levels. Therefore, the levels are shown for comparative purposes only to show the difference in with and without project conditions. Roadway input parameters including average daily traffic volumes (ADTs), speeds, and vehicle distribution data is shown in Table 9. The potential off-site noise impacts caused by an increase of traffic from operation of the proposed project on the nearby roadways were calculated for the following scenarios:

Existing Year (without Project): This scenario refers to existing year traffic noise conditions and is demonstrated in Table 9.

Existing Year (With Project): This scenario refers to existing year plus project traffic noise conditions and is demonstrated in Table 9.

As shown in Table 10, the modeled Existing traffic noise level along 3rd Street was 72.2 dBA CNEL at the right-of-way of the roadway segment; and the modeled Existing Plus Project traffic noise level along 3rd Street was 72.3 dBA CNEL at the right-of-way of the roadway segment.

As stated previously, project generated vehicle traffic is considered significant if project-related traffic increases noise levels at nearby sensitive receptors by 5 dB.

Project generated vehicle traffic is anticipated to increase the noise by 0.10 dBA CNEL. Therefore, a change in noise level would not be audible and would be considered less than significant. No mitigation is required.

Traffic Noise Impacts to the Proposed project

The City of Yucaipa General Plan identifies exterior noise levels up to 60 dBA CNEL and interior noise levels of up to 45 dBA CNEL as the standard for multi-family residential uses (see Table 2).

The project site is bound by 3rd street on the east. The City of Yucaipa General Plan Transportation Element identifies 3rd Street, in the vicinity of the project site, as a local roadway. As a local roadway, 3rd Street will not generate enough vehicle traffic to be acoustically significant.

Therefore, the proposed project will not be exposed to noise levels that exceed the City's 60 dBA CNEL exterior noise standard nor the City's 45 dBA CNEL interior noise standard. Impacts to the proposed project would be less than significant.

NOISE IMPACTS TO OFF-SITE RECEPTORS DUE TO ON-SITE OPERATIONAL NOISE

As shown in Figures 6 and 7, project operational noise is expected to range between 44 and 55 dBA Leq at nearby receptors and is not expected to exceed the City's noise level standard of 55 dBA Leq. This impact would be less than significant. No mitigation is required.

GROUNDBORNE VIBRATION IMPACTS

There are several types of construction equipment that can cause vibration levels high enough to annoy persons in the vicinity and/or result in architectural or structural damage to nearby structures and improvements. For example, as shown in Table 11, a vibratory roller could generate up to 0.21 PPV at a distance of 25 feet; and operation of a large bulldozer (0.089 PPV) at a distance of 25 feet (two of the most vibratory pieces of construction equipment). Groundborne vibration at sensitive receptors associated with this equipment would drop off as the equipment moves away. For example, as the vibratory roller moves further than 100 feet from the sensitive receptors, the vibration associated with it would drop below 0.0026 PPV. It should be noted that these vibration levels are reference levels and may vary slightly depending upon soil type and specific usage of each piece of equipment.

Section 8.7.0910 of the City's Municipal Code states that no ground vibration shall be allowed which can be felt without the aid of instruments at or beyond the lot line, nor will any vibration be permitted which produces a particle velocity greater than or equal to two-tenths (0.2) inches per second. However, Section 8.7.0910 also considers temporary construction, maintenance, or demolition activities between 7:00 AM and 7:00 PM, except Sundays and Federal holidays as exempt from this standard.

Annoyance to Persons

The primary effect of perceptible vibration is often a concern. However, secondary effects, such as the rattling of a china cabinet, can also occur, even when vibration levels are well below perception. Any effect (primary perceptible vibration, secondary effects, or a combination of the two) can lead to annoyance. The degree to which a person is annoyed depends on the activity in which they are participating at the time of the disturbance. For example, someone sleeping, or reading will be more sensitive than someone who is running on a treadmill. Reoccurring primary and secondary vibration effects often lead people to believe that the vibration is damaging their home, although vibration levels are well below minimum thresholds for damage potential. (California Department of Transportation, 2020)

As shown in Table 5, vibration becomes "strongly perceptible" to people in buildings at a PPV of 0.1 in/sec.

Structures associated with the residential mobile home park use to the west are located as close as approximately 8 feet from the western project property line. At eight feet, use of a vibratory roller would be expected to generate a PPV of 1.16 in/sec and a bulldozer would be expected to generate a PPV of 0.492 in/sec. Therefore, use of a vibratory roller or large bulldozer could be considered annoying to the mobile home receptors to the west.

At 60 feet, which is the distance to the next closest off-site building, the garage/shed associated with the single-family residential dwelling unit to the north, use of a vibratory roller would be expected to generate a PPV of 0.056 in/sec and a bulldozer would be expected to generate a PPV of 0.024 in/sec. Furthermore, the associated dwelling unit is located further away at approximately 133 feet from the project's northern property line. At 133 feet, use of a vibratory roller would be expected to generate a PPV of 0.017 in/sec and a bulldozer would be expected to generate a PPV of 0.007 in/sec. Therefore, use of a vibratory roller or large bulldozer would not be considered annoying to the receptors to the north.

Structures associated with the single-family residential uses to the south are located as close as approximately 89 feet from the southern project property line. At 89 feet, use of a vibratory roller would be

expected to generate a PPV of 0.031 in/sec and a bulldozer would be expected to generate a PPV of 0.013 in/sec. Therefore, use of a vibratory roller or large bulldozer would not be considered annoying to the single-family receptors to the south.

Annoyance is expected to be short-term, occurring only during site grading and preparation. A best management practice to reduce vibration as they relate to potential structural impacts would help to reduce any potential annoyance related vibration impacts. This bmp is discussed in the Architectural Damage section below and presented in Section 8 of this report. This impact is less than significant.

Architectural Damage

Vibration generated by construction activity generally has the potential to damage structures. This damage could be structural damage, such as cracking of floor slabs, foundations, columns, beams, or wells, or cosmetic architectural damage, such as cracked plaster, stucco, or tile. (California Department of Transportation, 2020)

Table 4 identifies a PPV level of 0.3 as the threshold at which there is a risk to "architectural" damage to older residential structures. A best management practice requiring vibratory rollers be prohibited within 20 feet and large bulldozers within 12 feet of any residential structure to the west of the project site would reduce temporary vibration levels associated with project construction to less than significant. Vibration worksheets are provided in Appendix G.

Table 6 (1 of 2)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
All Other Equipment > 5 HP	No	50	85	-N/A-	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	-N/A-	0
Blasting	Yes	-N/A-	94	-N/A-	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	-N/A-	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Forklift[2,3]	No	50	n/a	61	n/a
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	-N/A-	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydr. Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	-N/A-	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarafier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	50	85	77	9
Paving Equipment	No	50	85	77	9
Pneumatic Tools	No	50	85	85	90

Table 6 (2 of 2)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/chipping gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Shears (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	-N/A-	0
Tractor	No	40	84	-N/A-	0
Vacuum Excavator (Vac-truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder/Torch	No	40	73	74	5

Notes:

(1) Source: FHWA Roadway Construction Noise Model User's Guide January 2006.

(2) Warehouse & Forklift Noise Exposure - NoiseTesting.info Carl Stautins, November 4, 2014 http://www.noisetesting.info/blog/carl-strautins/page-3/

(3) Data provided Leq as measured at the operator. Sound Level at 50 feet is calculated using Inverse Square Law.

Table 7
Construction Noise Levels (dBA L_{eq})

Phase	Receptor Location	Existing Ambient Noise Levels (dBA Leq)[1]	Construction Noise Levels (dBA Leq)[2]
Demolition	West	40.1	77.0
	North	68.5	83.5
	Northeast (School)	68.5	66.4
	Northeast (Residential)	68.5	67.3
	Southeast	54.1	66.0
	South	54.1	71.2
Grading	West	40.1	72.3
	North	68.5	76.9
	Northeast (School)	68.5	68.2
	Northeast (Residential)	68.5	70.3
	Southeast	54.1	69.6
	South	54.1	75.3
Building Construction	West	40.1	70.1
	North	68.5	74.7
	Northeast (School)	68.5	65.9
	Northeast (Residential)	68.5	68.1
	Southeast	54.1	67.3
	South	54.1	73.0
Paving	West	40.1	69.5
	North	68.5	74.1
	Northeast (School)	68.5	65.3
	Northeast (Residential)	68.5	67.5
	Southeast	54.1	66.8
	South	54.1	72.4
Architectural Coating	West	40.1	60.0
	North	68.5	64.6
	Northeast (School)	68.5	55.8
	Northeast (Residential)	68.5	58.0
	Southeast	54.1	57.3
	South	54.1	63.0

Notes:

(1) Per measured existing ambient noise levels. STNM2 was used for receptors to the west, STNM1 for receptors to the north and northeast, and STNM4 for receptors to the south and southwest.

Table 8
Project Average Daily Traffic Volumes and Roadway Parameters

Roadway	Segment	Average Daily Traffic Volume[1]		Posted Travel Speeds (MPH)	Site Conditions
		Existing	Existing Plus Project		
3rd Street	In vicinity of Project Site	20,400	20,955	35	Soft

Vehicle Distribution (Light Mix)[2]			
Motor-Vehicle Type	Daytime % (7 AM-7 PM)	Evening % (7 PM-10 PM)	Night % (10 PM-7 AM)
Automobiles	75.56	13.96	10.49
Medium Trucks	48.91	2.17	48.91
Heavy Trucks	47.30	5.41	47.30

Notes:

(1) Project traffic volumes were obtained from the trip generation provided in the Riverwalk Yucaipa Senior Housing Project Level of Service & Vehicle Miles Traveled Screening Analysis (Trip Generation & VMT Analysis), Ganddini Group, Inc. (September 7, 2021). As project trip distribution and average daily trips (ADTs) were not provided in the Trip Generation & VMT Analysis, and in order to provide a conservative analysis, it was assumed that all project daily vehicle trips would travel along 3rd Street. Existing ADTs were also not provided in the Trip Generation & VMT Analysis; therefore, the existing average daily trips along 3rd Street were calculated by use of the measured ambient noise levels (utilizing STNM1, see Table 1).

(2) Existing vehicle percentages are based on the Riverside County Industrial Hygiene Letter for Traffic Noise.

Table 9
Change in Existing Noise Levels Along Roadways as a Result of Project (dBA CNEL)

Roadway	Segment	Distance from roadway centerline to right-of-way (feet)[2]	Modeled Noise Levels (dBA CNEL)[1]				
			Existing Without Project at right-of-way	Existing Plus Project at right-of-way	Change in Noise Level	Exceeds Standards[3]	Increase of 5 dB or More?
3rd Street	In the vicinity of the Project Site	30	72.20	72.30	0.10	Yes	No

Notes:
(1) Exterior noise levels calculated 5 feet above pad elevation, perpendicular to subject roadway.
(2) Right of way per the City of Yucaipa General Plan Transportation Element.
(3) Per the City of Yucaipa's exterior noise standard for single-family detached residential dwelling units (see Table 2).

Table 10
Construction Equipment Vibration Source Levels

Equipment		PPV at 25 ft, in/sec	Approximate Lv* at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.170	93
clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Loaded Trucks		0.076	86
Jackhammer		0.035	79
Small Bulldozer		0.003	58

Source: Federal Transit Administration: Transit Noise and Vibration Impact Assessment Manual, 2018.
*RMS velocity in decibels, VdB re 1 micro-in/sec

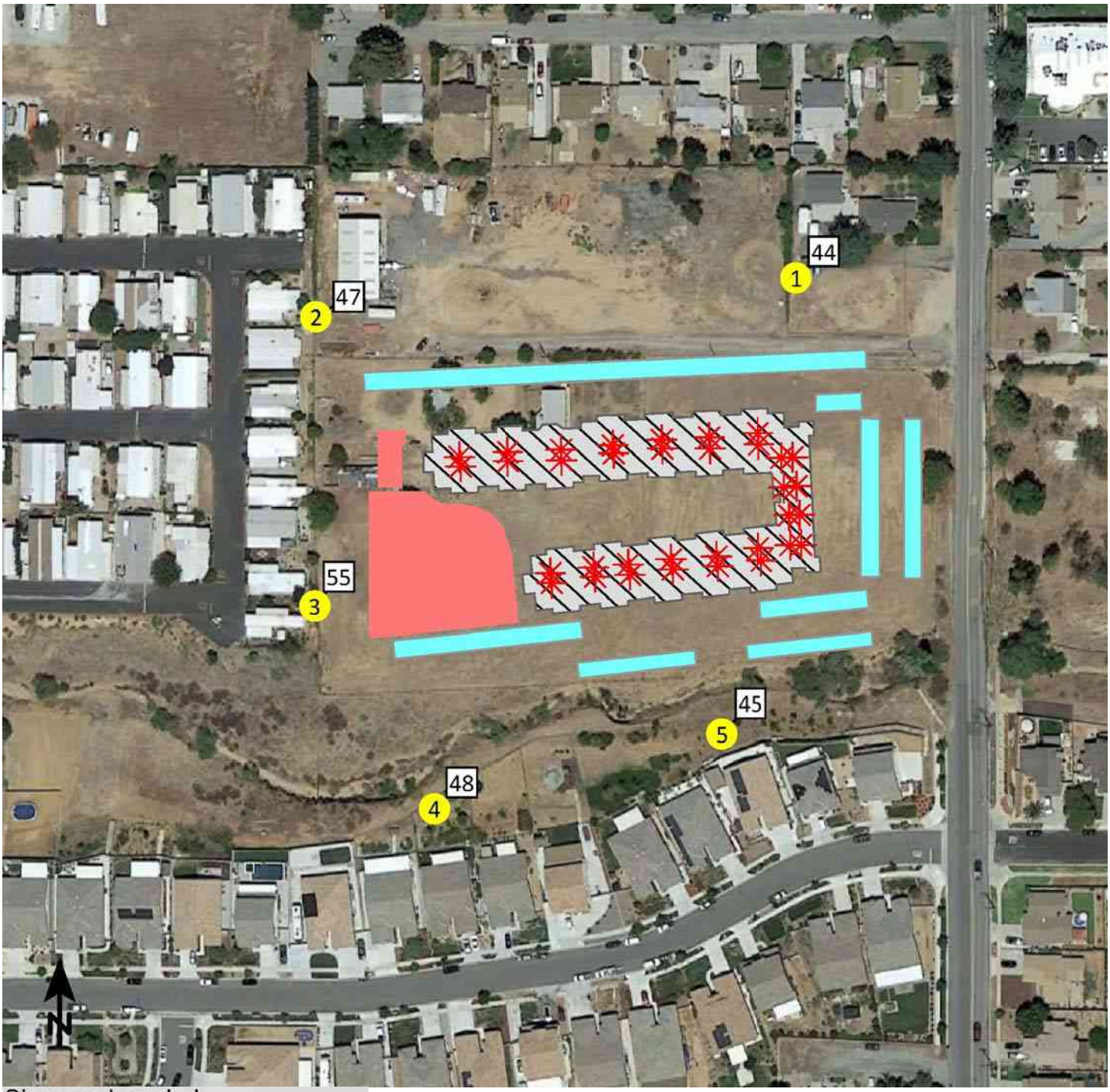


Figure 6
Operational Noise Levels (Leq)

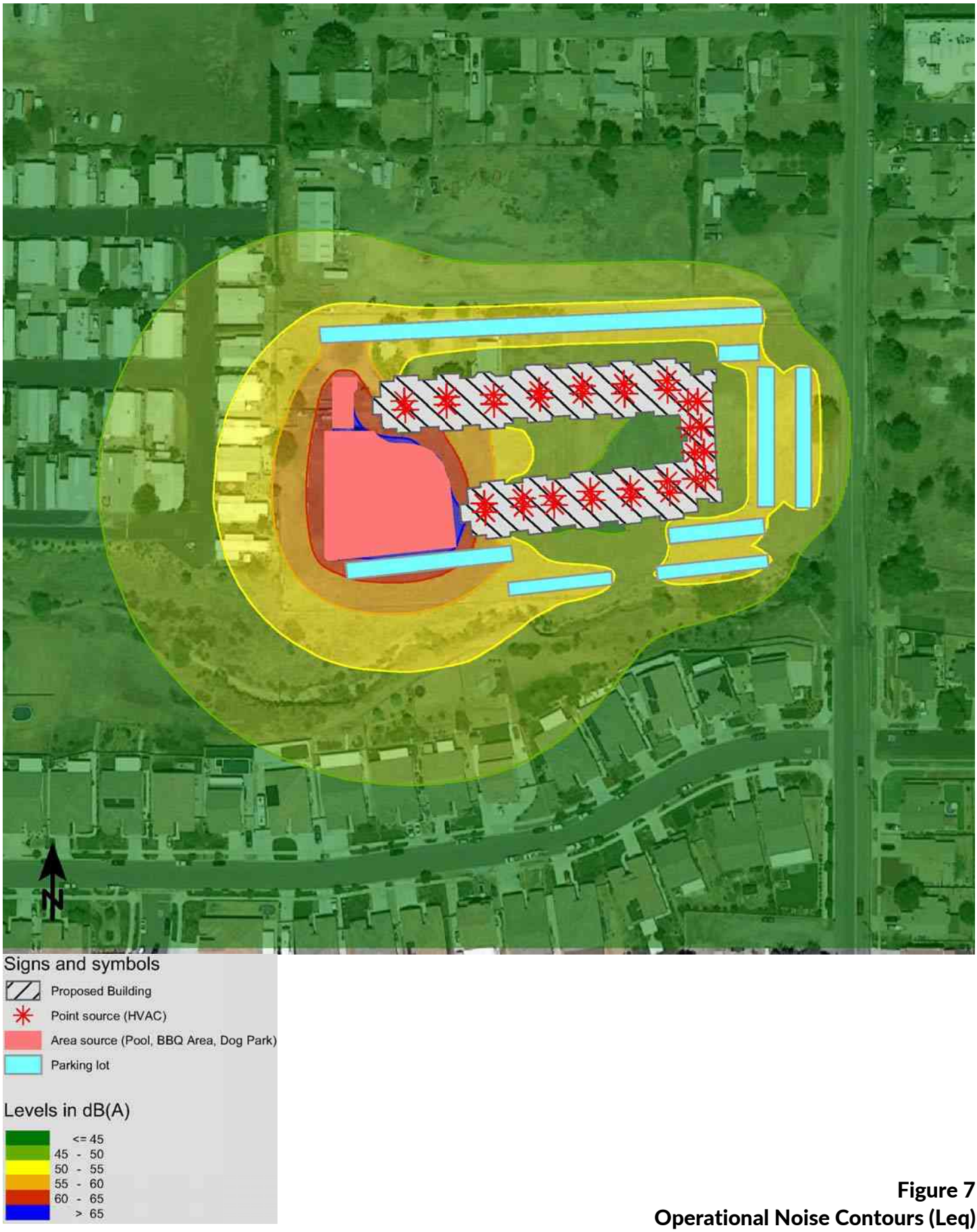


Figure 7
Operational Noise Contours (Leq)

7. IMPACTS - CEQA THRESHOLDS

Will the project result in the:

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?

NOISE IMPACTS TO OFF-SITE RECEPTORS DUE TO CONSTRUCTION NOISE

Project construction activities will result in temporary increases in ambient noise levels at receptors adjacent to the project site. Implementation of the best management practices (bmp) listed in Section 7 of this report. and compliance with the City's Municipal Code Section 87.0905(b) impacts related to construction noise would be less than significant.

NOISE IMPACTS TO OFF-SITE RECEPTORS DUE TO OPERATIONAL NOISE

As shown in Figures 6 and 7, project operational noise is expected to range between 44 and 55 dBA Leq at nearby receptors and is not expected to exceed the City's noise level standard of 55 dBA Leq. This impact would be less than significant. No mitigation is required.

Project generated vehicle traffic is anticipated to increase the noise by 0.10 dBA CNEL. Therefore, a change in noise level would not be audible and would be considered less than significant. No mitigation is required.

b) Generation of excessive groundborne vibration of groundborne noise levels?

Less Than Significant Impact with Mitigation:

There are several types of construction equipment that can cause vibration levels high enough to cause architectural damage and/or annoyance to persons in the vicinity. For example, as shown in Table 10, a vibratory roller could generate up to 0.21 PPV at a distance of 25 feet; and operation of a large bulldozer (0.089 PPV) at a distance of 25 feet (two of the most vibratory pieces of construction equipment).

The Caltrans Transportation and Construction Vibration Guidance Manual (2020) provides a comprehensive discussion regarding groundborne vibration and the appropriate thresholds to use to assess the potential for damage. As shown in Table 4, the threshold at which there is a risk of "architectural" damage to historic structures is a peak particle velocity (PPV) of 0.25 in/sec, and a PPV of 0.3 in/sec at older residential structures. There is a risk of architectural damage at newer residential structures and modern commercial/industrial buildings at a PPV of 0.5 in/sec. In addition, the Caltrans Noise and Vibration Manual identifies 0.1 PPV in./sec. as the level that is "strongly perceptible" (Table 5).

Section 8.7.0910 of the City's Municipal Code states that no ground vibration shall be allowed which can be felt without the aid of instruments at or beyond the lot line, nor will any vibration be permitted which produces a particle velocity greater than or equal to two-tenths (0.2) inches per second. However, Section 8.7.0910 also considers temporary construction, maintenance, or demolition activities between 7:00 AM and 7:00 PM, except Sundays and Federal holidays as exempt from this standard.

Existing structures in the immediate vicinity of the project site include structures associated with residential uses located approximately 8 feet west, 60-133 feet north, and 81 feet south of the project site. Assuming that the nearby residential structures are "older", groundborne vibration has the potential to result in damage if it exceeds 0.3 PPV in./sec. Groundborne vibration associated with project construction may reach up to 1.16 at the nearest residential structure located west of the project site and will exceed the 0.3 PPV

(in./sec.) damage potential threshold for residential structures. Best management practices requiring vibratory rollers be prohibited within 20 feet and large bulldozers within 12 feet of any residential structure to the west of the project site would reduce temporary vibration levels associated with project construction to less than significant.

As shown in Table 5, groundborne vibration associated with project construction may result in annoyance if it exceeds 0.1 PPV in./sec. at a sensitive receptor. Operation of a vibratory roller may result in groundborne vibration levels of up to 0.1 at a distance of 41 feet. Therefore, sensitive receptors within 41 feet of an operating vibratory roller may experience annoyance during construction activities. Residents at the residential dwelling units (mobile homes) located approximately 8 feet west of the project's western property line may experience temporary annoyance associated with project construction. This impact will be temporary, during the use of vibratory rollers, and will occur only during daytime hours. This impact would be less than significant. No mitigation is required.

Operation of the proposed project will involve the movement of passenger vehicles and trucks. Driving surfaces associated with the project will be paved and will generally be smooth. Loaded trucks generally have a PPV of 0.076 at a distance of 25 feet (Caltrans 2020). Groundborne vibration levels associated with passenger vehicles is much lower. The movement of vehicles on the project site would not result in the generation of excessive groundborne vibration or groundborne noise. Impacts would be less than significant. No mitigation is required.

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 area to excessive noise levels?*

Less Than Significant Impact:

There are no airports located within two miles of the proposed project site. Therefore, the proposed project would not exposed people residing or working in the area to excessive noise levels. This impact would be less than significant. No mitigation is required.

8. MEASURES TO REDUCE IMPACTS

CONSTRUCTION NOISE BEST MANAGEMENT PRACTICES

In addition to adherence to the City of Yucaipa Municipal Code which limits the construction hours of operation, the following best management practices are recommended to reduce construction noise and vibrations, emanating from the proposed project:

1. During all project site excavation and grading on-site, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturer standards.

2. The contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

3. Equipment shall be shut off and not left to idle when not in use.

4. The contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.

5. Jackhammers, pneumatic equipment and all other portable stationary noise sources shall be shielded, and noise shall be directed away from sensitive receptors.

6. The project proponent shall mandate that the construction contractor prohibit the use of music or sound amplification on the project site during construction.

7. The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment.

8. Install a temporary sound barrier eight feet in height along the northern project boundary during the demolition, phase of construction.

VIBRATION-RELATED BEST MANAGEMENT PRACTICE

1. The Project Applicant shall require that all construction contractors prohibit the use of vibratory rollers, or other similar vibratory equipment, within 20 feet and large bulldozers within 12 feet of any existing residential dwelling unit to the west of the project site. Construction activity that must occur within the distances specified within this measure would need to be performed with smaller equipment types that do not exceed the vibratory threshold identified herein.

9. REFERENCES

California, State of, Department of Transportation
2020 Transportation and Construction Vibration Guidance Manual. April.

California, State of, Building Code
2019 Chapter 12, Section 1206.4 Allowable Interior Noise Levels

Environmental Protection Agency
1974 "Information on Levels of Environmental Noise Requisite to Protect Public Health And Welfare with an Adequate Margin of Safety," EPA/ONAC 550/9-74-004, March, 1974.

Federal Transit Administration
2018 Transit Noise and Vibration Impact Assessment Manual. Typical Construction Equipment Vibration Emissions.

Ganddini Group, Inc.
2021 Riverwalk Yucaipa Senior Housing Project Level of Service & Vehicle Miles Traveled Screening Analysis. September 7.

Office of Planning and Research
2017 State of California General Plan Guidelines

Riverside, County of
2001 General Plan, Chapter 4, Figure C-3 "Link Volume Capacities/Level of Service for Riverside County Roadways".
2009 County of Riverside Industrial Hygiene Guidelines for Determining and Mitigating Traffic Noise Impacts to Residential Structures and County.

U.S. Department of Transportation
2006 FHWA Roadway Construction Noise Model User's Guide. January.

Yucaipa, City of
2016 City of Yucaipa General Plan. April.
2021 City of Yucaipa Municipal Code. March.

APPENDICES

Appendix A List of Acronyms
Appendix B Glossary
Appendix C Noise Measurement Field Worksheets
Appendix D Construction Noise Modeling
Appendix E FHWA Worksheets
Appendix F SoundPLAN Input and Output
Appendix G Vibration Worksheets

APPENDIX A

LIST OF ACRONYMS

Term	Definition
ADT	Average Daily Traffic
ANSI	American National Standard Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
D/E/N	Day / Evening / Night
dB	Decibel
dBA or dB(A)	Decibel "A-Weighted"
dBA/DD	Decibel per Double Distance
dBA L_{eq}	Average Noise Level over a Period of Time
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
L_{02},L_{08},L_{50},L_{90}	A-weighted Noise Levels at 2 percent, 8 percent, 50 percent, and 90 percent, respectively, of the time period
DNL	Day-Night Average Noise Level
$L_{eq(x)}$	Equivalent Noise Level for '"x" period of time
L_{eq}	Equivalent Noise Level
L_{max}	Maximum Level of Noise (measured using a sound level meter)
L_{min}	Minimum Level of Noise (measured using a sound level meter)
Lp	Sound pressure level
LOS C	Level of Service C
Lw	Sound Power Level
OPR	California Governor's Office of Planning and Research
PPV	Peak Particle Velocities
RCNM	Road Construction Noise Model
REMEL	Reference Energy Mean Emission Level
RMS	Root Mean Square

APPENDIX B

GLOSSARY

Term	Definition
Ambient Noise Level	The all-encompassing noise environment associated with a given environment, at a specified time, usually a composite of sound from many sources, at many directions, near and far, in which usually no particular sound is dominant.
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear.
CNEL	Community Noise Equivalent Level. CNEL is a weighted 24-hour noise level that is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours.
Decibel, dB	A logarithmic unit of noise level measurement that relates the energy of a noise source to that of a constant reference level; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
DNL, Ldn	Day Night Level. The DNL, or Ldn is a weighted 24-hour noise level that is obtained by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the nighttime hours.
Equivalent Continuous Noise Level, L_{eq}	A level of steady state sound that in a stated time period, and a stated location, has the same A-weighted sound energy as the time-varying sound.
Fast/Slow Meter Response	The fast and slow meter responses are different settings on a sound level meter. The fast response setting takes a measurement every 100 milliseconds, while a slow setting takes one every second.
Frequency, Hertz	In a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., the number of cycles per second).
L_{02}, L_{08}, L_{50}, L_{90}	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level, 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period, respectively.
L_{max}, L_{min}	Lmax is the RMS (root mean squared) maximum level of a noise source or environment measured on a sound level meter, during a designated time interval, using fast meter response. Lmin is the minimum level.
Offensive/ Offending/Intrusive Noise	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of sound depends on its amplitude, duration, frequency, and time of occurrence, and tonal information content as well as the prevailing ambient noise level.
Root Mean Square (RMS)	A measure of the magnitude of a varying noise source quantity. The name derives from the calculation of the square root of the mean of the squares of the values. It can be calculated from either a series of lone values or a continuous varying function.

APPENDIX C

NOISE MEASUREMENT FIELD WORKSHEETS

Noise Measurement
Field Data

Project Name: Riverwalk Yucaipa Senior Housing Project, City of Yucaipa. **Date:** September 28, 2021

Project #: 19421

Noise Measurement #: STNM1 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 12819 3rd Street, Yucaipa, CA 92399

Site Description (Type of Existing Land Use and any other notable features): Project Site: Open land w/ residence 12836 3rd St & 2 other structures in NW. Adjacent to Site: Mission Way to north, 3rd St to East, ravine and single-family to south, & mobile home park to west. Noise Measurement Site: Single-family residence to north/west, 3rd St to east w/ single-family further east and multi-famly and school use further northeast, and Mission way to south.

Weather: 50% cloud, filtered sunshine. **Settings:** SLOW FAST

Temperature: 65 deg F **Wind:** 9 mph **Humidity:** 61% **Terrain:** Flat

Start Time: 1:11 PM **End Time:** 1:26 PM **Run Time:**

Leq: 68.5 dB
Lmax 87 dB
L2 78.7 dB
L8 73.9 dB
L25 64.1 dB
L50 52.5 dB

Primary Noise Source: 62 vehicles traveling along 3rd Street passing microphone during 15 minute measurement.

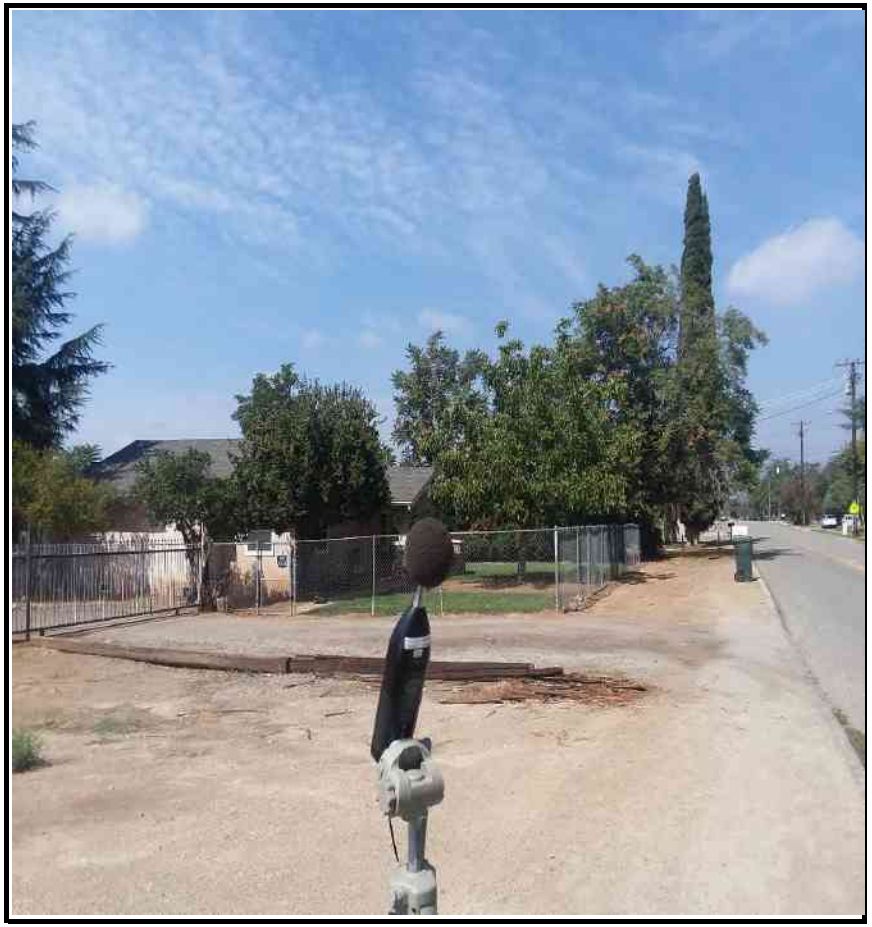
Secondary Noise Sources: Residential ambiance, distant dogs barking, children playing. Leaf rustle due to 9 mph breeze, bird song. Occasional overhead air traffic.

NOISE METER:	SoundTrack LXT Class 2	**CALIBRATOR:**	Larson Davis CAL200
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 200
SERIAL NUMBER:	1152	**SERIAL NUMBER:**	15741
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	7/23/2020
FIELD CALIBRATION DATE:	9/28/2021		

Noise Measurement
Field Data

PHOTOS:

STNM1 looking E across 3rd Street towards front yard of residence, 12819 3rd Street, Yucaipa.



STNM1 looking NW, 3rd Street on the right heading N and residence 12808 3rd Street, Yucaipa on the left.

Summary	
File Name on Meter	LxT_Data.157.s
File Name on PC	LxT_0001152-20210928 131131-LxT_
Serial Number	0001152
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM1 34° 1'14.92"N 117° 2'51.45"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19421 Riverwalk Yucaipa Senior

Measurement	
Start	2021-09-28 13:11:31
Stop	2021-09-28 13:26:31
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2021-09-28 13:01:02
Post-Calibration	None
Calibration Deviation	---

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
OBA Range	Low
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	144.9 dB

Results			
LA_{eq}		68.5	
LAE		98.0	
EA		704.757	µPa²h
EA8		22.552	mPa²h
EA40		112.761	mPa²h
$LZ_{peak\ (max)}$	2021-09-28 13:20:11	109.6	dB
LAS_{max}	2021-09-28 13:20:11	87.0	dB
LAS_{min}	2021-09-28 13:24:43	39.1	dB
LC_{eq}		73.8	dB
LA_{eq}		68.5	dB
LC_{eq} - LA_{eq}		5.3	dB
LAI_{eq}		72.0	dB
LA_{eq}		68.5	dB
LAI_{eq} - LA_{eq}		3.6	dB
Overload Count		0	

Statistics		
LA2.00	78.7	dB
LA8.00	73.9	dB
LA25.00	64.1	dB
LA50.00	52.5	dB
LA66.60	47.9	dB
LA90.00	41.7	dB

Noise Measurement
Field Data

Project Name: Riverwalk Yucaipa Senior Housing Project, City of Yucaipa. **Date:** September 28, 2021

Project #: 19421

Noise Measurement #: STNM2 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: Trailor 15, in vacinity of 12821 4th Street, Yucaipa, CA 92399

Site Description (Type of Existing Land Use and any other notable features): Project Site: Open land w/ residence 12836 3rd St & 2 other structures in NW. Adjacent to Site: Mission Way to north, 3rd St to East, ravine and single-family to south, & mobile home park to west. Noise Measurement Site: Mobile home park surrounding some trailers have wind chimes, birds, etc. & large metal storage building to east.

Weather: 50% cloud, filtered sunshine. **Settings:** SLOW FAST

Temperature: 65 deg F **Wind:** 9 mph **Humidity:** 61% **Terrain:** Flat

Start Time: 1:53 PM **End Time:** 2:08 PM **Run Time:**

Leq: 40.1 dB

Lmax 50.6 dB

L2 45.3 dB

L8 42.2 dB

L25 40.3 dB

L50 39.3 dB

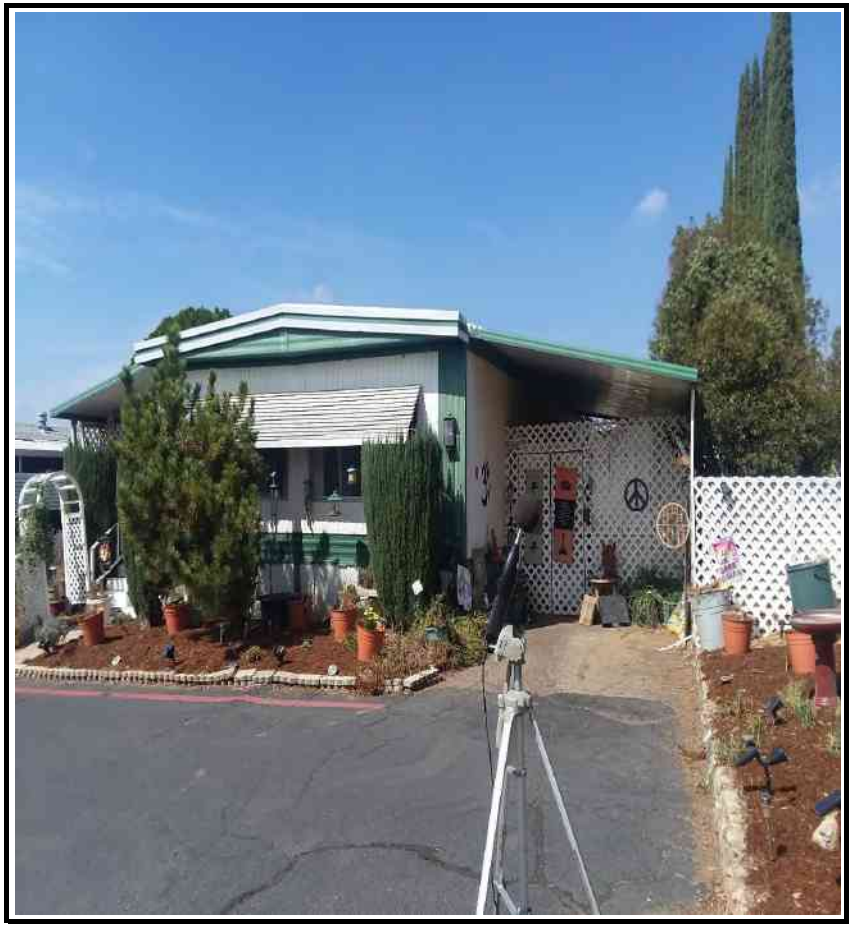
Primary Noise Source: Water feature outside trailor 15, wind chime, paraketes in back yard area of trailor 15.

Secondary Noise Sources: Residential ambiance, distant dogs barking. Leaf rustle due to 9 mph breeze, bird song. Occasional overhead air traffic. Distant traffic ambiance.

NOISE METER:	SoundTrack LXT Class 2	**CALIBRATOR:**	Larson Davis CAL200
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 200
SERIAL NUMBER:	1152	**SERIAL NUMBER:**	15741
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	7/23/2020
FIELD CALIBRATION DATE:	9/28/2021		

Noise Measurement
Field Data

PHOTOS:



STNM2 looking N towards trailor 15, 2 doors E of 12821 4th Street, Yucaipa, (trailor 13).

STNM2 looking E past end of access road towards what appears to be large storage building on residential property 12808 3rd Street, Yucaipa.

Summary	
File Name on Meter	LxT_Data.158.s
File Name on PC	LxT_0001152-20210928 135319-LxT_Da
Serial Number	0001152
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM2 34° 1'15.40"N 117° 2'59.25"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19421 Riverwalk Yucaipa Senior Housing

Measurement	
Start	2021-09-28 13:53:19
Stop	2021-09-28 14:08:19
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2021-09-28 13:52:52
Post-Calibration	None
Calibration Deviation	---

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
OBA Range	Low
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	144.9 dB

Results			
LA_{eq}	40.1		
LAE	69.7		
EA	1.031	µPa²h	
EA8	32.980	µPa²h	
EA40	164.902	µPa²h	
$LZ_{peak\ (max)}$	2021-09-28 14:07:05	100.8	dB
LAS_{max}	2021-09-28 14:01:03	50.6	dB
LAS_{min}	2021-09-28 13:59:29	37.1	dB
LC_{eq}	56.3	dB	
LA_{eq}	40.1	dB	
LC_{eq} - LA_{eq}	16.2	dB	
LAI_{eq}	44.4	dB	
LA_{eq}	40.1	dB	
LAI_{eq} - LA_{eq}	4.2	dB	
Overload Count	0		

Statistics		
LA2.00	45.3	dB
LA8.00	42.2	dB
LA25.00	40.3	dB
LA50.00	39.3	dB
LA66.60	38.8	dB
LA90.00	37.9	dB

Noise Measurement
Field Data

Project Name: Riverwalk Yucaipa Senior Housing Project, City of Yucaipa. **Date:** September 28, 2021

Project #: 19421

Noise Measurement #: STNM3 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: Trailor 24, in vacinity of 12833 4th Street, Yucaipa, CA 92399

Site Description (Type of Existing Land Use and any other notable features): Project Site: Open land w/ residence 12836 3rd St & 2 other structures in NW. Adjacent to Site: Mission Way to north, 3rd St to East, ravine and single-family to south, & mobile home park to west. Noise Measurement Site: Mobile home park surrounding to north/northeast/northwest & open land to south.

Weather: 50% cloud, filtered sunshine. **Settings:** SLOW FAST

Temperature: 65 deg F **Wind:** 9 mph **Humidity:** 61% **Terrain:** Flat

Start Time: 2:20 PM **End Time:** 2:35 PM **Run Time:**

Leq: 42.6 dB **Primary Noise Source:** Radio playing & ongoing conversation in patio area of trailor 22.

Lmax 55.7 dB A vehicle passes microphone at 2:33PM.

L2 48.7 dB **Secondary Noise Sources:** Residential ambiance, distant dogs barking. Leaf rustle due to 9 mph breeze,

L8 44.4 dB bird song. Occasional overhead air traffic. Distant traffic ambiance.

L25 42.6 dB

L50 41.3 dB

NOISE METER:	SoundTrack LXT Class 2	**CALIBRATOR:**	Larson Davis CAL200
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 200
SERIAL NUMBER:	1152	**SERIAL NUMBER:**	15741
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	7/23/2020
FIELD CALIBRATION DATE:	9/28/2021		

Noise Measurement
Field Data

PHOTOS:

STNM3 looking N across access road towards trailor 24, in vicinity of residential address 12833 4th Street, Yucaipa.

STNM3 looking S from trailor park across ravine towards residences on northern side of Bella Vista Drive.

Summary	
File Name on Meter	LxT_Data.159.s
File Name on PC	LxT_0001152-20210928 142008-LxT_D
Serial Number	0001152
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM3 34° 1'11.79"N 117° 3'0.62"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 198421 Riverwalk Yucaipa Senior

Measurement	
Start	2021-09-28 14:20:08
Stop	2021-09-28 14:35:08
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2021-09-28 14:19:08
Post-Calibration	None
Calibration Deviation	---

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
OBA Range	Low
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	144.8 dB

Results			
LA_{eq}	42.6		
LAE	72.2		
EA	1.837	µPa²h	
EA8	58.772	µPa²h	
EA40	293.860	µPa²h	
$LZ_{peak\ (max)}$	2021-09-28 14:24:43	98.9	dB
LAS_{max}	2021-09-28 14:33:00	55.7	dB
LAS_{min}	2021-09-28 14:35:03	38.1	dB
LC_{eq}	61.8	dB	
LA_{eq}	42.6	dB	
LC_{eq} - LA_{eq}	19.2	dB	
LAI_{eq}	45.8	dB	
LA_{eq}	42.6	dB	
LAI_{eq} - LA_{eq}	3.2	dB	
Overload Count	0		

Statistics		
LA2.00	48.7	dB
LA8.00	44.4	dB
LA25.00	42.6	dB
LA50.00	41.3	dB
LA66.60	40.6	dB
LA90.00	39.6	dB

Noise Measurement
Field Data

Project Name: Riverwalk Yucaipa Senior Housing Project, City of Yucaipa. **Date:** September 28, 2021

Project #: 19421

Noise Measurement #: STNM4 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 34624 Bella Vista Drive, Yucaipa, CA 92399

Site Description (Type of Existing Land Use and any other notable features): Project Site: Open land w/ residence 12836 3rd St & 2 other structures in NW. Adjacent to Site: Mission Way to north, 3rd St to East, ravine and single-family to south, & mobile home park to west. Noise Measurement Site: Single-family residences to north & Bella Vista Dr to south with single-family residences further south.

Weather: 40% cloud, filtered sunshine. **Settings:** SLOW FAST

Temperature: 65 deg F **Wind:** 9 mph **Humidity:** 61% **Terrain:** Flat

Start Time: 3:21 PM **End Time:** 3:36 PM **Run Time:**

Leq: 54.1 dB
Lmax 76.5 dB
L2 61.3 dB
L8 52.2 dB
L25 43.8 dB
L50 39.6 dB

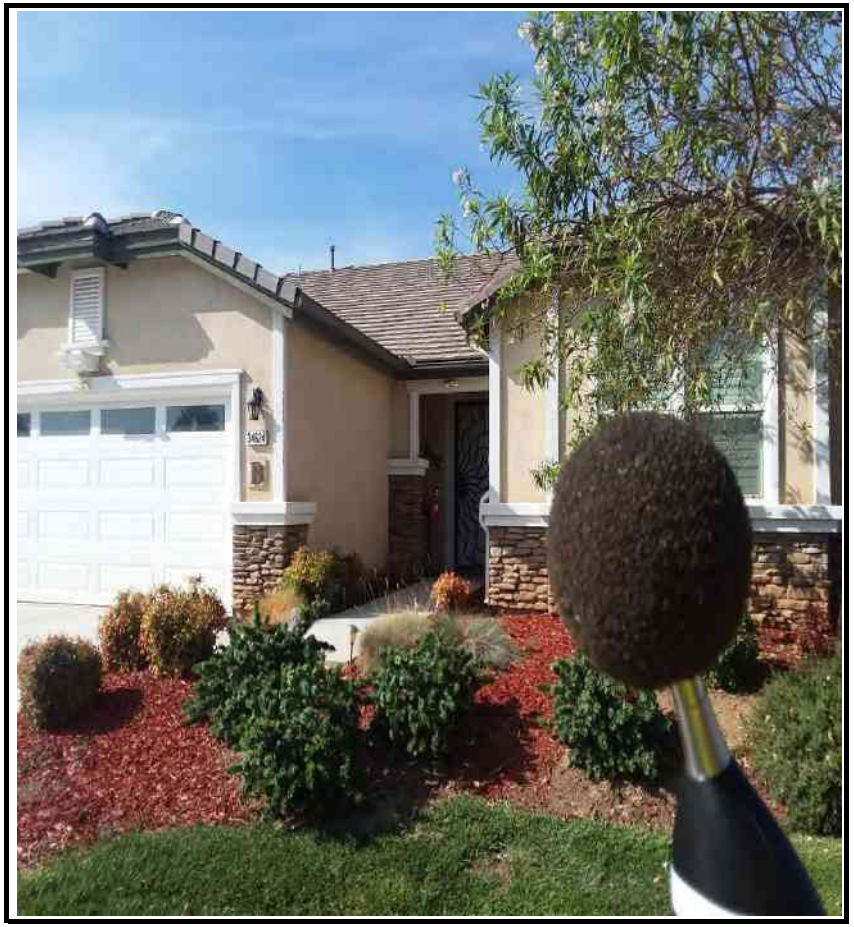
Primary Noise Source: 10 vehicles passed microphone traveling along Bella Vista Drive during 15 minute noise measurement.

Secondary Noise Sources: Residential ambiance, distant dogs barking. Leaf rustle due to 9 mph breeze, bird song. Occasional overhead air traffic. Distant traffic ambiance.

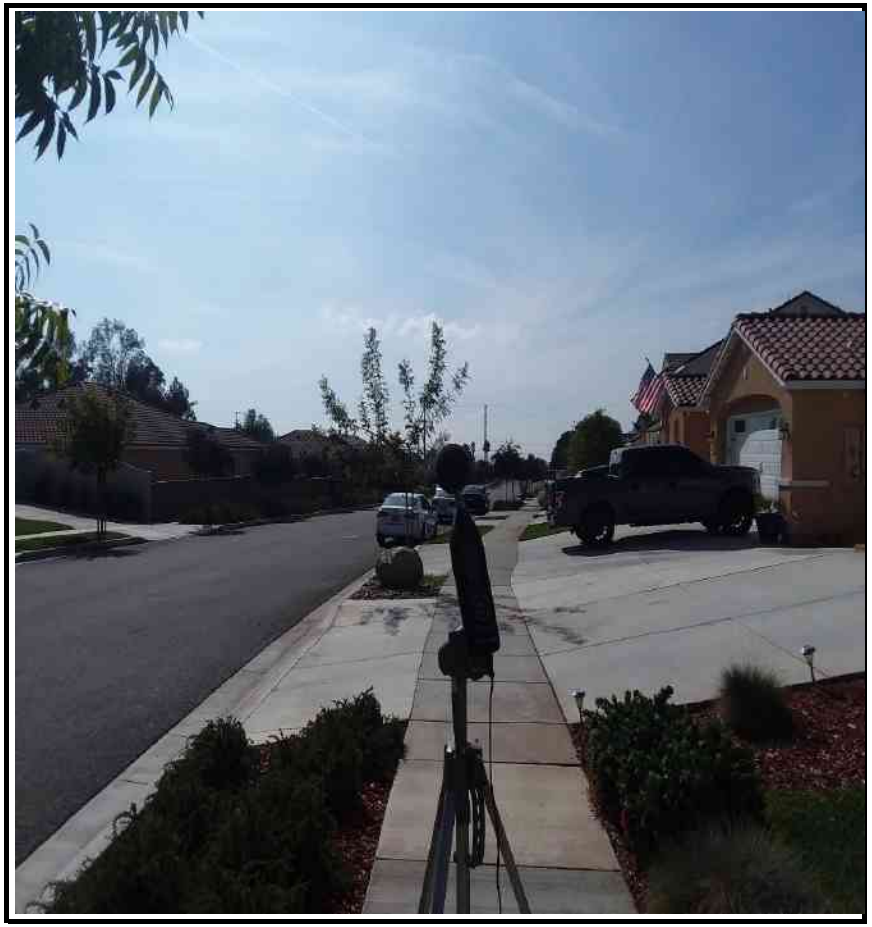
NOISE METER:	SoundTrack LXT Class 2	**CALIBRATOR:**	Larson Davis CAL200
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 200
SERIAL NUMBER:	1152	**SERIAL NUMBER:**	15741
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	7/23/2020
FIELD CALIBRATION DATE:	9/28/2021		

Noise Measurement
Field Data

PHOTOS:



STNM4 looking NW from sidewalk across front yard of residence 34624 Bella Vista drive, Yucaipa.



STNM4 looking W down Bella Vista Drive. Residence 34616 Bella Vista Drive located where truck is parked in driveway. Scenic View Ct intersection to W of STNM4.

Summary	
File Name on Meter	LxT_Data.160.s
File Name on PC	LxT_0001152-20210928 152133-LxT_
Serial Number	0001152
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM4 34° 1'8.33"N 117° 2'57.83"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19421 Riverwalk Yucaipa Senior

Measurement	
Start	2021-09-28 15:21:33
Stop	2021-09-28 15:36:33
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2021-09-28 15:12:05
Post-Calibration	None
Calibration Deviation	---

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
OBA Range	Low
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	144.9 dB

Results			
LA_{eq}		54.1	
LAE		83.7	
EA		25.947	µPa²h
EA8		830.303	µPa²h
EA40		4.152	mPa²h
$LZ_{peak\ (max)}$	2021-09-28 15:28:54	96.1	dB
LAS_{max}	2021-09-28 15:24:50	76.5	dB
LAS_{min}	2021-09-28 15:31:05	36.0	dB
LC_{eq}		62.6	dB
LA_{eq}		54.1	dB
LC_{eq} - LA_{eq}		8.5	dB
LAI_{eq}		56.1	dB
LA_{eq}		54.1	dB
LAI_{eq} - LA_{eq}		1.9	dB
Overload Count		0	

Statistics		
LA2.00	61.3	dB
LA8.00	52.2	dB
LA25.00	43.8	dB
LA50.00	39.6	dB
LA66.60	38.5	dB
LA90.00	37.1	dB

APPENDIX D

CONSTRUCTION NOISE MODELING

Receptor - Residential Mobile Home Park to West

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Demolition									
Concrete/Industrial Saws	1	90	170	20	0.20	-10.6	-7.0	79.4	72.4
Rubber Tired Dozers	2	85	170	40	0.80	-10.6	-1.0	74.4	73.4
Excavator	1	85	170	40	0.40	-10.6	-4.0	74.4	70.4
								Log Sum	77.0
Grading									
Excavator	1	85	315	40	0.40	-16.0	-4.0	69.0	65.0
Rubber Tired Dozers	1	85	315	40	0.40	-16.0	-4.0	69.0	65.0
Tractors/Loaders/Backhoes	3	84	315	40	1.20	-16.0	0.8	68.0	68.8
Graders	1	85	315	40	0.40	-16.0	-4.0	69.0	65.0
								Log Sum	72.3
Building Construction									
Cranes	1	83	315	16	0.16	-16.0	-8.0	67.0	59.1
Forklifts[2]	3	48	315	40	1.20	-16.0	0.8	32.0	32.8
Generator Sets	1	81	315	50	0.50	-16.0	-3.0	65.0	62.0
Welders	1	74	315	40	0.40	-16.0	-4.0	58.0	54.0
Tractors/Loaders/Backhoes	3	84	315	40	1.20	-16.0	0.8	68.0	68.8
								Log Sum	70.1
Paving									
Cement and Mortar Mixers	2	79	315	40	0.80	-16.0	-1.0	63.0	62.0
Pavers	1	77	315	50	0.50	-16.0	-3.0	61.0	58.0
Paving Equipment	2	85	315	20	0.40	-16.0	-4.0	69.0	65.0
Rollers	2	80	315	20	0.40	-16.0	-4.0	64.0	60.0
Tractors/Loaders/Backhoes	1	84	315	40	0.40	-16.0	-4.0	68.0	64.0
								Log Sum	69.5
Architectural Coating									
Air Compressors	1	80	315	40	0.40	-16.0	-4.0	64.0	60.0
								Log Sum	60.0

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (structure).

Receptor - Residential to North

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Demolition									
Concrete/Industrial Saws	1	90	80	20	0.20	-4.1	-7.0	85.9	78.9
Rubber Tired Dozers	2	85	80	40	0.80	-4.1	-1.0	80.9	79.9
Excavator	1	85	80	40	0.40	-4.1	-4.0	80.9	76.9
								Log Sum	83.5
Grading									
Excavator	1	85	186	40	0.40	-11.4	-4.0	73.6	69.6
Rubber Tired Dozers	1	85	186	40	0.40	-11.4	-4.0	73.6	69.6
Tractors/Loaders/Backhoes	3	84	186	40	1.20	-11.4	0.8	72.6	73.4
Graders	1	85	186	40	0.40	-11.4	-4.0	73.6	69.6
								Log Sum	76.9
Building Construction									
Cranes	1	83	186	16	0.16	-11.4	-8.0	71.6	63.6
Forklifts[2]	3	48	186	40	1.20	-11.4	0.8	36.6	37.4
Generator Sets	1	81	186	50	0.50	-11.4	-3.0	69.6	66.6
Welders	1	74	186	40	0.40	-11.4	-4.0	62.6	58.6
Tractors/Loaders/Backhoes	3	84	186	40	1.20	-11.4	0.8	72.6	73.4
								Log Sum	74.7
Paving									
Cement and Mortar Mixers	2	79	186	40	0.80	-11.4	-1.0	67.6	66.6
Pavers	1	77	186	50	0.50	-11.4	-3.0	65.6	62.6
Paving Equipment	2	85	186	20	0.40	-11.4	-4.0	73.6	69.6
Rollers	2	80	186	20	0.40	-11.4	-4.0	68.6	64.6
Tractors/Loaders/Backhoes	1	84	186	40	0.40	-11.4	-4.0	72.6	68.6
								Log Sum	74.1
Architectural Coating									
Air Compressors	1	80	186	40	0.40	-11.4	-4.0	68.6	64.6
								Log Sum	64.6

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (structure).

Receptor - School to Northeast

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Demolition									
Concrete/Industrial Saws	1	90	574	20	0.20	-21.2	-7.0	68.8	61.8
Rubber Tired Dozers	2	85	574	40	0.80	-21.2	-1.0	63.8	62.8
Excavator	1	85	574	40	0.40	-21.2	-4.0	63.8	59.8
								Log Sum	66.4
Grading									
Excavator	1	85	510	40	0.40	-20.2	-4.0	64.8	60.8
Rubber Tired Dozers	1	85	510	40	0.40	-20.2	-4.0	64.8	60.8
Tractors/Loaders/Backhoes	3	84	510	40	1.20	-20.2	0.8	63.8	64.6
Graders	1	85	510	40	0.40	-20.2	-4.0	64.8	60.8
								Log Sum	68.2
Building Construction									
Cranes	1	83	510	16	0.16	-20.2	-8.0	62.8	54.9
Forklifts[2]	3	48	510	40	1.20	-20.2	0.8	27.8	28.6
Generator Sets	1	81	510	50	0.50	-20.2	-3.0	60.8	57.8
Welders	1	74	510	40	0.40	-20.2	-4.0	53.8	49.8
Tractors/Loaders/Backhoes	3	84	510	40	1.20	-20.2	0.8	63.8	64.6
								Log Sum	65.9
Paving									
Cement and Mortar Mixers	2	79	510	40	0.80	-20.2	-1.0	58.8	57.9
Pavers	1	77	510	50	0.50	-20.2	-3.0	56.8	53.8
Paving Equipment	2	85	510	20	0.40	-20.2	-4.0	64.8	60.8
Rollers	2	80	510	20	0.40	-20.2	-4.0	59.8	55.8
Tractors/Loaders/Backhoes	1	84	510	40	0.40	-20.2	-4.0	63.8	59.8
								Log Sum	65.3
Architectural Coating									
Air Compressors	1	80	510	40	0.40	-20.2	-4.0	59.8	55.8
								Log Sum	55.8

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (structure).

Receptor - Residential to Northeast

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Demolition									
Concrete/Industrial Saws	1	90	522	20	0.20	-20.4	-7.0	69.6	62.6
Rubber Tired Dozers	2	85	522	40	0.80	-20.4	-1.0	64.6	63.7
Excavator	1	85	522	40	0.40	-20.4	-4.0	64.6	60.6
								Log Sum	67.3
Grading									
Excavator	1	85	397	40	0.40	-18.0	-4.0	67.0	63.0
Rubber Tired Dozers	1	85	397	40	0.40	-18.0	-4.0	67.0	63.0
Tractors/Loaders/Backhoes	3	84	397	40	1.20	-18.0	0.8	66.0	66.8
Graders	1	85	397	40	0.40	-18.0	-4.0	67.0	63.0
								Log Sum	70.3
Building Construction									
Cranes	1	83	397	16	0.16	-18.0	-8.0	65.0	57.0
Forklifts[2]	3	48	397	40	1.20	-18.0	0.8	30.0	30.8
Generator Sets	1	81	397	50	0.50	-18.0	-3.0	63.0	60.0
Welders	1	74	397	40	0.40	-18.0	-4.0	56.0	52.0
Tractors/Loaders/Backhoes	3	84	397	40	1.20	-18.0	0.8	66.0	66.8
								Log Sum	68.1
Paving									
Cement and Mortar Mixers	2	79	397	40	0.80	-18.0	-1.0	61.0	60.0
Pavers	1	77	397	50	0.50	-18.0	-3.0	59.0	56.0
Paving Equipment	2	85	397	20	0.40	-18.0	-4.0	67.0	63.0
Rollers	2	80	397	20	0.40	-18.0	-4.0	62.0	58.0
Tractors/Loaders/Backhoes	1	84	397	40	0.40	-18.0	-4.0	66.0	62.0
								Log Sum	67.5
Architectural Coating									
Air Compressors	1	80	397	40	0.40	-18.0	-4.0	62.0	58.0
								Log Sum	58.0

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (structure).

Receptor - Residential to Northeast

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Demolition									
Concrete/Industrial Saws	1	90	606	20	0.20	-21.7	-7.0	68.3	61.3
Rubber Tired Dozers	2	85	606	40	0.80	-21.7	-1.0	63.3	62.4
Excavator	1	85	606	40	0.40	-21.7	-4.0	63.3	59.4
								Log Sum	66.0
Grading									
Excavator	1	85	433	40	0.40	-18.8	-4.0	66.2	62.3
Rubber Tired Dozers	1	85	433	40	0.40	-18.8	-4.0	66.2	62.3
Tractors/Loaders/Backhoes	3	84	433	40	1.20	-18.8	0.8	65.2	66.0
Graders	1	85	433	40	0.40	-18.8	-4.0	66.2	62.3
								Log Sum	69.6
Building Construction									
Cranes	1	83	433	16	0.16	-18.8	-8.0	64.2	56.3
Forklifts[2]	3	48	433	40	1.20	-18.8	0.8	29.2	30.0
Generator Sets	1	81	433	50	0.50	-18.8	-3.0	62.2	59.2
Welders	1	74	433	40	0.40	-18.8	-4.0	55.2	51.3
Tractors/Loaders/Backhoes	3	84	433	40	1.20	-18.8	0.8	65.2	66.0
								Log Sum	67.3
Paving									
Cement and Mortar Mixers	2	79	433	40	0.80	-18.8	-1.0	60.2	59.3
Pavers	1	77	433	50	0.50	-18.8	-3.0	58.2	55.2
Paving Equipment	2	85	433	20	0.40	-18.8	-4.0	66.2	62.3
Rollers	2	80	433	20	0.40	-18.8	-4.0	61.2	57.3
Tractors/Loaders/Backhoes	1	84	433	40	0.40	-18.8	-4.0	65.2	61.3
								Log Sum	66.8
Architectural Coating									
Air Compressors	1	80	433	40	0.40	-18.8	-4.0	61.2	57.3
								Log Sum	57.3

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (structure).

Receptor - Residential to South

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Demolition									
Concrete/Industrial Saws	1	90	333	20	0.20	-16.5	-7.0	73.5	66.5
Rubber Tired Dozers	2	85	333	40	0.80	-16.5	-1.0	68.5	67.6
Excavator	1	85	333	40	0.40	-16.5	-4.0	68.5	64.6
								Log Sum	71.2
Grading									
Excavator	1	85	225	40	0.40	-13.1	-4.0	71.9	68.0
Rubber Tired Dozers	1	85	225	40	0.40	-13.1	-4.0	71.9	68.0
Tractors/Loaders/Backhoes	3	84	225	40	1.20	-13.1	0.8	70.9	71.7
Graders	1	85	225	40	0.40	-13.1	-4.0	71.9	68.0
								Log Sum	75.3
Building Construction									
Cranes	1	83	225	16	0.16	-13.1	-8.0	69.9	62.0
Forklifts[2]	3	48	225	40	1.20	-13.1	0.8	34.9	35.7
Generator Sets	1	81	225	50	0.50	-13.1	-3.0	67.9	64.9
Welders	1	74	225	40	0.40	-13.1	-4.0	60.9	57.0
Tractors/Loaders/Backhoes	3	84	225	40	1.20	-13.1	0.8	70.9	71.7
								Log Sum	73.0
Paving									
Cement and Mortar Mixers	2	79	225	40	0.80	-13.1	-1.0	65.9	65.0
Pavers	1	77	225	50	0.50	-13.1	-3.0	63.9	60.9
Paving Equipment	2	85	225	20	0.40	-13.1	-4.0	71.9	68.0
Rollers	2	80	225	20	0.40	-13.1	-4.0	66.9	63.0
Tractors/Loaders/Backhoes	1	84	225	40	0.40	-13.1	-4.0	70.9	67.0
								Log Sum	72.4
Architectural Coating									
Air Compressors	1	80	225	40	0.40	-13.1	-4.0	66.9	63.0
								Log Sum	63.0

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (structure).

Barrier insertion loss For Flat Ground

Receiver - Residential to North Demolition - P/L C = sqrt(A^2 + B^2)

Enter Variables here:

Source Height H_S(ft)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Receiver Height H_R(ft)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Barrier Height H_B(ft)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Distance Source to barrier (ft) (A)	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Distance Receiver to Barrier (ft) (B)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Soft Ground = 1; Hard Ground = 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations

A	80.056230	80.099938	80.156098	80.224684	80.305666	80.399005	80.504658	80.622577	80.752709	80.894994	81.049368	81.215762	81.394103	81.584312	81.786307	82.000000	
B	10.440307	10.770330	11.180340	11.661904	12.206556	12.806248	13.453624	14.142136	14.866069	15.620499	16.401219	17.204651	18.027756	18.867962	19.723083	20.591260	
C	90.000000	90.000000	90.000000	90.000000	90.000000	90.000000	90.000000	90.000000	90.000000	90.000000	90.000000	90.000000	90.000000	90.000000	90.000000	90.000000	
P (=A + B - C)	0.4965367	0.8702672	1.3364376	1.8865883	2.5122217	3.2052534	3.9582823	4.7647131	5.6187777	6.5154930	7.4505871	8.4204126	9.4218594	10.4522745	11.5093898	12.5912603	
Ground type H_{eff} (with barrier)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	
Ground type H_{eff} (no barrier)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	
H_{eff} (with barrier)	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
H_{eff} no barrier	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
G_B	0.52	0.50	0.48	0.46	0.45	0.43	0.41	0.39	0.38	0.36	0.34	0.32	0.30	0.29	0.27	0.25	
G_{NB}	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	
$A_{barrier}$	9.985353879	12.39422674	14.25353863	15	15	15	15	15	15	15	15	15	15	15	15	15	
$IL_{barrier}$	9.6	12.0	13.8	14.5	14.5	14.4	14.4	14.3	14.3	14.2	14.2	14.1	14.1	14.0	14.0	14.0	

Barrier Height (ft)	IL (dBA)
8	10
9	12
10	14
11	14
12	14
13	14
14	14
15	14
16	14
17	14
18	14
19	14
20	14
21	14
22	14
23	14

APPENDIX E

FHWA WORKSHEETS

Existing Traffic Noise

1	:Id
3rd Street	:Road
Project Site to north/south	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	20400
Speed	35
Distance	30
Left Angle	-90
Right Angle	90

Noise Parameters	Daytime			Evening			Night		
	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1251.12	15.30	5.95	924.60	2.72	2.72	231.59	20.40	7.93
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	25.23	6.10	2.00	23.91	-1.41	-1.40	17.90	7.35	3.25
Distance	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	67.48	58.08	59.19	66.17	50.57	55.80	60.16	59.33	60.44
	DAY LEQ	68.50		EVENING LEQ	66.66		NIGHT LEQ	64.77	

F	CNEL	72.21	Day hour	89.00
	DAY LEQ	68.50	Absorptive?	no
			Use hour?	no
			GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

1	:Id	
3rd Street	:Road	
Project Site to north/south	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	20955
Speed	35
Distance	30
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1285.16	15.72	6.11	949.75	2.79	2.80	237.89	20.95	8.15
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	25.34	6.22	2.12	24.03	-1.29	-1.28	18.02	7.47	3.36
Distance	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	67.60	58.19	59.31	66.29	50.68	55.91	60.28	59.44	60.56
	DAY LEQ	68.61		EVENING LEQ	66.78		NIGHT LEQ	64.89	

CNEL	72.32
DAY LEQ	68.61

Day hour	89.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

APPENDIX F

SOUNDPLAN INPUT AND OUTPUT

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	1	-	1.Fl	-	43.5	-
2	2	-	1.Fl	-	46.9	-
3	3	-	1.Fl	-	55.2	-
4	4	-	1.Fl	-	47.9	-
5	5	-	1.Fl	-	45.2	-

Contribution levels of the receivers

Source name			Traffic lane	Level Day dB(A)
1	1.Fl	43.5		
1			-	42.2
2			-	28.4
3			-	31.6
4			-	31.0
5			-	21.9
6			-	21.2
7			-	9.0
8			-	12.8
Dog Park N			-	26.6
Dog Park S			-	20.4
HVAC			-	11.2
HVAC1			-	11.1
HVAC3			-	12.3
HVAC4			-	12.0
HVAC5			-	13.1
HVAC6			-	12.5
HVAC7			-	14.2
HVAC8			-	13.7
HVAC9			-	15.8
HVAC10			-	15.1
HVAC11			-	16.9
HVAC12			-	15.7
HVAC13			-	17.4
HVAC14			-	16.2
HVAC15			-	16.1
HVAC16			-	16.5
HVAC17			-	14.1
HVAC18			-	14.2
HVAC19			-	12.4
HVAC20			-	12.4
HVAC21			-	11.0
HVAC22			-	10.8
HVAC23			-	10.2
HVAC24			-	9.7
HVAC25			-	9.5
HVAC26			-	9.2
HVAC27			-	9.5
HVAC28			-	8.9
HVAC29			-	8.9
HVAC30			-	8.7
HVAC31			-	8.6
HVAC32			-	8.3
HVAC33			-	8.4
HVAC34			-	8.1
Pool & BBQ			-	28.9
2	1.Fl	46.9		
1			-	39.3
2			-	17.5
3			-	15.6
4			-	17.0
5			-	5.5
6			-	8.5
7			-	11.4
8			-	28.2
Dog Park N			-	39.5
Dog Park S			-	35.3
HVAC			-	15.9
HVAC1			-	15.2
HVAC3			-	14.7
HVAC4			-	14.0
HVAC5			-	13.5
HVAC6			-	12.9

Contribution levels of the receivers

Source name	Traffic lane	Level Day dB(A)
HVAC7	-	12.8
HVAC8	-	12.1
HVAC9	-	11.5
HVAC10	-	11.3
HVAC11	-	10.7
HVAC12	-	10.2
HVAC13	-	9.9
HVAC14	-	9.5
HVAC15	-	8.9
HVAC16	-	8.7
HVAC17	-	8.2
HVAC18	-	8.0
HVAC19	-	7.8
HVAC20	-	7.6
HVAC21	-	7.0
HVAC22	-	6.8
HVAC23	-	7.4
HVAC24	-	6.9
HVAC25	-	7.4
HVAC26	-	7.2
HVAC27	-	7.9
HVAC28	-	7.4
HVAC29	-	7.9
HVAC30	-	7.6
HVAC31	-	8.4
HVAC32	-	8.1
HVAC33	-	9.1
HVAC34	-	8.9
Pool & BBQ	-	44.3
3 1.Fl 55.2		
1	-	31.1
2	-	1.9
3	-	10.6
4	-	11.9
5	-	17.5
6	-	23.8
7	-	26.4
8	-	35.7
Dog Park N	-	39.2
Dog Park S	-	43.5
HVAC	-	15.5
HVAC1	-	15.9
HVAC3	-	13.7
HVAC4	-	14.0
HVAC5	-	13.0
HVAC6	-	13.7
HVAC7	-	11.7
HVAC8	-	12.7
HVAC9	-	10.5
HVAC10	-	11.2
HVAC11	-	10.0
HVAC12	-	10.5
HVAC13	-	9.2
HVAC14	-	9.4
HVAC15	-	9.3
HVAC16	-	9.1
HVAC17	-	9.5
HVAC18	-	9.2
HVAC19	-	7.2
HVAC20	-	7.0
HVAC21	-	7.0
HVAC22	-	6.8
HVAC23	-	7.7
HVAC24	-	8.7

Contribution levels of the receivers

Source name	Traffic lane	Level Day dB(A)
HVAC25	-	8.8
HVAC26	-	8.7
HVAC27	-	11.8
HVAC28	-	11.9
HVAC29	-	12.5
HVAC30	-	11.3
HVAC31	-	14.9
HVAC32	-	14.7
HVAC33	-	16.2
HVAC34	-	16.2
Pool & BBQ	-	54.6
4 1.Fl	47.9	
1	-	24.8
2	-	1.2
3	-	20.1
4	-	21.6
5	-	24.8
6	-	25.9
7	-	29.1
8	-	34.5
Dog Park N	-	31.8
Dog Park S	-	40.3
HVAC	-	12.2
HVAC1	-	12.6
HVAC3	-	11.9
HVAC4	-	12.2
HVAC5	-	11.5
HVAC6	-	11.9
HVAC7	-	9.1
HVAC8	-	9.2
HVAC9	-	8.4
HVAC10	-	8.6
HVAC11	-	8.3
HVAC12	-	8.5
HVAC13	-	7.8
HVAC14	-	8.0
HVAC15	-	8.2
HVAC16	-	8.1
HVAC17	-	8.7
HVAC18	-	8.6
HVAC19	-	9.4
HVAC20	-	9.2
HVAC21	-	10.0
HVAC22	-	9.9
HVAC23	-	10.6
HVAC24	-	10.8
HVAC25	-	11.3
HVAC26	-	11.7
HVAC27	-	12.0
HVAC28	-	12.5
HVAC29	-	12.8
HVAC30	-	13.1
HVAC31	-	14.7
HVAC32	-	15.0
HVAC33	-	15.7
HVAC34	-	15.8
Pool & BBQ	-	46.4
5 1.Fl	45.2	
1	-	18.4
2	-	8.3
3	-	28.6
4	-	29.4
5	-	32.8

Contribution levels of the receivers

Source name	Traffic lane	Level Day dB(A)
6	-	35.4
7	-	35.7
8	-	32.7
Dog Park N	-	20.4
Dog Park S	-	37.0
HVAC	-	8.2
HVAC1	-	8.6
HVAC3	-	8.5
HVAC4	-	8.7
HVAC5	-	9.1
HVAC6	-	9.4
HVAC7	-	9.1
HVAC8	-	9.4
HVAC9	-	9.5
HVAC10	-	9.8
HVAC11	-	9.4
HVAC12	-	9.8
HVAC13	-	9.5
HVAC14	-	9.9
HVAC15	-	10.2
HVAC16	-	10.2
HVAC17	-	11.5
HVAC18	-	11.4
HVAC19	-	12.9
HVAC20	-	12.9
HVAC21	-	14.9
HVAC22	-	15.2
HVAC23	-	15.3
HVAC24	-	16.4
HVAC25	-	15.8
HVAC26	-	16.8
HVAC27	-	15.7
HVAC28	-	16.6
HVAC29	-	15.6
HVAC30	-	16.6
HVAC31	-	14.7
HVAC32	-	15.5
HVAC33	-	14.4
HVAC34	-	15.0
Pool & BBQ	-	41.7

Noise emissions of industry sources

Source n	Referen	Level	Frequency spectrum [dB(A)]																														Correctio		
			20	25	31	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1	1.3	1.6	2	2.5	3.2	4	5	6.3	8	10	12.5	16	20	Cwa	CI	CT
		dB(A	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	dB	dB	dB
Dog Park	Lw/m²	Day 64.0																															-	-	-
Dog Park	Lw/m²	Day 66.0																															-	-	-
Pool & B	Lw/m²	Day 63.0																															-	-	-
HVAC	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC1	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC3	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC4	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC5	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC6	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC7	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC8	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC9	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC10	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC11	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC12	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC13	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC14	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC15	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC16	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC17	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC18	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC19	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC20	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC21	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC22	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC23	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC24	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC25	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC26	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC27	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC28	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC29	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC30	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC31	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC32	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC33	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-
HVAC34	Lw/	Day 66.0	-40	-32	-20	-12	5.	14	12.	26.	31.	33.	37.	40.	44.	46.	49.	54.	56.	53.	56.	57.	55.	56.	53.	54.	52.	51.	45.	39.	35.	29.	20.	-	-	-

Noise emissions of parking lot traffic

Name	Parking lot type	Size	Movements per hour			Road surface	Separated method	Lw,ref
			Day	Evening	Night			dB(A)
1	Visitors and staff	50 Parking bays	0.300	0.000	0.000	Asphaltic driving lanes	no	84.0
2	Visitors and staff	5 Parking bays	0.300	0.000	0.000	Asphaltic driving lanes	no	70.0
3	Visitors and staff	17 Parking bays	0.300	0.000	0.000	Asphaltic driving lanes	no	77.6
4	Visitors and staff	17 Parking bays	0.300	0.000	0.000	Asphaltic driving lanes	no	77.6
5	Visitors and staff	12 Parking bays	0.300	0.000	0.000	Asphaltic driving lanes	no	75.0
6	Visitors and staff	13 Parking bays	0.300	0.000	0.000	Asphaltic driving lanes	no	75.6
7	Visitors and staff	12 Parking bays	0.300	0.000	0.000	Asphaltic driving lanes	no	75.0
8	Visitors and staff	20 Parking bays	0.300	0.000	0.000	Asphaltic driving lanes	no	78.6

APPENDIX G

VIBRATION WORKSHEETS

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19421 Riverwalk Yucaipa Senior Housing Project		Date: 10/13/21
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential (mobile homes) to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	8.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	1.160	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19421 Riverwalk Yucaipa Senior Housing Project		Date: 10/13/21
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential (mobile homes) to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	8.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.492	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19421 Riverwalk Yucaipa Senior Housing Project		Date: 10/13/21
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential (garage/shed) to North		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	60.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.056	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19421 Riverwalk Yucaipa Senior Housing Project		Date: 10/13/21
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential (garage/shed) to North		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	60.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.024	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19421 Riverwalk Yucaipa Senior Housing Project		Date: 10/13/21
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential (dwelling unit) to North		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	133.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.017	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19421 Riverwalk Yucaipa Senior Housing Project	Date:	10/13/21
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential (dwelling unit) to North		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	60.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.024	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19421 Riverwalk Yucaipa Senior Housing Project		Date: 10/13/21
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to South		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	89.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.031	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19421 Riverwalk Yucaipa Senior Housing Project	Date:	10/13/21
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to South		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	89.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.013	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19421 Riverwalk Yucaipa Senior Housing Project		Date: 10/13/21
Source:	Vibratory Roller		
Scenario:	Mitigated		
Location:	Residential (mobile homes) to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	20.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.293	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19421 Riverwalk Yucaipa Senior Housing Project		Date: 10/13/21
Source:	Large Bulldozer		
Scenario:	Mitigated		
Location:	Residential (mobile homes) to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	12.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.268	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19421 Riverwalk Yucaipa Senior Housing Project		Date: 10/13/21
Source:	Vibratory Roller		
Scenario:	Mitigated		
Location:	Annoyance Threshold		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type =	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	41.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.100	IN/SEC	OUTPUT IN BLUE

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